Adverbs
A typological study of a disputed category

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Abstract
The notion adverb is often treated as encompassing leftover items in a class that shows little consistency both within and across languages. Adverbs are less frequent than other parts of speech cross-linguistically, they seldom inflect, and they are rarely used as a source for derivation to other categories.

This dissertation focuses on adverbs that denote properties and that can be used as modifiers within predicating expressions. The adverbs in this group are roughly equivalent to the traditional manner adverbs (She walked slowly). In their role as modifiers, these adverbs are parallel to attributive adjectives, which also denote properties, and are modifiers in referring expressions (a slow train). Adjectives often also occur in the predicative function (The train is slow). This study compares adverbs to attributive and predicative adjectives in a sample of 60 genealogically diverse languages from around the world. Simple adverbs are attested in the majority of these languages, including in some languages that do not have simple adjectives. The comparison with attributive and predicative adjectives is carried out at three levels of encoding: the root, the lexeme, and the construction. The analysis shows that a great majority of languages have the same root encoding for adverbs, attributive adjectives, and predicative adjectives. Many languages have a class of lexemes that are used in the functions of both adverbs and attributive adjectives, here called general modifiers. On the construction level, where constructions are analyzed in their entirety, important encoding similarities between adverbs and predicative adverbs are unraveled. In a few languages, adverbs and attributive adjectives are encoded by the same or similar constructions.

The attested simple adverbs and general modifiers both fall into certain characteristic semantic types. For simple adverbs, a core type is SPEED, which is found among the adverbs of most sample languages. The types VALUE, CARE, and NOISE are also found among the simple adverbs of several languages. For general modifiers, VALUE appears as a core type. These semantic types are further attested in tendencies of adverb lexicalization and in adverbial affixation across languages.

This dissertation shows that adverbs constitute a cross-linguistically prototypical part of speech, although they differ in many ways from other categories. The basis for this class, just as for adjectives, is the presence of simple lexemes that tend to have similar semantics in unrelated and geographically distant languages. Adverbs are thus conceptually no less basic than adjectives.

Keywords: adverbs, adjectives, parts of speech, prototypes, categorization, modification, constructions.

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Tänk på när morgondan tyckes dig svår,
att idag var imorgon igår,
och det gick också.
Povel Ramel, *Tänk dig en strut karameller*
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# List of Abbreviations

1. **first person**
2. **second person**
3. **third person**

A subject of transitive verb
- **ABL** ablative
- **ABS** absolutive
- **ACC** accusative
- **ADJ** adjective
- **ADJVZ** adjectivizer
- **ADV** adverbial marker
- **ADVZ** adverbializer
- **AGR** agreement
- **AGT** agent
- **AN** animate
- **ART** article
- **ASF** adjective suffix
- **ASS** assertive
- **ASSOC** associative
- **ATTR** attributive
- **AUX** auxiliary
- **AV** actor voice

**BM** boundary marker

**CAUS** causative
- **CERT** certainty
- **CLF** classifier
- **CLI** clitic
- **CNJ** conjunction
- **CNT** continuous
- **CNTR** contrastive
- **COMM** common gender
- **COND** conditional
- **COP** copula
- **CVB** converb

**DAT** dative
- **DECL** declarative

**DEF** definite article
- **DEM** demonstrative
- **DEP** dependent marker
- **DET** determiner (article)
- **DIR** directional
- **DIST** distal
- **DISTR** distributive
- **DS** different subject
- **DU** dual
- **DUR** durative
- **DYN** dynamic

**ELA** elative
- **EMP** emphatic
- **EMPH** emphatic
- **ERG** ergative
- **EXIST** existential

**F** feminine
- **FAM** familiar
- **FIN** finite verb form
- **FOC** focus
- **FUT** future

**GEN** genitive
- **GL** general topic

HODPST hodiernal past
- **HORT** hortative

I class marker I
- **II** class marker II
- **III** class marker III
- **IMP** imperative
- **INCH** inchoative
- **IND** indicative
- **INDF** indefinite
- **INF** infinitive
- **ING** ingressive
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<td>SREL</td>
<td>superrelative case</td>
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<td>SS</td>
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<td>TRNS</td>
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<td>VII</td>
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<td>VIII</td>
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<td>VN</td>
<td>verbal noun</td>
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1. Introduction

It is well known in linguistics that *adverb* is an elusive label. It refers to a wide range of items and is used in a variety of senses. In language descriptions, adverbs are often differently described and, as a consequence, it is difficult to find cross-linguistically comparable data on any given type of adverb. The aim of this thesis is to examine adverbs from a typological perspective. An undertaking of this kind requires strict delimitations, and this study is limited to adverbs that denote *properties* and *modify within predicating expressions*, roughly equivalent to *manner adverbs*. This is illustrated with examples from three different languages in examples (1.1-1.3).

(1.1) English (Indo-European)

*The horse trotted slowly.*

(1.2) Turkish (Turkic) (Göksel & Kerslake 2005: 139)

Özdemir o šarkı-yı güzel söyle-di
Ö. that song-ACC.SG good sing-PST.3SG
‘Özdemir sang that song well.’

(1.3) Kham (Sino-Tibetan) (Watters 2002: 118)

*koba:h paː-zya*

indiscriminate speak-CNT
‘He speaks indiscriminately.’

Adverbs that denote properties and modify within predicating expressions are functionally parallel to adjectives. Adverbs modify the verb in a predicating expression in the same way as adjectives modify the noun in a referring expression. In languages such as English, this parallel is particularly clear in the way that adverbs are formed from adjectives. Thus, the adverb *slowly* in (1.1) is derived with the ending *-ly* from the adjective *slow*, illustrated as an attributive adjective in the noun phrase in example (1.4).

(1.4) English (Indo-European)

*Bob is riding the slow horse.*

Building on the assumption that adverbs and adjectives are both modifiers, although within different domains (predicating and referring expressions, respectively), this study aims at comparing these adverbs to adjectives cross-linguistically. The comparison encompasses both attributive adjectives (e.g. *the slow horse*) and predicative adjectives (e.g. *The horse is slow*), since these are the two main functions in which adjectives occur. Adverbs are compared to attributive adjectives, on the one hand, and to predicative
1. Introduction

adjectives, on the other. This also entails a comparison of attributive and predicative adjectives.

The terms adverbs, attributive adjectives, and predicative adjectives are based on the functions that property words take, as modifiers within predicating expressions, modifiers within referring expressions, and predicates, respectively. The three terms are used as comparative concepts along the lines of Haspelmath (2010). Comparative concepts are “created by the typologist” (2010: 663), for the purpose of typological comparison. They are not to be confused with descriptive language-specific categories, nor with attempts to form cross-linguistic categories, but are tools employed for comparison (see further discussion in section 4.2). In order to distinguish between comparative concepts and language-specific categories in my own analysis, I follow the convention of, among others, Comrie (1976: 10) in capitalizing the initial letter of language-specific categories (e.g. “the English Adjective”), but writing comparative concepts in lower case (e.g. “adverbs are attested in X number of languages”).

Adverbs, attributive adjectives, and predicative adjectives, are examined in a sample of 60 languages from around the world. The typological comparison of the three functions consists of an examination of the encoding (i.e. structural shape) that adverbs, attributive adjectives, and predicative adjectives take. The aim of this comparison is to investigate to what extent the encodings of adverbs, attributive adjectives, and predicative adjectives differ, and to what extent they are similar or identical. When two or all of the functions are encoded in the same way in a specific language, I call this an encoding overlap.

In the comparison of encoding, the analysis is based on three different levels: the root level, the lexeme level, and the construction level. On the root level, the root alone is the basis for comparison, as the smallest morphological element of the property modifier. This can be exemplified by English slow, which occurs as a root within adverbs, attributive adjectives, and predicative adjectives. On the lexeme level, whole lexemes are compared, such as the attributive adjective slow and the adverb slowly within one language (i.e. English), or the Kham adverb koba:h ‘indiscriminately’ and the derived adverb slow-ly in English, for an example pair across two languages. It is of particular interest to the study whether languages have simple adverbs. The term simple here refers to single-word, monomorphemic lexemes. On the construction level, entire constructions are compared, such as the noun phrase that contains the attributive adjective, for instance, the slow horse, and the whole predication containing the adverb The horse trotted slowly. Encoding overlaps are analyzed at the root, lexeme, and construction levels.

The thesis aims to answer the following questions:

1. How are adverbs, attributive adjectives, and predicative adjectives encoded, on the root, lexeme, and construction levels, respectively?
2. To what extent can simple adverbs be found in languages around the world?
3. Can simple adverbs be found in languages that do not have simple adjectives?
4. Do simple adverbs tend to belong to the same semantic types cross-linguistically?

The dissertation is divided into three parts: Part I. Background and methodology, Part II. Results, and Part III. Discussion. An outline of the individual chapters of these three
1.1. Part I. Background and methodology

The first part of this dissertation contains three chapters that provide a background to the study and that describe the methodology employed. Chapter 2 brings together different approaches to adverbs, and to a certain extent, to adjectives. The chapter opens with an introduction to adverbs in general and discusses the issue of how to distinguish between different types of adverbs (section 2.2). This is followed by a section devoted to theoretical approaches that make relevant contributions to the discussion of adverbs (section 2.3). Section 2.4 gives an account of previous typological studies of adverbs. Various phenomena related to adverbs, e.g. adjectives, depictives, and resultatives, are discussed in section 2.5. In chapter 3, I propose a definition of modification and discuss the meaning of adverbs as modifiers. Here, I also discuss the relation between adverbial modification and predication, with particular reference to secondary predication, one of the issues being whether adverbs should be seen as secondary predicates. In chapter 4, I discuss the functions of attributive adjectives, predicative adjectives, and adverbs, as comparative concepts. This is followed by a description of the constructional-typological approach (Koch 2012), which is the methodology that I have chosen for the typological analysis. Chapter 4 also describes the sampling procedure and data collection.

1.2. Part II. Results

The second part of this dissertation presents the results of the study over the course of three chapters. Chapter 5, which focuses on adverbs and adverbials, presents the encoding attested in the adverbial function in the languages of the sample. Here, I show that simple adverbs are attested in a majority of sample languages, even in a number of languages that do not have simple adjectives. Chapter 6 discusses the results of examining attributive adjectives, predicative adjectives, and adverbs on three different levels within the word: the root, word form, and lexeme levels. As the root and lexeme levels are the most important ones for the present study, they are examined in particular depth. Analysis at the root level shows encoding overlaps of all three functions in a great majority of languages. Analysis at the lexeme level shows that it is fairly common for languages to have a class of lexemes used for all three functions. In chapter 7, I describe the results of examining attributive adjectives, predicative adjectives, and adverbs at the level of the construction. At this level, important connections between adverbs and predicative adjectives are discerned for a substantial number of languages, and between adverbs and attributive adjectives for a portion of languages.

1.3. Part III. Discussion

The third part of the dissertation is devoted to discussion. It opens with chapter 8, in which I discuss semantic types of adverbs, much like Dixon (1982 [1977]) discusses
1. Introduction

semantic types of adjectives. Here, SPEED is presented as a core semantic type for adverbs, whereas NOISE and CARE are peripheral semantic types. VALUE is found to be a semantic type for both adjectives and adverbs. Chapter 8 also discusses semantic shift of adverbs. In this context, the term shift does not refer to diachronic shift, but to the potential meaning change of a lexeme used in different functions. This leads to a discussion of how property-denoting adjectives and adverbs differ in their semantics. In chapter 9, I turn to the highly disputed issue of adverb as a part of speech. Adverbs have been described as, for instance, “the least understood large class of words in natural language” (Cresswell 1981: 21) and “the most heterogeneous of all word classes” (Haser & Kortmann 2006: 66). The discussion of the part of speech status of adverbs is intentionally left until the end of the dissertation, in order to have good grounds for drawing reliable conclusions. Despite their peculiarities, I conclude that the simple adverbs attested in this thesis constitute a stable prototypical part of speech from a cross-linguistic perspective. Part III closes with a concluding discussion in chapter 10.

1.4. Appendices

Appendix A is an introduction to the constructional-typological notation used particularly in chapters 4 and 7, and lists the abbreviations used in this notation. Appendix B contains examples from all sample languages, in alphabetical order. These examples are presented in addition to those discussed throughout the chapters. At the end of each language section, a table with constructional-typological notation for the language in question is presented (see chapter 4). In this table, the attested overlaps at the root, lexeme, and construction levels are also given for each language described. The purpose of appendix B is twofold. Firstly, in the main text, I sometimes refer to examples that are slightly outside the scope of the discussion. These examples are found in appendix B. Secondly, I have deemed it very important that the analysis should be as transparent as possible, especially in the use of the constructional-typological method. Therefore, examples, constructional-typological notation, and encoding overlaps for each sample language have been provided together in appendix B for the benefit of the reader.
Part I.

Background and methodology
2. Towards a framework for adverbs

2.1. Introduction

Adverb is often used as a generic term for leftover items that do not appear to belong elsewhere. Syntactically, adverbs are found on several different levels. Semantically, they can be divided into any number of subtypes, and such classifications can be made in a variety of ways. Adverbs are often given a definition that is based on exclusion: they are modifiers of everything except for nouns (Schachter & Shopen 2007: 20). This dissertation concerns itself primarily with adverbs that modify verbs, or act as modifiers within predicating expressions. The term *adverb* here refers to single-word adverbs, whereas *adverbial* refers to items with corresponding meaning and function in the form of more complex constructions. As background, a general introduction to adverbs is given (section 2.2). This is followed by a description of a number of theoretically oriented approaches to primarily verb-modifying adverbs (section 2.3). These accounts have been chosen based on the fact that they make important contributions to the discussion of problems surrounding adverbs. Prior typological studies of adverbs are then discussed (section 2.4). Following this, I discuss other phenomena that are connected to adverbs in different ways (section 2.5). Sections 2.2–2.5 all serve as an introduction and a survey to existing approaches to adverbs, even though some of them have a different main focus (e.g. depictives and resultatives, cf. section 2.5.2). In addition, I apply the two approaches of Dixon (1982 [1977]) and Croft (1991, 2001, 2003), which are not originally concerned with adverbs, to adverbial modification. Thereby, this chapter is not only a theoretical background, but brings together different existing approaches to adverbs with contributions that need to be expanded in order to be useful for accounting for adverbs, as summarized in section 2.6.

2.2. Adverbs from a general perspective

This section gives an introduction to general problems that surround adverbs. It is primarily based on the comprehensive account by Himmelmann & Schultze-Berndt (2005, see also section 2.5.2). First, I discuss the many functions of adverbs, and then the criteria for classifying adverbs, with particular attention to semantic classifications. At the end of this section, examples from Icelandic (Indo-European) are taken in order to illustrate some of the problems discussed.

Individual adverbs often occur in several different functions, with a number of interpretations. Himmelmann & Schultze-Berndt (2005b) illustrate this with different uses of the English adverb *naturally*, which allow for various classifications of this adverb (2005b: 5).
2. Towards a framework for adverbs

(2.1) (a) Elaine spoke naturally.
(b) Naturally Elaine spoke.
(c) Elaine spoke, naturally.

In (2.1a), naturally is a predicate-level adverb, which describes the manner in which Elaine spoke Himmelmann & Schultze-Berndt (2005b: 5). The adverb modifies the action of speaking denoted by the verb. In (2.1b), naturally is a sentence-level adverb, which expresses the speaker’s stance towards the proposition, in terms of judging it natural for Elaine’s speaking to happen (2005b: 5). Himmelmann & Schultze-Berndt state that the different functions in (2.1a–b) can be distinguished by the different positions of naturally. The example in (2.1c) is more complex: naturally can be interpreted either as a predicate-level or a sentence-level adverb. Despite this ambiguity, it has a prosodically detached position, and position was used as a criterion for distinguishing the uses of naturally in (2.1a–b). It might be added that naturally in (2.1c) can also be interpreted as an afterthought to the main proposition – perhaps the sentence could even be divided into two clauses, but this option is not discussed by Himmelmann & Schultze-Berndt. The distinction between predicate- and sentence-level adverbs may at first glance appear as a straightforward point of departure for the classification of adverbs. However, with the examples in (2.1), Himmelmann & Schultze-Berndt illustrate that the different positions and interpretations of adverbs complicate the matter. Adding to this the afterthought interpretation of (2.1c), it becomes even more evident that adverbs of the same form are ambiguous between various functions.

In their evaluation of means that are commonly used to classify adverbials, Himmelmann & Schultze-Berndt discern four different parameters. Although these parameters are independent of each other, they are often combined (2005b: 5-6):

(2.2) (a) **internal constituency**: simple/lexical adverbs, adjective-derived adverbs, PPs, adverbial clauses
(b) **morphological marking**: English -ly adverbs, case-marked adverbials, adverbials marked with instrumental adpositions
(c) **semantics**: manner, location, time, reason/cause, condition
(d) **syntactic distribution and scope**: positional variability and syntactic scope

Parameters (2.2a–b) are fairly uncontroversial according to Himmelmann & Schultze-Berndt. But the authors do not remark on how the two parameters relate to each other. For instance, English -ly adverbs (morphological marking) are adjective-derived adverbs (internal constituency). On the other hand, Himmelmann & Schultze-Berndt argue that parameters (2.2a–b) show little correlation with parameters (2.2c–d) – for instance, English -ly adverbs (morphological marking) are not restricted to a certain semantic type such as manner (semantics) (2005b: 5). On such grounds, Himmelmann & Schultze-Berndt (2005b) deem internal constituency and morphological marking as less useful when

1 In spoken language, a yet more fine-grained distinction is available in terms of focus accent: either Elaine speaking, and not anybody else, was a natural thing to happen, or Elaine speaking, and not her doing anything else, was natural. This is not discussed by Himmelmann & Schultze-Berndt (2005b).
2.2. Adverbs from a general perspective

classifying adverbials. Parameters (2.2c–d) are argued to be even more problematic in themselves, since they each contain very different criteria. This heterogeneity may turn yet more problematic if different parameters are combined. The authors also point out that it is common to mix semantic and syntactic parameters. In conclusion, the predicate- versus sentence-level division, as illustrated in examples (2.1a–b), is judged to be “the best-known scope distinction” for adverbials, although this division too rests on “as much a syntactic as a semantic distinction” (2005b: 6). In the classification of adverbials, as in many other areas of linguistics, the difficulty of treating syntax and semantics as completely separate domains is evident.

Semantic classifications of adverbs are frequent. Himmelmann & Schultze-Berndt point out that such classifications are typically based on semantic function, resulting in classes such as manner, location, time, degree, etc. (2005b: 6). But grammars and theoretically oriented approaches (such as Geuder 2000, see section 2.3.2) use such class labels in different ways. Even when delimiting the scope to the notion of manner, this label can be used to cover quite different meanings. Himmelmann & Schultze-Berndt present one broad and one narrow sense (2005b: 6):

(2.3) (a) **Broad sense:** ‘an item which usually/potentially conveys something about the manner in which an action is performed’

(b) **Narrow sense:** ‘an item which actually conveys the manner in which an action is performed, and nothing else’

To illustrate the elusive difference between the broad and narrow senses of manner, the following five examples are used (from Geuder 2000: 29-35, cited in Himmelmann & Schultze-Berndt 2005b: 6):

(2.4) (a) John shouted at them **angrily.** (pure manner)

(b) John answered the question **stupidly.** (pure manner)

(c) He **angrily** broke the door open. (transparent)

(d) John **stupidly** answered the question. (agentive)

(e) They loaded the cart **heavily.** (resultative)

Himmelmann & Schultze-Berndt (2005b: 6) argue that the adverbs in examples (2.4a–b) “convey the manner in which the action is performed and nothing else”: **angrily** refers to the manner in which John shouts, and **stupidly** to the way he is answering. This is not argued to be the case with the other examples. (2.4c) points to the agent’s anger while opening the door, while (2.4d) indicates that it was a stupid idea for John to answer the question (2005b: 6). In (2.4e), the cart is being filled with a heavy load. As pointed out by Geuder (2000), these three uses of adverbs are oriented in different ways, something that I will return to in section 2.3.2. It could be argued that these examples are not as clearly interpretable as Himmelmann & Schultze-Berndt (2005b) propose. For instance, in (2.4a), it cannot be excluded that John is angry – in fact, it is quite likely, although arguably not necessary, that a person is angry when performing an action angrily. In (2.4b), the answering is performed in a stupid way, but this also implies a stupid answer, and perhaps
2. Towards a framework for adverbs

a stupid answerer. These are naturally fine-grained interpretative distinctions, but they illustrate that even for those adverbs that appear to ‘convey the manner in which the action is performed and nothing else’, their meaning is still not very sharply delimited.

The main point that the examples illustrate, however, is the clearer and perhaps more important difference between the pure manner\(^2\) adverbs in (2.4a–b), on the one hand, and the different senses in (2.4c–e), on the other. In summary, Himmelmann & Schultze-Berndt (2005b) offer a very useful overview of the issues that surround adverbials and their classification.

Although there are many examples of the same adverb occurring in different positions with different functions, it is a well-known fact that semantic classes of adverbs often show preferences for certain positions, as described by, e.g., Jackendoft (1972) and Cinque (1999). A more specific case is that of Icelandic, sketched by Thráinsson (2007), who provides a useful account of the restrictions on positions of adverbs, followed by a classification based on position in combination with semantics (here, the recurrent mixing of criteria pointed to by Himmelmann & Schultze-Berndt 2005b may be recalled). In Icelandic, sentence adverbs such as aldrei ‘never’ and the negator ekki ‘not’ have more or less fixed positions. They are not able to follow the VP, while manner and frequency adverbs may do so.

(2.5) Icelandic (Indo-European) (Thráinsson 2007: 37)

(a) Hún hafði leidbeiningarnar vandlega/oft.
   she had read instructions-the carefully/often
   ‘She had read the instructions carefully/often.’

(b) *Hún hafði leidbeiningarnar aldrei/ekki.
   she had read instructions-the never/not
   ‘She had never/not read the instructions.’

Frequency adverbs like oft ‘often, frequently’ can also occur before the VP, as illustrated in (2.6).

(2.6) Icelandic (Indo-European) (Thráinsson 2007: 37)

Hún hafði oft leidbeiningarnar
   she had often read instructions-the
   ‘She had often read the instructions.’

According to Thráinsson (2007), oft has slightly different meanings depending on its position. In example (2.6), oft appears to modify the entire sentence, meaning ‘It has often been the case that...’, exemplifying a sentence adverb (2007: 37). When oft is used in final position, as in (2.5a), the action denoted by the verb is instead modified, with the meaning ‘over and over’ – oft is then interpreted as a manner adverb (2007: 37). Again, this is a case where the position of the adverb matters for its semantic interpretation.

In summary, classifying adverbs is a complex matter, not only because of the problematic nature of adverbs themselves, but due to the various criteria used. As argued

\(^2\) Himmelmann & Schultze-Berndt (2005b) adopt the term pure manner from Geuder (2000), further discussed in section 2.3.2.
by Himmelmann & Schultze-Berndt (2005b), the most straightforward classification is that between predicate- and sentence-level adverbs, even though this is not always a clearcut distinction. Contrary to Himmelmann & Schultze-Berndt’s claim that internal constituency and morphological marking are not very useful for the classification of adverbs, I will show that they do play a significant role. Moreover, they can be connected to semantics, as will be illustrated in chapters 5–8.

2.3. Adverbs in theoretical frameworks

The extent to which adverbs are discussed in theoretically oriented accounts differs remarkably. This section discusses four different accounts that in different ways make important contributions to a discussion of adverbs. First, the syntactic theory Role and Reference Grammar is discussed in section 2.3.1. This is followed by a semantic account devoted to adverbs specifically in 2.3.2. Two typologically oriented approaches are then treated: Functional Grammar in section 2.3.3 and that of Croft (1991, 2001, 2003) in section 2.3.4. The approaches are summarized in section 2.3.5, along with a discussion of the importance of their contributions.

2.3.1. Role and Reference Grammar

Within Role and Reference Grammar (henceforth RRG) and its view on layered clause structure, a fundamental difference is drawn between arguments and non-arguments, or in RRG terms, between the core and the periphery (Van Valin 2005: 4). The core contains the nucleus, in which the predicate is located, and the arguments of the predicate. The periphery contains any non-arguments or adjuncts that might occur in a clause, as illustrated in figure 2.1. In the periphery of the clause, two different types of non-arguments are found: adjuncts consisting of whole phrases, e.g. PPs, and adjuncts that are non-phrasal, e.g. adverbs. The non-argument nature of the periphery shows that its members are optional. In figure 2.1, the periphery is adjacent to the core, which may lead to the interpretation that items in the periphery modify the core only. But it is only the basic

![Figure 2.1. Sketch of RRG clause structure. Reprinted from: Van Valin (2005: 4). Copyright by Cambridge University Press. Reprinted with permission.](image)
structure of a simple clause that consists of a core and a periphery on the same level: adverbs and phrasal adjuncts can modify any clause level. In RRG terms, this means that there may be peripheries of the nucleus, the core, or the clause as a whole, as illustrated in the tree structure in figure 2.2, leaving the operators sketched below the example sentence outside of the discussion for now (2005: 19–22).

A similar structure is found within the NP, which shows clear parallels to that of the clause, as pointed out by Van Valin (2005: 24). The NP as a whole may have a periphery. The NP as such consists of a core that may have a periphery, and the core in turn has a nucleus, where a periphery may also be found. These points are illustrated in figure 2.3.

On the clause level, the nucleus can be modified by adverbs such as completely and continuously (see figure 2.2). These are adverbs with aspectual meaning, and the scope of their modification is the nucleus, which contains the predicate alone (2005: 19). The corresponding level of the NP, i.e. the periphery of the nucleusN (which in turn consists of the nominal only), may contain adjectives, nominal modifiers, and restrictive relative clauses (2005: 24–26). Comparing the two, the clausal nuclear periphery appears quite

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3 Figure 2.3 is simplified for present purposes in that the non-restrictive relative clause does not follow the proper RRG structure, which would denote it as a clause with its own peripheries, cf. Van Valin (2005: 222).
limited in allowing only aspectual adverbs, whereas it is possible for the nuclear\textsubscript{N} periphery to contain any kind of attributive adjective, nominal modifier, or restrictive relative clause. However, the scope of modification, being the nucleus, is the shared factor, rather than what types of items are found here.

The periphery of the core in the basic structure of the clause (see figure 2.1) may contain temporal adverbs such as yesterday, pace adverbs such as quickly, and manner adverbs such as carefully. The separation of the labels pace and manner is notable, as it is common to subsume the two under manner in semantic classifications of adverbs. Also PPs with a temporal or locational meaning may occur in the periphery of the core (2005: 19). Since the core contains the arguments of the predicate, the modifiers in the periphery in question do not only have the predicate in their scope (as in the case of the nuclear periphery), but the arguments as well. The modifying domain of the core periphery thus reflects the fact that the scope of manner adverbs is not clearcut, and that participants are involved to some extent in their interpretation. Comparing the core periphery of the clause to the core\textsubscript{N} periphery, the parallel between modifiers in clauses and NPs becomes yet more striking: “The constituents of the core\textsubscript{N} periphery would be the adjunct setting PPs and adverbials of complex event expressions...this is analogous to their location in the layered structure of the clause” (2005: 26). Some of the items that may occur here, such as phrases denoting location, are identical to some of those found in the periphery of the core on the clausal level (e.g. in New York City in figure 2.3 appears to be such as case).

Finally, the potential constituents of the periphery on the clause level are epistemic adverbs, exemplified by probably, along with evidential adverbs, such as evidently (2005: 19). Parallel to this, the NP-level periphery contains non-restrictive modifiers, such as non-restrictive relative clauses (2005: 26). As in the case of the nucleus, the connection does not pertain to the content, but simply to the scope of the periphery, which is the whole clause and the whole NP, respectively.

The term operator is crucial for RRG generally and is highly relevant to an RRG discussion of adverbs. Operators are grammatical items that may modify each clause level, such as tense, aspect, modality, etc. (2005: 8). These are not located in the nucleus, core, or periphery, but instead act as modifiers to each of these levels, and are denoted externally to these in the layered structure, as illustrated in figure 2.2. Operators such as aspect, negation, and certain directionals modify the nucleus: “they modify the action, event or state itself without reference to the participants” (2005: 8–9). Operators of the clause core can be found among other types of directionals, event quantification, modality, and internal negation: they “modify the relation between a core argument, normally the actor, and the action” (2005: 9). This can be compared to the periphery of the core, which includes adverbs of pace, manner, and temporal or locational adverbs or adpositional phrases, since these cannot be regarded as describing the action alone, without considering its participants. Finally, clausal operators are found among what is termed status (epistemic modals, external negation), tense, evidentials, and illocutionary force (2005: 9). For some of these somewhat more complex operators, a parallel can be drawn to adjuncts in the case of evidentials and illocutionary force, since items such as evidential and epistemic adverbs are located in the clause periphery.

There is another type of interaction between operators and adverbials, most straight-
forwardly between manner adverbs and tense operators. When a manner adverb is found before the tensed verb in English, it may function as a modifier on the clause level. This placement of the adverb renders ambiguity of meaning in examples such as *Ruth cleverly hid the cash*, which can either be interpreted as “the manner in which she hid the cash was clever” or “the fact that she hid the cash was clever” (Van Valin 2005: 20, cf. the discussion of Himmelmann & Schultze-Berndt 2005b in section 2.2 and Geuder 2000 in section 2.3.2). Placing the manner adverb before the tense operator may then also mean placing the adverb in the clause periphery. Similarly, when several adverbials are used in the same clause, they are constrained by their operator relations: their position and proximity to the verb is connected to the position and proximity to the verb of any related operators (Van Valin 2005: 20–22). For instance, in the example *Leslie has evidently been slowly immersing herself completely in the new language* (see figure 2.2), the evidential adverb is further from the verb than the other adverbs, and any attempt to rearrange the order will show that this cannot be done in too many versions.

The parallel between adjectives and adverbs as modifiers of nominals and verbs, respectively, is intuitively plausible. The RRG model also points to certain parallels between the levels on which various modifiers are found when comparing the NP and the clause. Such connections are nonetheless of a slightly different kind: we do not find manner adverbs and their semantically corresponding adjectives, or in the case of English, adverbs derived from adjectives, on parallel modifying levels: adjectives are found in the nuclear N periphery, whereas manner adverbs are found in the core periphery of the clause. The RRG structure of the clause offers useful insights into the function of modifiers, illustrating that the view of adjectives and adverbs, as in this sense, on a par does not capture the whole picture. Rather, what the RRG account elucidates is that the NP with its sub-levels and the clause with its sub-levels are very different in nature, as manifested by their different types of modification. The nuclear N periphery, where adjectives are found, has only the referent in its scope of modification, whereas the periphery of the core on the clausal level, where manner adverbs are found, may modify not only the predicate but also its participants. It seems that this highlights a crucial distinction between adjectives and adverbs – adjectives have a narrow scope of modification, whereas manner adverbs modify the events denoted by verbs primarily, but may also take participants and other aspects of events into their scope, to different extents. This makes the modification performed by manner adverbs inherently more complex.

### 2.3.2. Event- and individual-oriented adverbs

The semantic analysis of adverbs by Geuder (2000) is based on two main assumptions. Firstly, the label *adverb* is limited to modifiers in adverbial function that are either derived from adjectives or that take the same form as adjectives. Although this definition of adverb is clearly demarcated, it also presupposes a unidirectional relationship from adjective to adverb, or that adverbs must arise from adjectives. This view is necessarily language-specific, with English as a point of departure. Secondly, manner adverbs are analyzed as “predicates of events”, a notion coming from the framework of event semantics (2000: 1). This is illustrated in (2.7a), as compared to the adjective in (2.7b), which is instead a predicate of an individual (2000: 2).
2.3. Adverbs in theoretical frameworks

(2.7) (a) to open the package **carefully**  
(b) a **careful** person

Manner adverb: **careful(e)**  
Attributive adjective: **careful(x)**

According to Geuder, the manner adverb *carefully* in (2.7a) is predicated of the event *to open the package*, and has basically the same meaning as *The opening of the package was careful*. The attributive adjective in (2.7b) predicates something of an individual, here *a person*. This example pair illustrates that a regular lexical alternation is found with items like *careful*. Properties of this kind can then be ascribed to both individuals and events. Geuder raises the question of what the connection may be between an individual and an event sharing the same property. The question of how so-called *e-predicates* (predicates of events) and *x-predicates* (predicates of individuals) are related is pointed out as central in this context. Due to the regularity observed in adverbs that are derived from adjectives, Geuder argues that the “underlying lexical meaning of adjectives” governs this alternation (2000: 2). However, the analysis of examples like those in (2.7) is complicated by a familiar problem: the fact that the same adverb can be used in different senses, e.g. as *stupidly* in *John stupidly answered the question* and *John answered the question stupidly*, from example (2.4) in section 2.2. With such different uses of adverbs arising from the same adjective, Geuder questions whether they can all be uniformly described as predicates of events. If there are many ways in which one lexical item can relate to the same event, then *predicate of event* does not really suffice – a more detailed analysis is needed to capture the various adverbial functions. In addition to the term *predicate of event*, Geuder uses the notion of manner to specify *how* the adverb relates to the event (2000: 3). By examining different alternating pairs of adverbs and adjectives and the meaning of the properties that they denote, Geuder discerns subtypes of manner adverbs. Three such alternation pairs are illustrated in (2.8) (2000: 9).

(2.8) (a) He solved the problem **intelligently**. *vs.* an **intelligent** dog  
(b) He left the room **sadly**. *vs.* a **sad** person  
(c) They loaded the cart **heavily**. *vs.* a **heavy** bag

One aspect of meaning unites the adverbs in (2.8): they have the property of “shar[ing] individual-related meaning components of their x-predicating cognates”, which is argued to stem from the adjective found in their derivational base (2000: 10–11). The term *oriented* is introduced for adverbs with a meaning that refers to the individual in the same way as their alternating adjectives, since they show “orientation to an individual” (2000: 10–11). In other words, the meaning of adverbs such as *intelligently* is based on the meaning of the adjective: the property of the individual in question being intelligent. These are not manner adverbs in the pure sense of referring only to the manner in which an action is performed and nothing else (cf. points from Himmelmann & Schultze-Berndt 2005b in section 2.2). In contrast to these individual-oriented adverbs, let us now consider the alternation pair in (2.9) (Geuder 2000: 9).

(2.9) He opened the safe **slowly**. *vs.* a **slow** car
2. Towards a framework for adverbs

Interestingly, here the situation seems to be reversed: to understand what a slow car means, it is necessary to first conceptualize something ‘moving slowly’. The example in (2.9) accordingly belongs to the type of “x-predicates whose meanings have to be understood on the basis of the e-related variant” (2000: 11). In the example a slow car, two interpretations are also possible: firstly, the property of being slow can be inherent to the car, which is termed a generic interpretation. Secondly, a certain car might be going slowly in a certain situation, yielding a corresponding episodic interpretation. In both versions, the meaning nonetheless comes from the speed at which the car is moving, whether at a certain point in time or whenever it is being driven. The meaning originates in the event-predicating variant, which in this sense is underlying. In this way, Geuder concedes that the event-predicating variant can be the underlying one, despite the fact that it somehow seems to go against his initial assumption of adverbs always being derived from adjectives (2000: 12).

A third type of alternation is also found, as illustrated in (2.10) (2000: 11).

(2.10) He danced beautifully. vs. a beautiful hat

In (2.10), neither of the examples seems to act as a base for the other in terms of meaning. Geuder connects this to how perception predicates such as see can take both things and events as arguments, e.g. John saw a girl vs. John saw Mary leave (2000: 11). Adjectives like beautiful, whose meaning is based on perception, is equally applicable to events and individuals in a corresponding manner. Nevertheless, other uses of beautiful/beautifully show a meaning ambiguity like that of a slow car in (2.9). In the example a beautiful dancer, two interpretations, ‘a good-looking dancer’ and ‘someone who dances beautifully’, are equally possible (2000: 12). In the example in (2.10), there is no such inheritance from one version to the other – rather, they are neutral.

Even though true manner adverbs may share some meaning feature with their corresponding x-predicates, they stand out against the group of oriented adverbs that display clear meaning correlations with their adjectival counterparts. Among these oriented adverbs, Geuder distinguishes three subtypes, as illustrated below (2000: 22, 34, 28).

(2.11) (a) He angrily broke the door open. (transparent)

(b) John stupidly answered the question. (agentive)

(c) They loaded the cart heavily. (resultative)

In (2.11a), the agent is necessarily interpreted as being angry, and the adverb is labeled transparent because of its transparency in the meaning relation to the adjective counterpart. This can be tested in that the state of the individual can be asserted “for an extended period of time” (2000: 22), e.g. He angrily broke the door open, and he was still angry when he returned a few hours later. This test does not apply to true manner adverbs. In (2.11b), stupidly is termed an agentive adverb, since it refers to the agent John being stupid for answering the question, instead of refraining from doing so. Example (2.11c) contains a resultative adverb, which can be clearly distinguished from manner adverbs in that it refers to the outcome or result of an event.

These examples are repeated from (2.4c–e) in section 2.2.
In addition to distinguishing the three types of oriented adverbs in contrast to those that denote pure manner (using the term that Himmelmann & Schultze-Berndt 2005b attribute to Geuder 2000), Geuder proposes three lexical classes for x-predicating adverbs: predicates of dispositions, psychological states, and external (non-mental) states (2000: 33). Table 2.1 illustrates oriented and manner uses of each class.

Table 2.1. Geuder’s lexical classes of adverbs in oriented and manner uses

<table>
<thead>
<tr>
<th>Predicates of</th>
<th>Oriented adverb use</th>
<th>Manner adverb use</th>
</tr>
</thead>
<tbody>
<tr>
<td>dispositions</td>
<td><strong>agentive:</strong> John stupidly answered the question.</td>
<td>John answered the question stupidly.</td>
</tr>
<tr>
<td>psychological states</td>
<td><strong>transparent:</strong> John angrily shouted at them.</td>
<td>John shouted at them angrily.</td>
</tr>
<tr>
<td>external (non-mental) states</td>
<td><strong>resultative:</strong> Mary dressed elegantly.</td>
<td>Mary dressed elegantly.</td>
</tr>
</tbody>
</table>

Each proposed lexical class has one oriented use and one pure manner use, varying with position for dispositions and psychological states. In the case of external states, Mary dressed elegantly can be interpreted both as manner, where Mary’s manner of dressing was elegant, and as a resultative, where Mary dressed with elegance as a result. In terms of meaning, all the oriented uses in table 2.1 are closely related to their (underlying) adjectival versions. The manner variants are not clearly connected to events, in the way that pure manner adverbs are. According to Geuder, they instead identify “a particular constituent part of an event”, not necessarily “eventive” in itself (2000: 206). This can be illustrated for each of the pairs in table 2.1. For dispositions, John answered the question stupidly indicates that something about the way the question was answered was stupid. For Geuder, a property of a sub-event is determined (2000: 207). In the case of psychological states, the interpretation is connected to an expression in the appearance of an individual, which must also be interpretable from the verb somehow. This should explain why the manner use is straightforward in the example John shouted at them angrily, where the verb shout also reveals something about the appearance of the individual. In comparison, it is not as clear in He left the room angrily, where the verb leave does not give any such clues. For the manner example of an external state, Mary dressed elegantly can refer, e.g., to “elegant movements”, an interpretation that arises from some constituent part of the verb meaning (2000: 206–207).

As mentioned, other adverbs only occur in manner uses. They differ from oriented adverbs in that they may be used in various syntactic positions, as illustrated in (2.12) (2000: 26).

(2.12) John (quickly) threw (*) the book (quickly) into the drawer (quickly).

Geuder does not discuss any potential meaning differences in these positions, apparently assuming that the manner use remains constant. Tenny (2000), on the other hand, based
2. Towards a framework for adverbs

on similar though somewhat more elaborated examples, makes different interpretations
of *quickly* in terms of whether the event or the process is being modified. The following
examples from Travis (1988: 292, cited in Tenny 2000: 288) are presented:

(2.13) (a) **Quickly** John will be arrested by the police.
(b) John **quickly** will be arrested by the police.
(c) John will **quickly** be arrested by the police.
(d) John will be arrested by the police **quickly**.

In (2.13a–b), *quickly* is argued to modify the event, meaning that the arrest will happen
immediately. In (2.13c–d), *quickly* is instead interpreted as modifying the process: the
manner of arresting will then be quick. It thus seems to be a matter of debate whether
typical English manner adverbs display any meaning differences in connection to their
syntactic position (cf. the examples from Icelandic in section 2.2). On the other hand,
for those adverbs that occur both in oriented and manner versions, the alternation clearly
patterns with syntactic position. Importantly though, neither Geuder nor Tenny appear
to take any cross-linguistic differences into account. Somewhat startlingly, Geuder draws
the following conclusion (2000: 35):

> It is tempting to draw the inference that “manner” is a notion that is separate
from the lexical senses of the adjectives, and that manner adverbs are (or
 can be) derivatives of a specific process that can take various types of lexical
meanings as its input and delivers a constant kind of output.

Although it is not explicitly stated, it seems that Geuder here somehow admits that man-
ner adverbs do not necessarily arise from adjectives, since they are ‘separate’. However,
they are still (potentially) called ‘derivatives of a specific process’, implying that the input
for derivation may still be the adjectival base. As for their semantics, Geuder states that
events that denote some kind of change have “a dimension of speed, and this is certainly
a typical notion of manner” (2000: 208).

This can be compared to the RRG account discussed in section 2.3.1, which separates
pace (comparable to speed) from manner. In Geuder’s account, it is furthermore unclear
where notions belong that are indifferent in terms of ascribing properties to individuals or
events, illustrated by certain cases of *beautiful/beautifully*, and cases where the meaning
may come primarily from the event such as *dance beautifully vs. beautiful dancer*.

Geuder also discusses the role of morphology in the meaning shifts of adjectives and
adverbs in English, and comes to the conclusion that the English *-ly* ending in itself
does not suffice to capture the x- versus e-predicating alternation. This argumentation
is built on the assumption that a nominalized verb with an attributive adjective may
yield the same meaning as a manner adverb modifying a verb, as in the example *to drive
dangerously vs. dangerous driving* (Geuder 2000: 36). The derivational status of *-ly* is thus
questionable. Many analyses have been put forth along these lines. For instance, several
generativists have argued that the “adverbialising affix” is in fact inflectional (e.g. Radford
an inflectional analysis of *-ly* can be supported by data from certain languages other
2.3. Adverbs in theoretical frameworks

than English. For instance, the Latin adverbial ending differs based on the adjectival inflectional class (2000: 37). But the inflectional analyses is not the only alternative. Geuder points to the example of Spanish -mente being treated as a case of compounding by Zagona (1990), manifested by examples such as honesta y francamente ‘[honest and frank]-ly’ (2000: 37). In languages as different as Irish and Chinese, adverbs can further be formed by attaching a particle to an adjective. In addition, some languages show absence of any marking whatsoever, as commonly exemplified by German (Geuder 2000: 37). Based on this, Geuder argues that derivation is the only alternative for which there is no clear evidence. In contrast, it seems that “adverb morphology resembles inflection in that it is triggered by factors that reside in the syntactic environment, not in the lexicon” (2000: 38). The same point has been raised by several scholars discussing this issue in various contexts, e.g. Zwicky (1995), Haspelmath (2002), and Payne et al. (2010). If analyzed as a derivational process, adverb formation would stand out against other types of derivation in going only from adjective to adverb, according to Geuder (2000: 39).

In conclusion, two main points on somewhat different dimensions emerge from Geuder’s account of adverbs. Firstly, pure manner adverbs can be clearly distinguished from their corresponding oriented uses, even though the two types sometimes coincide in form, and may be connected in terms of meaning to a certain degree. The second point is the clear division of what Geuder prefers to call underlying adjectives; here, indifferent adjectives apply to both individuals and events, showing no variation. Such an example is beautiful in the functions connected to perception alone. Adjectives that underlyingly describe events are originally e-predicating, but can shift to x-predicating uses, e.g. fast (2000: 209). Conversely, adverbs that pertain to individuals can be shifted to e-predicating variants. The last type consists of the oriented adverbs that are Geuder’s chief interest. In the present study, on the other hand, the focus is primarily on items that underlyingly qualify events, but also on those which are invariant.

2.3.3. Functional Grammar

In the works of Hengeveld and others in the Functional Grammar approach to parts of speech (also elaborated as Functional Discourse Grammar), the notion of predication holds a central role (Hengeveld 1992; Hengeveld et al. 2004; Rijkhoff & van Lier 2013). Within this approach, predication is defined as “designat[ing] the application of a predicate to an appropriate number of arguments, where the predicate specifies a relation or a property” (1992: 25). Parts of speech are defined based on their uses as predicates, where “[a]n adverbial predicate is a predicate which, without further measures being taken, can be used as a modifier of a non-nominal head” (1992: 58). ‘Further measures being taken’ here corresponds to additional morphemes used for this specific type of predicate. In the case of adverbial predicates, the part of speech that they correspond to is manner adverbs (1992: 55). Already at the outset of Hengeveld’s discussion, it is noted that adverbs differ from the other parts of speech included in the approach. Whereas verbs, nouns, and adjectives all have predicative uses in English (e.g. John sings, John is president, and John is nice, respectively), manner adverbs are stated not to have such a use, illustrated by the absence of a predicative use of the simple adverb well. The non-predicative use, on the contrary, is exemplified by The nice president sings...
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well (1992: 57). It is striking for an item that is defined as a predicate not to have a predicative use, but perhaps this oddity arises from different terminological uses of *predicate*. In contrast to adverbs, verbal predicates are the only predicate type of those that serve as a basis for distinguishing parts of speech that have a predicative use only, “leav[ing] open the possibility of nominal, adjectival, and adverbial predicates being used in predicative function” (1992: 58). Moreover, while it is impossible for verbal predicates to have anything but a predicative use, for other predicates this is argued to vary across languages. The solely non-predicative use of manner adverbs is then a feature of English, among other languages. Whereas the predicative use only lies in the nature of verbs, the non-predicative use only does not appear to lie in the nature of manner adverbs as such. Still, it is interesting that it is the modifiers of verbs (predicative only) that are non-predicative only.

2.3.4. Adverbs as modifiers of predicates

*Manner* is a semantic class label among many others used to classify words on various levels. More general classes such as *objects, actions, and properties* have traditionally been used as a semantic basis for the part of speech categories noun, verb, and adjective. Such a semantic division can easily be proven inadequate for part of speech classifications, since the classes are not restricted to one part of speech each (e.g. action words can be nouns, as in the case of the English *destruction*). According to Croft (1991, 2001, 2003), although the three semantic classes do not suffice for discerning part of speech categories, they are still needed in order to do so. Another dimension must nonetheless be added, namely the functions that the semantic classes are used in. Croft argues that every language has expressions for three major pragmatic or propositional act functions, a term originally introduced by Searle (1969: 23–24) (also called communicative or discourse functions). These three functions are: *reference, predication, and modification*.

The act of *reference* identifies a referent and establishes a cognitive file for that referent, thereby allowing for future referring expressions coreferential with the first referring expression. The act of *predication* ascribes something to the referent...The act of *modification* (of referents) functions to enrich a referent’s identity by an additional feature of the referent, denoted by the modifier. (Croft 2001: 66)

The three major semantic classes can be used in any of the three major propositional act functions. In certain combinations, prototypical parts of speech can be identified. Accordingly, the prototypical noun is found in *reference to an object*, that of verb in *predication of an action*, and that of adjective in *modification by a property* (2001: 89). According to Croft, this is supported by universal-typological markedness patterns. The term markedness here refers to how much structural coding, or how many morphemes, are used in the encoding of an expression: “the marked member [of a category] is encoded by *at least as many* morphemes as the unmarked member” (2001: 90). Thus, an unmarked item cannot be encoded by fewer morphemes than a marked member, but a marked item is always encoded by the *same amount of morphemes or more* than the unmarked one. When objects words are used for reference, they are unmarked. When action words are
used as predicates, they are unmarked. And when property words are used as modifiers, they are unmarked. Any other combination results in markedness, as illustrated for English in table 2.2.

Table 2.2. Encoding of semantic classes and discourse functions (Croft 2001: 88)

<table>
<thead>
<tr>
<th>Reference</th>
<th>Modification</th>
<th>Predication</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objects</strong></td>
<td>UNMARKED NOUNS</td>
<td>genitive, adjectivalizations, PPs on nouns</td>
</tr>
<tr>
<td><strong>Properties</strong></td>
<td>deadjectival nouns</td>
<td>UNMARKED ADJECTIVES</td>
</tr>
<tr>
<td><strong>Actions</strong></td>
<td>action nominals, participles, relative clauses</td>
<td>infinitives, gerunds</td>
</tr>
</tbody>
</table>

In English, the markedness pattern can be exemplified with the property word *red*, which is unmarked when used in its prototypical function as a modifier in, e.g., the *red rose*. In a non-prototypical function, such as reference, the same property requires overt structural coding in the form of a derivational morpheme, e.g. the *red-ness of the rose*. There are also instances of zero structural coding in English object words used for modification, such as *kitchen table* or *apple basket*, which show that the object words *kitchen* and *apple* are encoded by the same amount of structural coding (i.e. zero) when used in their prototypical function of reference and the non-prototypical function of modification (cf. Croft 2001: 99). This follows the implicational universal of markedness, since the marked member (the object word *kitchen* or *apple* used as a modifier) is encoded by the same number of morphemes as the unmarked member (the property word *red* used as a modifier). When *red* is used in predication, English requires the copula *be* as in, e.g., *The rose is red*: here the copula is the structural coding, and constitutes the markedness. The unmarkedness patterns importantly highlight *prototypical* nouns, verbs, and adjectives, and not absolute categories. This means that while language-particular category boundaries differ, these markedness patterns hold cross-linguistically.

The three semantic classes matching the three propositional act functions result in the traditional three major parts of speech labels, as prototypical categories. For property modification, one might nevertheless raise the question of why this points so uniformly towards prototypical adjectives. In the quote above, Croft specifies modification as *modification of referents*. On the other hand, Croft (2003: 184-185) describes modification as “a secondary propositional act which can aid to establish reference (restrictive modification) or assert a secondary predication (nonrestrictive modification)”. *Modification of referents* must then correspond to aiding in establishing reference, i.e. restrictive modification.
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But there is, apparently, another type of modification, called *nonrestrictive modification*, consisting of ‘asserting a secondary predication’. Moreover, modification as a whole is a *secondary* propositional act function. Although it is not quite clear what implications this characteristic of being secondary has (see further discussion in chapter 3), modification is necessarily secondary to reference and predication. Based on this assumption alone, it seems that there must be two types of modification. Croft (2001: 94) also briefly comments that the conceptual space for parts of speech can be elaborated: it “only represents modification of a referent; modification of a predicate (adverbal modification) would also have to be represented”. Modification, as such, does then not only pertain to referents, but also to predicates. In an entry on adverbs in *Encyclopedia of Language and Linguistics*, Haser & Kortmann (2006) elaborate on Croft’s comment on modification as follows:

Prototypical adverbs, much like prototypical adjectives, could then be defined as items that provide ‘modification by a property’, the difference being that prototypical adjectives modify referents and prototypical adverbs modify predicates. (Haser & Kortmann 2006: 68)

The fact that adverbs must modify predicates if adjectives modify referents is logical and follows immediately from Croft’s approach. Haser & Kortmann (2006) nonetheless draw further conclusions, arguing that this is a reflection of how closely related adjectives and adverbs are. They illustrate this relation with the example of how adverbs are commonly formed from adjectives, as in the case of the English *-ly*, and that many languages do not formally separate adjectives from adverbs (2006: 68). Not denying that there is a close connection between adjectives and adverbs, both belonging to the function of property modification, it seems questionable that such a connection should have to be unidirectional. Both Croft (2001) and Haser & Kortmann (2006) nonetheless seem to assume that although there are two types of property modification, modification of referents, which is manifested as prototypical adjectives, is in some sense primary. It is difficult to tell whether this focus on modification of referents follows from a tradition that treats nouns, verbs, and adjectives as the three major parts of speech, or from a lack of data on modifiers of predicates. Such a lack could be due either to the absence of function-specific encoding for modifiers of predicates cross-linguistically, or to lack of available data.

A problem that arises at this point is the use of the terms *reference* and *referent*, especially in connection to *modification* in Croft’s approach. For instance, Croft talks about “modification of a referent”, and also “modification of a predicate” (2001: 94). This is somewhat puzzling, since it is an entire expression, including a modifier, that does the referring. In the example *the red rose*, it is obviously not the referent, i.e. the actual rose, that is being modified, but the referring expression as such. To clarify this, I will use the terms *modifier within referring expression*, or alternatively, *modification of a referring expression* for adjectival modification. Similarly, *modifier within predicating expression* or *modification of predicating expression* will be used for adverbial modification. Since these terms are quite long, I may sometimes use the shorter *modification in reference/predication*.

Modification by a property accurately captures the similarities of adjectives and adverbs, whereas the ability of modification to act within either referring or predicating expressions illustrates their different functions. Treating prototypical adverbs as property
adverbs within predicating expressions provides a clear delimitation of what is meant by *adverb*, as investigated in the present study. Modification on other levels such as of the whole sentence, of an adjective, or of another adverb is not within the scope of this study. Also, only property words qualify as prototypical for this type of adverb – semantic types such as time, space, etc. are not included. In conclusion, although the role of adverbs as property modifiers within predicating expressions compared to other prototypical parts of speech remains somewhat unclear, Croft’s approach provides potential for a clear identification of prototypical adverbs of this type. If property modification is found both within referring and predicating expressions, and property modification is where we find unmarked prototypical modifiers, then there must either be both unmarked adjectives and adverbs, or an explanation to why the former should be predominant.

2.3.5. Summary of theoretical frameworks

As mentioned in the introduction to this chapter, the theoretical approaches that have been discussed here were chosen based on their contributions to the discussion of adverbs in general. Role and Reference Grammar (Van Valin 2005), with its layered clause structure, offers a clear classification of adverbs, although it naturally implies theoretical adherence to the approach. However, the peripheries on the different levels of the clause, and more specifically the parallel to the peripheries of the NP, elucidate similarities and differences between various types of modifiers, which apply also outside this syntactic theory. Role and Reference Grammar is also the only theoretical approach considered here that includes adverbs outside of the predicate level. A highly important point is that only aspectual adverbs, located in the periphery of the nucleus, modify the predicate alone, whereas manner and pace adverbs, located in the periphery of the core, modify both the predicate and its arguments. From a semantic perspective, Geuder (2000) shows that the notion of manner is not as uniform as it might first appear, and that adverbs can relate to events in a variety of ways. Functional Grammar (Hengeveld 1992; Hengeveld et al. 2004; Rijkhoff & van Lier 2013), limiting its scope to manner adverbs, points out the interesting connection between the predicative-only use of verbs and the non-predicative-only use of adverbs attested at least in English. Croft (1991, 2001, 2003) merely touches upon the role of adverbs in his typological approach to prototypical parts of speech, where room can be made for property words that modify predicates. Still, the theory as a whole has many implications for adverbs as a type of modifier. Modification is a secondary discourse function, and it seems that it must be dealt with based on what it is secondary to, namely predication. In conclusion, the adverb type that is the focus of this dissertation can be defined as Geuder’s *pure manner* adverbs, and/or Croft’s (somewhat modified) *property modifiers within predicating expressions*.

2.4. Adverbs in typology

Within the field of linguistic typology, adverbs have received comparatively little attention, with the exception of a few important studies. Ramat & Ricca (1994) attempt to identify the boundaries of the adverb category against those of other categories (noun, adjective, verb, and converb) and discuss possibilities for a uniform treatment of the diverse
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Adverb category. Although Ramat & Ricca do not present a typological study per se, the discussion is framed within a cross-linguistic perspective, with an ambitious twofold definition of adverb as a category:

(i) *formally*, adverbs are invariable and syntactically dispensible LEXEMES (which may have derivational status...)

(ii) *functionally*, adverbs are MODIFIERS of predicates, other modifiers or higher syntactic units. In other words, they ADD INFORMATION to other linguistic elements which can stand on their own semantically and syntactically. (Ramat & Ricca 1994: 290)

The functional part of this definition is based on the exclusion of nouns and nominal heads, just as it is commonly defined in traditional accounts of adverbs as a category with diverse members. Whereas the adverbial function is defined as universal by Ramat & Ricca (1994: 291), adverb as a category is not considered to be so. A prototypical category approach is taken, which implies members that are more and less central, in the radial model following Lakoff (1987). On this basis, Ramat & Ricca propose a scale of different adverb types, which are more or less prototypical. At the prototype center, simple invariable lexemes are found (fulfilling both criteria above), e.g. the English *perhaps*, the Dutch *misschien*, and the Italian *forse*. Next closest to the prototype center, derived adverbs and “frozen inflectional endings” are located, e.g. the English *quick-ly* and the Latin *rect-e*. This is followed by adverbs formed by compounding, such as the German *glücklicher-weise* ‘fortunately’, and periphrastic NPs and PPs, e.g. the English *in my opinion*, moving further and further away from the prototypical center (Ramat & Ricca 1994: 294). Based on languages where adverbs cannot be clearly distinguished from other categories, verbs, adjectives, nouns, and converbs are then added at the edges, making the radial model two-dimensional (1994: 302). With this radial category assumption as a foundation, Ramat & Ricca test two different prototype approaches to the adverb category, with conflicting results. The first approach is concerned with the internal structure of the supposed category, building further on Lakoff’s (1987) radial category model. Again, heterogeneity is the main issue, even when limited to six subgroups: predicate adverbs, degree adverbs, sentence adverbs, setting adverbs of space and time, focalizers, and text adverbs (or conjuncts/connectives) (Ramat & Ricca 1994: 307–308). Notably, predicate adverbs here contain not only manner adverbs, but also directional adverbs (e.g. *westwards*) and aspectual adverbs (e.g. *already*, *repeatedly*), i.e. items which compared to manner adverbs are “equally tightly bound to the predicate” (1994: 307). Based on the argument that these subtypes are just as hard to treat as separate categories as they are to handle as belonging to one and the same category, Ramat & Ricca (1994) sketch a family resemblance structure of English adverbs ending in -ly, which are attested in all the proposed subtypes. With manner adverbs as the center, extensions of function and meaning are drawn to other subtypes, which in turn can be extended to other subtypes in the same fashion (1994: 314). The direction of extension from manner to other types of meanings is argued to be diachronically supported, as opposed to the opposite direction.

Ramat & Ricca’s second approach to adverb as a prototype category is based on frequency and structural criteria. In the case of adjectives as accounted for by Dixon (1982
(1977)) (see full account in section 2.5.1), the most prototypical adjectives are also most frequently lexicalized as adjectives across languages. This does not hold for manner adverbs among adverbs generally: even in those languages that have manner adverbs, other items labeled as adverbs are much more frequent, supported by frequency counts from English, French, Italian, and Spanish (Ramat & Ricca 1994: 317, 319). These high-frequency items include time and space notions (here, today, now), time quantifiers (never, always, often), degree adverbs (very, more, less), focusing expressions (even, also, only), and sentence adverbs (perhaps). The heterogeneity that was one of the preliminary difficulties of treating adverbs uniformly is thus characteristic also of the most frequent adverbs. Moreover, the most frequent adverbs are not a likely notional or historical source for other types of adverbs. In summary, these contradicting results, although illuminating for the study of adverbs in general, does not strengthen the understanding of adverbs as a uniform category.

In the volume edited by van der Auwera & Baoill (1998), various adverbial constructions in European languages are described, including phasal adverbs (e.g. still, already, yet, etc.), sentence adverbs, expressions of equality and similarity, and various adverbial clauses. This is one of the first attempts to investigate an understudied area and covers a range of different adverbials. However, manner adverbs are not included, and the only potential predicate-modifying adverb type treated in the volume is phasal adverbs (van der Auwera 1998). As part of the same EUROTYPO project, Kortmann (1997) investigates subordinators in European languages (e.g. when, while, if, because, although). This is an in-depth study with both typological and historical perspectives. Still, the focus is limited to adverbial subordinators, and the typological coverage in both EUROTYPO volumes is obviously limited to Europe.

In his study of parts of speech from a Functional Grammar perspective (see section 2.3.3), Hengeveld (1992) includes manner adverbs as a natural fourth category, following nouns, verbs, and adjectives. Many accounts of parts of speech within this theoretical approach have followed since, see, for instance, Rijkhoff & van Lier (2013). Parts of speech are here defined based on their uses as predicates, as described in section 2.3.3. Hengeveld distinguishes between specialized and non-specialized languages when it comes to parts of speech systems. Non-specialized languages do not display all of the four predicate categories, whereas specialized languages do. Among the non-specialized languages, there are two types: flexible and rigid languages. In flexible languages, one specific part of speech is used in more than one function. One extremely flexible example is Tongan, with one supposed category covering all functions. A partly flexible example is Dutch, where the same modifiers are used adjectivally and adverbially (Hengeveld 1992: 66, 65). Rigid languages, on the other hand, are those that completely lack parts of speech for certain functions, such as Wambon (1992: 65). Hengeveld’s approach does not take into account features such as semantic shift in the application of flexible categories, which is problematic, as discussed extensively by Croft (2001: 65–75). For the adverb category specifically, Hengeveld’s treatment has significant implications: manner adverbs have a natural place among the major parts of speech. However, adverb is the category that is ranked the lowest, as manifested by the part of speech hierarchy in (2.14).\(^5\)

\(^5\) This is the simplest version of the hierarchy – more elaborated versions can be found in, e.g., Hengeveld (2013: 36–37).
2. Towards a framework for adverbs

(2.14) Hengeveld’s parts of speech hierarchy (1992: 68)

Verb > Noun > Adjective > Adverb

According to Hengeveld (2013: 35), “if a language has no lexeme class for the function of modifier in a referential phrase (i.e. no adjectives), neither will it have a lexeme class for the function of modifier in a predicate phrase (i.e. manner adverbs)”. This dependency of adverbs on adjectives is argued to be due to the fact that manner adverbs specify properties of relations or of other properties. A stronger interpretation of the hierarchy, which the quote from Hengeveld (2013) also implies, is that a language requires all of the categories to the left of a category in order to have that precise category. This means that a language cannot have a category of adverbs without having a category of adjectives. This is an assumption that will be challenged in chapter 5.

Loeb-Diehl (2005) presents a detailed typological study of manner expressions. In a large language sample (160 languages), ten different strategies for encoding manner are discerned, ranging from The Coordinate Personal strategy, where the predicate and the manner expression are expressed by coordinated verbs with the same subject, to The Adverbial Strategy, where the manner expression has an affix which can be labeled adverbial (2005: 19-20). The Adverbial Strategy is one of six major strategies in the sample, where being ‘major’ means having more than 20 “primary or secondary occurrences” (2005: 40). A primary strategy is the most productive strategy found in a language, whereas a secondary strategy is less productive (2005: 40). Although it appears to be fairly widespread, the Adverbial Strategy is quite heterogeneous under the surface. Loeb-Diehl does not find any common type of origin for adverbial markers across languages. This is illustrated with examples such as the Romance -ment/-mente from the Latin mens ‘mind, mood’, an emphasis marker in Bongo, a coordinate marker in Ainu, a participle in Nama, and a case marker in Lezgian, an emphasis marker in Bongo, a coordinate marker in Ainu, a participle in Nama, and a case marker in Lezgian,6 all instances of adverbial markers (2005: 36-37). Notably, Loeb-Diehl explicitly excludes “items that have manner predication as their sole function” (2005: 6). The motivation for this is that the aim is to investigate the formation of manner expressions in terms of the characteristics that lexical items acquire once used as manner expressions. However, Loeb-Diehl interestingly comments that even though ‘sole-manner’ items are often seen as instances of suppletion (as in the case of the English good adj. – well adv.), their use in many languages “can hardly be called incidental”, as quite long lists are often found in reference grammars (2005: 6).

Schultze-Berndt & Himmelmann (2004) explore the link between adverbials and depictives from a cross-linguistic perspective (see more on depictives in section 2.5.2). In this sense, it is a typological study that includes adverbials, and makes important contributions to a discussion of adverbials, even though the main focus is on depictives. Most importantly, Schultze-Berndt & Himmelmann (2004) show that the two types of expression are found in the same domain, and that many languages do not distinguish their encoding of adverbials and depictives. These results will be discussed further in section (2.5.2).

In summary, adverbs and adverbials have been examined in a variety of ways in typological accounts. The attempt by Ramat & Ricca (1994) to treat adverbs, with all their

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6 See also appendix B for my own treatment of these last three languages.
potential subclasses, as one uniform category makes important contributions to a discussion of adverbs generally, and is an often-quoted source for classifying adverbs. However, it does not solve the problem of how adverbs as constituting one category can be accurately treated from a cross-linguistic perspective. The chapters in the volume edited by van der Auwera & Baoill (1998) along with the study of adverbial subordination by Kortmann (1997) provide thorough typological accounts, but they are limited to European languages. More importantly, predicate adverbs denoting properties or manner, are not examined. Loeb-Diehl (2005) is a comprehensive account of manner expressions, but simple adverbs are excluded. Schultze-Berndt & Himmelmann (2004) elucidate the typological status of adverbials and their affinity to depictives. Apart from having depictives as their main focus, Schultze-Berndt & Himmelmann (2004) discuss adverbials rather than adverbs. This leaves us with Hengeveld (1992) and the many works on flexible parts of speech, such as Rijkhoff & van Lier (2013). Here, manner adverbs have a natural place as the fourth major part of speech. In spite of this, to my knowledge, adverbs have not been the primary focus of any typological study within this approach.

In conclusion, predicate-level adverbs have not received due attention within typology. This dissertation aims to examine a central part of this domain by focusing on adverbs that denote properties and that function as modifiers within predicating expressions. It may seem tempting to equate property words in this function with manner adverbs, or even pure manner adverbs following Geuder (2000). While this is roughly correct, manner does not quite capture the range of items that occur here. Therefore, the primary semantic focus is property words, along the lines of the properties proposed by Dixon (1982 [1977]: 16ff.). However, other semantic classes cannot be entirely excluded, as will become evident in chapters 5–8. Functionally, I focus exclusively on modifiers within predicating expressions, in comparison to modifiers within referring expressions, as well as properties in predication. In the next section, phenomena connected to adverbs will be discussed, before moving on to a discussion of what being a modifier means in the next chapter.

2.5. Phenomena related to adverbs

This section describes phenomena that are related to adverbs, and that are therefore to different extents and in various ways, relevant to the discussion. First, adjectives are discussed in section 2.5.1, primarily based on Dixon (1982 [1977]). Adjectives are particularly relevant to the present study, for two reasons. Firstly, adverbs are here regarded as parallel to adjectives in their functions as modifiers. Secondly, one aim of this thesis is to compare the encoding of adverbs to that of (attributive and predicative) adjectives. In section 2.5.2, depictives and resultatives are described. These construction types are conceptually related to adverbials, and their encoding often coincides. Finally, verbal constructions in adverbial function in the form of converbs will be discussed in section 2.5.3.

2.5.1. Adjectives

Adjectives have been extensively studied within typology over the past few decades (Dixon 1982 [1977]; Wetzer 1996; Stassen 1997; Dixon & Aikhenvald 2004). In his highly influ-
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Dixon (1982 [1977]) introduced semantic types based on the recurring semantic content of adjective classes across languages. This idea of semantic types also serves as a basis for the typological approach to parts of speech advocated by Croft (1991; 2001; 2003, cf. section 2.3.4 above). Dixon (1982 [1977]: 12-13) argues that all lexical items found in specific languages can be divided into semantic types that are “probably linguistic universals”, such as MOTION (e.g. go), KIN (e.g. uncle, son), DIMENSION (large, and deep). These can be compared to the more general semantic types objects, actions, and properties within Croft’s approach, as described in section 2.3.4 above. Dixon further argued that there is more variation in the semantic types of adjectives than in any other category (1982 [1977]: 13). Seven semantic types were proposed, which in later work have been divided into two groups, as illustrated in (2.15). If a language has an adjective class, then the first group, i.e. the core semantic types, or at least some of them, will be represented there, regardless of whether the adjective class in question is small or large. If a language has a medium-sized or somewhat larger adjective class, the second group, i.e. the peripheral semantic types, will typically also be found among its members.⁷

(2.15) Dixon’s original semantic types of adjectives (Dixon 2004: 3-4)

(a) Core semantic types:

1. DIMENSION – big, small, long
2. AGE – new, young, old
3. VALUE – good, bad, lovely
4. COLOR – black, white, red

(b) Peripheral semantic types:

5. PHYSICAL PROPERTY – hard, soft, heavy
6. HUMAN PROPENSITY – jealous, happy, kind
7. SPEED – fast, quick, slow

An illustrative example of a language with a small Adjective class is Igbo (Atlantic-Congo), where eight Adjectives can be discerned, fitting into exactly four antonym pairs.

Table 2.3. Adjectives in Igbo (Atlantic-Congo) with corresponding semantic types (Dixon 1982 [1977]: 4)

<table>
<thead>
<tr>
<th>Antonym pairs</th>
<th>Semantic type</th>
</tr>
</thead>
<tbody>
<tr>
<td>úkwú ‘large’</td>
<td>ñtì ‘small’</td>
</tr>
<tr>
<td>ùghá ‘new’</td>
<td>óçyè ‘old’</td>
</tr>
<tr>
<td>ñmá ‘good’</td>
<td>ñjú’og ‘bad’</td>
</tr>
<tr>
<td>òjú‘í ‘black, dark’</td>
<td>ócá ‘white, light’</td>
</tr>
</tbody>
</table>

⁷ Dixon (2004: 5) includes six additional semantic types “associated with large adjective classes in some languages”: DIFFICULTY, SIMILARITY, QUALIFICATION, QUANTIFICATION, POSITION, and CARDINAL NUMBERS. These types will not be discussed any further here.
2.5. Phenomena related to adverbs

Although it is by no means the standard for languages to have as perfect a pattern of semantic types of adjectives as Igbo, it is interesting to see that such neat cases do exist. Based on the results of adjectives patterning with these semantic classes cross-linguistically, a number of implicational tendencies are proposed. One of these generalizations concerns adverbs and the semantic type \textit{SPEED}, which is found among the peripheral types in (2.15).

\textbf{SPEED} terms tend to be in the adjective class if \textsc{physical property} terms are in this class, and in the adverb class if \textsc{physical property} terms are in the verb class. (Dixon 2004: 4)

In Dixon’s framework, \textit{SPEED} is thus a potential type not only for adjectives, but also for adverbs. Dixon also pays close attention to \textit{SPEED} items in individual languages and notes when they belong to a category other than adjective, even though such findings are not discussed any further (apart from the implicational tendency above). As we shall see in chapter 8, \textit{SPEED} plays a very central role for adverbs: one of the major findings of this thesis is that adverbs too have core and peripheral semantic types, and that \textit{SPEED} is a core type for adverbs. Another type whose peculiarities Dixon (1982 [1977]) discusses is \textit{VALUE}.

A \textit{VALUE} adjective qualifies not the head noun, but some other adjective, which is taken out of its normal place in the ordering and placed immediately after the \textit{VALUE} adjective. Thus \textit{a good new fast car} is a fast car which is new and therefore good; \textit{a good fast new car} is a new car which is fast and in virtue of this good... (Dixon 1982 [1977]: 25)

In an example such as \textit{a good box}, where a \textit{VALUE} adjective is the only adjective, the meaning is unclear. It does not refer to an object which is good based on the fact that it is a box, as pointed out by Dixon (1982 [1977]: 26). Instead, there is some implicit property that is interpreted from context, by which the box is judged to be good. It appears that to resolve the meaning of \textit{VALUE} words, other concepts are necessary, provided by linguistic or extra-linguistic context. In fact, \textit{SPEED} is similar, although this is not discussed by Dixon. An example like \textit{a fast car} can easily be correctly interpreted since a car is an object that is defined (partly) by its ability to move. On the other hand, \textit{a fast person} does not have a straightforward interpretation. It probably refers to a person who moves or perhaps even runs fast (though in the latter case, it would be more natural to use \textit{a fast runner}), but exactly what action is performed fast by the person is unclear. These peculiarities of \textit{VALUE} and \textit{SPEED} are noted on several levels, though they are not further treated by Dixon.

Dixon (2004) points to the two roles of adjectives, traditionally referred to as the attributive and predicative functions. An attributive adjective is “a specification that helps focus on the referent of the head noun in an NP that relates to a predicate argument” (2004: 10). A predicative adjective is argued to be “a statement that something has a certain property” (2004: 10). The latter is stated to occur in the form of two syntactic strategies: intransitive predicates or copula complements. Most adjective classes across languages have both attributive and predicative functions according to Dixon, although
some languages may have only attributive adjectives, and others might have only predicative adjectives (2004: 10). While Dixon (1982 [1977]) argues that not all languages have an adjective class, Dixon (2004) takes the stance that an adjective class can be distinguished in every language, provided that all grammatical criteria are taken into account. This naturally depends on what means are used to identify parts of speech, and will be further discussed in chapter 9.

The impact of Dixon’s semantic classes for adjectives is evident in the field of typology as well as in other areas of linguistics. As we will see in the chapters that follow, Dixon’s notes on the characteristics of value and speed are closely related to the discussion of adverbs. The small adjective classes attested in many languages in Dixon (1982 [1977]) are also highly important for the present discussion. In conclusion, although many important discussions have followed since, Dixon (1982 [1977]) still stands as a comprehensive introduction to adjectives from a typological perspective. Moreover, it can be used as a model for how to treat adverbs (see chapter 8).

2.5.2. Depictives and resultatives

Depictives are constructions where a state or property is predicated of a participant, in addition to the main predicate. As illustrated extensively in the volume edited by Himmelmann & Schultze-Berndt (2005a), depictives are akin to adverbs, in their function generally, and commonly also in their encoding in different languages. English separates the encoding of depictives and manner adverbs, whereas German does not, as illustrated in (2.16-2.17) from Himmelmann & Schultze-Berndt (2005b: 2).

(2.16) (a) Claire left the room angry.  
(b) Claire left the room angrily.

(2.17) Claire hat wütend das Zimmer verlassen.

It is not only in the formal encoding that English and German differ. According to Himmelmann & Schultze-Berndt (2005b), the meaning of (2.17) is vague for native speakers of German. This encoding overlap of adverbs and depictives is quite common cross-linguistically, and has been treated not only by Schultzze-Berndt & Himmelmann (2004) and Himmelmann & Schultzze-Berndt (2005b), but also by Verkerk (2009), who compares their encoding to that of resultatives. Verkerk (2009: 123) takes the example of Hungarian, where the same adverbial marking -en (or an allomorph) is used for both adverbs and depictives.

(2.18) Hungarian (Uralic) (de Groot 2008: 4, Marácz 1989: 226)

(a) Péter mérges-en ment el.  
   Peter angry-ADV went away
   ‘Peter left angrily.’

(b) János üres-en hozta be a vázát.  
   John empty-ADV brought.3SG in the vase.ACC
   ‘John brought in the vase empty.’
Resultatives are constructions where a state is predicated as a result of the event that the main predicate encodes. Many accounts dealing with depictives also discuss resultatives, to some extent as belonging to the same domain. Example (2.19) shows an instance of an English resultative, in which the carrots are soft as a result of George having boiled them (Himmelmann & Schultze-Berndt 2005b: 4).

(2.19) George boiled the carrots soft.

Verkerk (2009) finds the overlaps of adverbs and resultatives to be just as common in her language sample as those of adverbs and depictives. Hebrew is taken as an example where an adjective with the prepositional prefix be- ‘with’/‘in’ is used in both manner adverbs and resultatives (2009: 123).

(2.20) Modern Hebrew (Afro-Asiatic) (Glinert 1994: 227, Son 2007: 139)

(a) *Hu po’el be-hofshiut.*

3SG work.PRS with-freedom

‘He acts freely.’

(b) *Hu cava et ha-kir be-adom.*

3SG painted ACC DET-wall in-red

‘He painted the wall red.’

Manner adverbs, depictives, and resultatives have thus repeatedly been treated as belonging to one and the same domain conceptually (Schultze-Berndt & Himmelmann 2004; Himmelmann & Schultze-Berndt 2005b; van der Auwera & Malchukov 2005; Loeb-Diehl 2005; Verkerk 2009). Apart from motivations such as cross-linguistic evidence of encoding overlaps and conceptual affinity in general, the explanations for this differ. Loeb-Diehl (2005) and Verkerk (2009) treat the phenomena as instances of secondary predication (see further discussion in section 3.3.2). They attribute similarities and differences within this domain to participant- versus event-orientation (cf. discussion in section 2.3.2 above) and simultaneity with the main event. Depictives and resultatives are then argued to share the feature of being participant-oriented, whereas manner adverbs are event-oriented. Depictives and manner adverbs, however, are argued to share the feature that what they describe is simultaneous with the main event (e.g. Verkerk 2009: 117), whereas resultatives are consecutive to it (e.g. Loeb-Diehl 2005: 14). Loeb-Diehl (2005) argues that resultatives and manner adverbs are the most distant from each other. This can be compared to the comprehensive comparison of English and Japanese resultatives by Washio (1997), who shows that there are different subtypes of resultatives, some of which are closer to manner adverbs. In addition to the features that unite depictives and resultatives on the one hand, and depictives and manner adverbs on the other, Verkerk (2009: 118) proposes a third feature that unites manner adverbs and resultatives: “manner predications and resultatives do not refer to the subject participant introduced in the primary predicate”. This factor is argued to motivate examples such as that from Hebrew in (2.20).

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8 The difference in glossing in (2.20) is based on the original sources (as indicated in the example), whereas Verkerk glosses both instances of be- as ‘in’ (2009: 123).

9 For another comprehensive study of resultatives in European languages, see Riaubiené (2015).
subject-oriented resultatives are attested, these are argued to be marginal in this context (2009: 117-118). In Verkerk’s sample, the most common strategy is that manner adverbs, resultatives, and depictives have the same encoding. Verkerk (2009) illustrates this with examples from Lao, which has a serial verb construction in all three functions. These examples can perhaps be questioned, since they are zero-marked, which is not very distinctive – other examples would be useful here, but these are the only ones at hand.

(2.21) Lao (Tai-Kadai) (Enfield 2007: 398, 401, 410)

(a) \( \text{man}2 \text{ kin3 paa3 nii4 vaj2} \).  
3SG eat fish DEM fast  
‘He ate this fish fast.’

(b) \( \text{man}2 \text{ kin3 siin4 dip2} \).  
3SG eat meat raw  
‘He eats meat raw.’ (also: ‘He eats raw meat.’)

(c) \( \text{laaw2 ning2 nok1 taaj3} \).  
3SG.FAM shoot bird die  
‘She shot a bird dead.’

Both Verkerk (2009) and Loeb-Diehl (2005) motivate identical encoding of manner expressions, depictives, and resultatives with the argument that all three functions are instances of secondary predication. Himmelmann & Schultze-Berndt (2005b) instead separate secondary predicates, including depictives and resultatives, from adverbials, arguing that this distinction is often drawn based on participant orientation. Whereas secondary predicates are participant-oriented, adverbials are event-oriented (again, cf. section 2.3.2). Still, Himmelmann & Schultze-Berndt (2005b) show that this traditional distinction does not align with the distribution of depictives and adverbials. In conclusion, depictives, resultatives and adverbials are naturally treated as belonging to one and the same domain. Importantly though, it does not appear to be necessary to make secondary predication the basis for such a domain for Himmelmann & Schultze-Berndt (2005b).

The second most common encoding for manner in Verkerk’s (2009) sample appears to be for a language to have a separate strategy here (though it should be noted that more than one strategy is often found in a specific language). This is the case in Icelandic, where depictives and resultatives are encoded in the same way, with adjectives agreeing with their NP head in terms of gender, case, and number. In contrast, manner adverbs always take the form of a neuter accusative singular adjective. Very similar patterns are attested in Swedish and Russian (Indo-European).

(2.22) Icelandic (Indo-European) (Whelpton 2006: 7, 10)

(a) \( \text{þeir voru að keyra allt of hraut} \).  
they.M.NOM.PL were to drive all too fast.NEUT.ACC.SG  
‘They were driving way too fast.’

(b) \( \text{Við kláruðum kjötbollurnar kaldar} \).  
we.NOM finished meatball.DEF.F.ACC.PL cold.F.ACC.PL  
‘We finished the meatballs cold.’
2.5. Phenomena related to adverbs

(c) Járnsmiðurinn barði málminn **flatan.** RESULTATIVE
blacksmith.DEF pounded metal.DEFM.ACC.SG flat.M.ACC.SG

‘The blacksmith pounded the metal flat.’

Thus, although it is more common for depictives, resultatives, and manner adverbials to take the same encoding strategy, the second most common pattern in Verkerk’s sample is for manner to have its own strategy. This is an interesting tendency against the background of treating this area as one single domain, as advocated by all works on the topic. Whether the shared domain is due to the nature of secondary predication or whether only depictives and resultatives are secondary predicates, while manner adverbials have a different function, remains unclear. This matter will be further discussed in chapter 3.

2.5.3. Converbs

Converbs are verb forms used adverbially, in the same way as participles are verb forms used adjectivally. Haspelmath (1995: 3) defines a converb as “a nonfinite verb form whose main function is to mark adverbial subordination”. Nonfinite here means lacking tense, aspect, mood, and agreement for arguments (although both the notion of nonfiniteness as such and as a defining criterion for converbs are not unproblematic, see Haspelmath 1995: 4). Converbs are defined as adverbial in their function as modifiers of everything but nouns and noun phrases, i.e. verbs, clauses, and sentences (1995: 7). Finally, subordination is defined as being ‘embedded’ or ‘incorporated’ into a clause that is superordinate (1995: 8). In terms of form, converbs are commonly marked with suffixes on the verb stem, or less often prefixes and circumfixes, and even more rarely, vowel patterns. In some languages converbs can be formed periphrastically with particles.

Haspelmath (1995: 9–10) distinguishes three subtypes of converbs, based on their subjects: those that have an implicit subject (which cannot be expressed explicitly), those with explicit subjects (expressed for instance by different case forms), and free-subject converbs, where subjects may or may not be explicitly expressed. Converbs overlap to some extent with what Haspelmath calls co-predicative participles (1995: 17). This is particularly clear in Classical Greek and Latin, where participles are used adverbially, showing agreement with their head in terms of gender, number, and case (1995: 18). This use can be further related to the function of depictives (see previous section). In the European languages that have lost these kinds of agreement, it can be difficult to tell where participles end and converbs begin, although frequency can be one way of determining this according to Haspelmath (1995: 20).

In a discussion on the different meanings encoded by converbs, König (1995) posits a general domain of circumstantial relations as semantically central for their interpretation. Within this domain, König (1995: 66) argues for a sharp distinction between “manner” and “attendant circumstance”, with reference to Pusch (1980) and Halmøy (1982). Manner describes “two aspects of or dimensions of only one event”, whereas “two independent events or actions are involved” in the case of attendant circumstance (König 1995: 65–66). A natural implication for converbs interpreted as encoding manner is a same-subject constraint. More specifically, when converbs encode manner, they “specify a dimension or parameter implicitly given in the meaning of the verb” (1995: 65–66). As a consequence,
2. Towards a framework for adverbs

the meaning encoded by a verb combined with a converb in one language may in another language be encoded by a verb alone.

In Hungarian (Uralic), the similarities and differences between manner adverbs and converbs are particularly clear. De Groot (1995) describes Hungarian manner adverbs as based on adjectives, to which one of two suffixes (with variants) is attached (-ön/-en/-őn or -ul/-ül). Converbs are instead verb forms to which the suffix -ve is attached, but they may be coordinated with adverbs.

(2.23) Hungarian (Uralic) (de Groot 1995: 288)

\[ \text{szerény-en és kűszköd-ve} \]

modest-ADV and struggle-CVB

‘modestly and struggling’

Loeb-Diehl (2005) shows examples from other languages where property words in adverbial function take the form of converbs. For instance, this is the case in Maasai, where the converb is marked by a prefix that is also the infinitive marker. According to Haspelmath (1995: 28), converbs and infinitives are often quite similar.

(2.24) Maasai (Nilotic) (Tucker & Mpaayei 1955: 44)

\[ i-roro \text{ a-kiti} \]

2SG-speak INF-be.small

‘speak softly’

Abkhaz is another of Loeb-Diehl’s examples (also included in the sample of the present study, see appendix B). In example (2.25a), the converb takes a third person neuter subject, and in (2.25b) this is combined with a causative marker, which is a feature of converbs in certain languages.

(2.25) Abkhaz (Abkhaz-Adyge) (Hewitt 1979: 240)

(a) \[ yo-las-no \text{ do-cè-yt’ a-phööas} \]

it-be.quick-ADV/PST.ABS she-go-FIN the-woman

‘The woman goes quickly’

(b) \[ yo-r-las-no \text{ do-cè-yt’ a-phööas} \]

it-CAUS-be.quick-ADV/PST.ABS she-go-FIN the-woman

‘The woman goes quickly’

In summary, converbs are important for the discussion of adverbs for two reasons. Firstly, property words in adverbial function can be found in the form of converbs in different languages, as illustrated by Loeb-Diehl (2005). Secondly, converbs are the forms that verbs take when used adverbially, as shown by Haspelmath (1995) and the other chapters in the same volume (Haspelmath & König 1995). In adverbial function, converbs often denote manner in a wider sense than property words, as illustrated in the case of Hungarian (cf. example 2.23, where ‘struggling’ denotes a manner, but hardly a property), where property words are found as adverbs, and other types of manner encoded by verbs are
expressed by converbs. We shall return to this function of converbs in conjunction with the expanded version of Croft’s coding constructions for parts of speech that I will propose in chapter 3. The proposal there is that converbs instantiate action modification within predicating expressions.

2.5.4. Summary of related phenomena

This section has discussed phenomena connected to adverbs in various ways. First, we looked at adjectives and their relation to manner adverbs, as both are property words used as modifiers. This was followed by a description of depictives and resultatives, which are closely connected to adverbs in that they commonly predicate a property of a participant in an event, whereas adverbs ascribe a property to an event as such. The encoding patterns of depictives, resultatives, and manner adverbs often coincide, and manner adverbs are commonly treated as either closely related or belonging to the same domain of secondary predication as the other two. This matter will be further discussed in the next chapter. Finally, an account was given of converbs as verb forms used adverbially. This is one of many encoding patterns in the adverbial function. Other phenomena that would have been appropriate to include in this chapter, but that have been excluded due to scope limitations, are serial verb constructions, adpositional phrases, ideophones, and manner affixation, incorporation, and compounding. All these phenomena are nonetheless exemplified in the first chapter on the results of the study (chapter 5).

2.6. Summary and discussion

This chapter started with a general introduction to adverbs and the difficulty of classifying subtypes among their heterogeneous members. Several different types of criteria for such classifications were discussed: morphological, semantic, and syntactic. Four different theoretical approaches that all make important contributions to the study of adverbs were then treated. The contribution of Role and Reference Grammar is the layered structure of the clause, which elucidates the roles of different types of adverbs. The treatment of manner and pace adverbs as modifiers of both the predicate and its arguments is particularly important. In the discussion of Geuder (2000), it became clear that semantically, adverbs can relate to events in various ways. Moreover, only a subset of manner adverbs denote pure manner. The Functional Grammar approach includes manner adverbs as the fourth major part of speech, and makes the important point that the nature of verbs is to be predicative only and the nature of English adverbs, at least, is to be non-predicative only. Within the works of Croft (1991, 2001, 2003), adverbs are only very briefly discussed, but they complement Croft’s typological approach to parts of speech as property words that modify within predicating expressions. In the terms of Role and Reference Grammar, the adverbs that are the focus of the present dissertation are located within the periphery of the core. By Geuder’s semantic definition, these adverbs are (primarily) pure manner adverbs. Within Functional Grammar, only manner adverbs are included, equivalent to the adverbs in focus here. In Croft’s approach, they are property modifiers within predicates. All these frameworks are, in some way, useful for the discussion of adverbs. However, different perspectives must be combined, and frameworks expanded,
2. Towards a framework for adverbs

for a full account of property-denoting adverbs. In particular, Croft’s approach requires expansion in order to include adverbs, as will be done in section 3.2.

Section 2.4 of this chapter described earlier typological studies of adverbs. Although there have been attempts to analyze all items labeled as adverbs as members of one large category (Ramat & Ricca 1994) and typological studies of certain subtypes of adverbs (van der Auwera & Baoill 1998; Kortmann 1997) as well as of manner expressions (Loeb-Diehl 2005), there are only a few cases where manner adverbs have been examined from a typological perspective. In these works, manner adverbs have either been outside of the main focus (Schultze-Berndt & Himmelmann 2004) or figured as one among the major parts of speech discussed (Hengeveld 1992; Hengeveld & Rijkhoff 2005; Hengeveld 2013; van Lier 2009; Rijkhoff & van Lier 2013). Thus, adverbs that denote properties and modify within predicating expressions have, so far, not received due attention as a phenomenon in its own right.

Section 2.5 was devoted to phenomena that are closely connected to adverbs. Adjectives, as parallel to adverbs in their role as property modifiers, were discussed primarily based on the works of Dixon (1982 [1977], 2004) and his semantic types. Already Dixon (1982 [1977]) found that speed is often attested among adverbs. As will be discussed in chapter 8, it is a major result of this thesis that speed is a core semantic type for adverbs, and that there are also other peripheral types for adverbs. Depictives and resultatives were also examined, since they have a function close to that of adverbs and are commonly encoded in a similar or identical way cross-linguistically. Finally, converbs were discussed, as verb forms that are used adverbially, parallel to participles as verb forms that are used adjectivally. Also for converbs and adverbs, identical encoding is attested in some languages.

In conclusion, adverbs are situated in a rich context, theoretically as well as empirically. There is thus a wealth of studies on phenomena closely connected to adverbs, and theoretical accounts, as illustrated in this chapter. However, adverbs that are property modifiers within predicating expressions have not yet figured prominently within typology. Moreover, much can be gained from bringing frameworks together and from expanding the approaches of Dixon (1982 [1977], 2004) and Croft (1991, 2001, 2003) in order to account for adverbs. As illustrated throughout this chapter, many accounts define adverbs as a kind of modifier, or as performing the function of modification. But it has not become fully clear yet what modification really is, and how adverbial modification is related to predication. It is to a discussion of this matter that the next chapter is devoted.
3. Modification and its relation to predication

3.1. Introduction

This chapter focuses on modification, both generally and with special reference to adverbial modification. I will describe modification as a phenomenon with three components pertaining to discourse, syntax, and semantics. This allows me to bring together different approaches to modification. The literature defines modification in many different ways and so it is important to arrive at an explicit definition. This definition can then be used for the purposes of this study, which is concerned with the type of modification where properties function as modifiers in predicating expressions. In section 3.2, modification is first discussed as a discourse function, following Croft (1991, 2001, 2003). I propose an expansion of Croft’s approach so that the definition includes adverbial modification. The three-way definition of modification is then introduced (example 3.1) and evaluated against other definitions of modification. Following this, section 3.3 discusses how modification relates to predication, in two respects. Firstly, adverbs are modifiers within predicating expressions, and this puts them close to predication (section 3.3.1). Secondly, adverbs are sometimes indeed described as a type of secondary predicate (section 3.3.2). Adverbs and secondary predicates are also discussed in connection to complex predicates (section 3.3.3). This discussion leads to the question of whether adverbs can be both modifiers and (secondary) predicates at the same time (section 3.3.4). Finally, in section 3.4, I return to my definition of modification and whether it stands the challenges discussed, followed by a conclusion of the chapter in section 3.5.

3.2. Defining modification

Croft (2001: 66ff.) employs the three discourse functions reference, predication, and modification as a basis for the cross-linguistic identification of prototypical parts of speech (cf. section 2.3.4). Modification, in this approach, is a function that a semantic item takes in its use in discourse. The semantic class that is prototypically used in modification is that of properties, typically instantiated by adjectives acting as modifiers of nouns. Adjectives are thus also the prototypical realization of modification in Croft’s model (see table 2.2 in section 2.3.4). As already discussed in detail in 2.3.4, Croft’s approach allows also for property modification that takes place within predicating expressions, prototypically instantiated by adverbs. But Croft does not include adverbs explicitly. In order to cover both adjectival and adverbial modification, I propose an expansion of Croft’s map of semantic classes and discourse functions as presented in table 3.1.
3. Modification and its relation to predication

Table 3.1. Encoding of semantic classes and discourse functions; expanded version of Croft (2001: 88)

<table>
<thead>
<tr>
<th>Semantic Class</th>
<th>Reference</th>
<th>Modification within reference</th>
<th>Predication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objects</td>
<td>UNMARKED NOUNS</td>
<td>genitive, adjecitivilizations, PPs on nouns</td>
<td>PPs on verbs</td>
</tr>
<tr>
<td>Properties</td>
<td>deadjectival nouns</td>
<td>UNMARKED ADJECTIVES</td>
<td>UNMARKED ADVERBS</td>
</tr>
<tr>
<td>Actions</td>
<td>action nominals, complements, infinitives, gerunds</td>
<td>participles, relative clauses</td>
<td>converses</td>
</tr>
</tbody>
</table>

In table 3.1, the modification column has been split in two, in order to include both modification within referring expressions and modification within predicking expressions (‘within reference’ and ‘within predication’ for short, cf. discussion of unclear terminology in section 2.3.4). The added column suggests that property words used for modification within predicating expressions takes the form of unmarked adverbs. One such example is English fast, which does not take the -ly ending, unlike most other English property-denoting Adverbs. Object words in the same modifier function are expected to be found as prepositional phrases on verbs, e.g. speak like a child. Finally, action words used as modifiers within predicating expressions can be expected to be found in the form of converses, e.g. run laughing. When the model is expanded in this way, modification emerges as a two-sided function, applying to reference as well as predication. This includes adverbs in a natural way in the model. In the discussion of Croft’s approach in section 2.3.4, it became clear that modification is a secondary discourse function, in the sense that it cannot occur without the reference or predication which it helps to establish (cf. Croft 2003: 184–185). The expanded table in 2.2 elucidates this characteristic, by indicating that modification is bound to either reference or predication, and that two columns are required in order to account for modification as a whole.

On the level of discourse, modification can be defined as a function that a semantic item takes in use. But such a definition does not spell out what happens syntactically and semantically when modification is used within an expression. In order to do so, I propose the following three-way definition of modification:

1 For a further elaboration where also the row for properties has been expanded, see tables 9.3 and 9.4 in chapter 9.
2 I would like to thank Östen Dahl for suggesting the basis of the definition in (3.1) to me.
3.2. Defining modification

(3.1) Modification takes one expression as its input and yields another expression as its output.

(a) Syntactically, the output expression has the same properties as the input expression.

(b) Semantically, the meaning of the output expression is of the same kind as the meaning of the input expression.

(c) In discourse, modification is a function that a semantic item takes in use.

The definition proposed in (3.1) says that when a modifier is added to an expression, a new expression is formed. The syntactic component in (3.1a) states that the properties of the new expression are the same as the properties of the old one. The semantic component in (3.1b) allows for some change of meaning between the input and output expressions, as long as the meaning remains of the same kind. The discourse component in (3.1c) follows from the expansion of Croft’s model in table 3.1. Let us now apply the syntactic and semantic components to some examples of modifiers within referring and predicating expressions, respectively.

(3.2) (a) the rose

(b) the pink rose

(3.3) (a) Sheila ran.

(b) Sheila ran fast.

Examples (3.3–3.2) have the same syntactic properties after the modifiers pink and fast are added as they have before this addition. In (3.2b), *the pink rose* is still a noun phrase (cf. *the rose*), and in (3.3b) *ran fast* is still a verb phrase (cf. *ran*). Semantically, the meaning of the modified expression in (3.2b) still belongs to the same domain of roses, which potentially can have a range of different colors. In (3.3b), the modified expression still belongs to the same domain of ways of running, which can be done at different paces. The fact that the modified expression has the same syntactic properties as the expression that it takes as its input implies that the modified expression must also be able to serve as input for further modification. For the purpose of the present discussion, this further modification is termed nested modification. For modifiers within referring expressions, nested modification is unproblematic.

(3.4) (a) the pink rose

(b) the pretty pink rose

In (3.4b), the output is, again, a noun phrase. According to the definition of modification in (3.1), the meaning of this expression is that the rose is pink, and in virtue of this color, it is pretty. Of course, (3.4b) could as such also mean ‘the rose that is pretty and pink’, but then the input expression would simply be *the rose*, with two modifiers added at the same time. Modifying predicating expressions that already have a modifier is slightly more complex.
3. Modification and its relation to predication

(3.5) (a) Sheila ran fast.

(b) Sheila ran fast **well**.

The sentence in (3.5b) does not come across as the most natural example. But it is neither ungrammatical, nor semantically implausible. The output *ran fast well* is still a verb phrase, and semantically, the meaning is that Sheila runs fast in a good or skilled way. A potential context where this could be uttered is a situation where there are different runners that are all fast, though some are skilled in running fast and some are not. The expression *Sheila runs fast well* may then be interpreted as Sheila keeping a steady fast pace and having a good technique of running fast. Other runners, even though they run fast, are perhaps not able to keep up the pace, or maybe they run fast in a way that exhausts them. Accordingly, although (3.5b) is not the most natural example, it can be used in the right context, and illustrates that the definition in (3.1) holds also for the modification of already modified predicating expressions. Moreover, in order to get a coordinated meaning of (3.5b), **and** must be inserted as in *Sheila ran fast and well*. Here, the examples of modifiers in predicating expressions and modifiers in referring expressions differ, since both the nested interpretation and the coordinated interpretation are available in *the pretty pink rose*. There are also examples of modifiers of modified predicating expressions that appear more natural, such as *Sheila runs fast in a funny way*, where Sheila’s manner of running fast is funny, although her manner of running slow is not expected to be so. Notably, it seems that such expressions are more natural when a multi-word adverbial is added than when a single adverb is used, perhaps because a longer expression can make the modification more explicit. Also, it seems that this type of nested modification is both much more common and easier to interpret in referring expressions than in predicating ones.

So far the three-way definition of modification clearly holds. In what follows, I will discuss other definitions of modification and evaluate them against my own. These definitions pertain primarily to syntax and semantics. Traditionally, modification is commonly treated as a syntactic phenomenon, and the key concept to define it is *endocentricity*, a term introduced by Bloomfield (1935: 194). Lyons (1968: 231–232) states that “[a]n endocentric construction is one whose distribution is identical with that of one or more of its constituents”. Endocentric constructions are argued to be either co-ordinating, where each constituent has the same distribution as the whole construction, or subordinating, where one of the constituents has the same distribution as the whole. This constituent is labeled **head**, whereas the other is labeled **modifier** (1968: 233). Endocentricity is a central term also for compounds, which can be either endocentric, e.g. *blackbird*, where one part of the compound is the head (*bird*), or exocentric, e.g. *pickpocket* where “the true head” is not expressed (Bauer 2006: 723–724). Another fundamental term in the syntactic context of modification is **adjunct**. According to Lyons (1968: 344), “[a]n adjunct is by definition a ‘modifier’ attached to a ‘head’, upon which it is dependent and from which it can be ‘detached’ without any consequent syntactic change in the sentence”. Adjuncts, which can be syntactically freely added, are often defined as opposed to arguments, as elements required by the predicate (e.g. Kroeger 2004: 7, cf. also the discussion of Role and Reference Grammar in section 2.3.1). This points further to the non-obligatory syntactic character of modification. In the various versions of generative grammar, modification is
3.2. Defining modification

defined as a relation in the syntactic tree, by which a phrase that modifies a head must also be a sister to the head in question (Carnie 2011: 70). From the perspective of X-bar theory, Haegeman (2006: 691) states that the head of a phrase remains the head after a modifier has been added, and this is what makes the whole constituent endocentric. The definition of modification presented in (3.1) incorporates the essence of endocentricity: the input expression has the same syntactic properties as the output expression.

Semantic definitions of modification are often less explicit than the syntactic ones. In a recent study of modifiers in Romance languages, Valera & Hummel (2017: 1) state that “[m]odification is a linguistic function that refers to a semantic change operated on a primary unit, e.g. a word or a sentence”. Here, it seems that modification is defined solely in terms of semantics. However, the content of the notion ‘semantic change’ is not further discussed. Formal semantic accounts also use the term modifier, but tend to redefine it as an elaborated type of predicate. This is illustrated in Geuder (2000: 1–2, discussed in section 2.3.2) where adverbs are first labeled modifiers, though Geuder later turns to the term predicates of events in order to describe the semantics of manner adverbs. Ramat & Ricca (1994: 290), in their definition of adverbs discussed in section 2.4, state that modifiers “add information”. Irrespective of the semantic theory, it is generally acknowledged that modification implies a semantic change or addition to the expression in which it occurs, although the particulars of this change are usually not explained. The semantic component in (3.1b) makes the semantic change more precise by stating that after the change, the meaning is still of the same kind as before the change. Although this is not as explicit as the syntactic component, it does describe what happens semantically.

The proposed definition also holds for a number of instances of modification that are well known for their problematic semantics, such as alleged murderer and fake news (cf. e.g. Geuder 2000: 6). An alleged murderer may or may not be an actual murderer, and fake news is certainly not real news. Accordingly, the modifier and the modified clash semantically. To account for this, Montague Grammar proposes a number of classes of adjectives, such as intersective, nonsubsective and privative, and plain nonsubsective classes, which relate semantic values in different ways (Partee 2007: 151ff.). Adverbs are dealt with in a very similar fashion (Montague 1974: 213). But alleged and fake can also be accurately defined as modifiers if the meaning of the expression is of the same kind after the modifier has been added, as stated in the definition in (3.1). On a lexical level, the modifier clashes with the modified in these examples, with the result that part of the meaning is weakened. However, not the entire semantic representation disappears: at least part of the concept of murderer or news remains the same. Attributes such as alleged or fake may nonetheless modify the distinction between, e.g., real and suspected or potential candidates. In conclusion, examples such as alleged murderer and fake news are still instances of modification, although they are non-typical instances. Other types of semantically non-typical modification can also be found in the case of epithetic adjectives, e.g. My nice daughter gave me a present (in the sense where it does not single out a nice daughter among a group of daughters, but simply adds the information that it was nice of the daughter to give a present) as well as pleonastic adjectives, e.g. receive a free gift (which is pleonastic because gifts as such are free).

When an expression is altered through linguistic modification, it implies a kind of modification of the concept to which the expression refers. From a cognitive perspective,
several models have been proposed to account for such conceptual modification. Barsalou (2014) discusses accounts of what he terms conceptual combination: how new concepts are constructed from other concepts that are already stored in memory (2014: 168–169). One explanatory model is called intersection, and applies to examples such as pet fish (which is a compound, cf. discussion on endocentricity and compounds above). Pet fish refers to everything that is a pet as well as a fish, i.e. the intersection of the two (2014: 169). Intersection nonetheless implies equal membership in the intersecting categories, but does not hold in all cases. Individual examples vary in terms of how strong a member they are of a specific category (cf. fuzzy set theory following Zadeh 1965, 1996, cited in Barsalou 2014: 169). For instance, guppy is not the most typical member of the category fish, if compared to e.g. trout. Nor is it the most typical member of the category pet. Still, guppy is perceived as a strong pet fish candidate. Intersection, then, is not able to account for examples such as pet fish. Barsalou proposes that instead of operating on sets, concepts are manipulated in the form of selective modification of what is termed frames. A frame (also schema/schemata) is made up of a combination of attributes: the frame for, e.g., car has attributes such as driver, fuel tank, engine, transmission, and wheels (2014: 158). Selective modification of frames draws on implicit information. This is illustrated with the example orange dog, where orange is unexpected. The color attribute of the frame for dog is then argued to be “selectively modified”, meaning that the default color (maybe brown) is replaced with orange (2014: 169). In this example, the color attribute also receives more weight than normally, making color more important in the conceptualization of orange dog (Smith et al. 1988, cited in Barsalou 2014: 169). Another example shows that attributes may constrain each other implicitly: in wooden spoon, the modifier could be expected to only tell us what the spoon is made of (Smith & Osherson 1989, cited in Barsalou 2014: 169). However, as illustrated by Medin & Shoben (1988, cited in Barsalou 2014: 169), wooden in the case of wooden spoon also tells us something about size, exchanging the expected attribute small for large. Barsalou concludes that since “correlations between attribute values pervade human knowledge, the explicit modification of one attribute often produces implicit modification of correlated attributes” (2014: 169–170).

Barsalou (2014: 236) argues that within sentence processing, certain words activate frames, whereas others modify the attributes of frames. The same type of modification is established for adjectives and adverbs, the difference being the frame whose attributes they modify: while adjectives modify the attributes of noun frames, adverbs modify the attributes of verb frames. As in the case of selective modification, information is inferred that is not explicitly stated. One adjective that illustrates this is good, which is instantiated in different ways. A good chair can be good in different ways, such as for relaxing, or for standing on to change a light bulb – these interpretations do not instantiate the same type of chair. Here, we may recall Dixon’s 1982 [1977] discussion of value adjectives from section 2.5.1, pointing to the need of other concepts in order to interpret examples such as good. Likewise, adverbs can be instantiated differently, as illustrated in (3.6) (Barsalou 2014: 241).

(3.6) (a) The tortoise traveled quickly.
   (b) The hare traveled quickly.
The tortoise and the hare in examples (3.6a-b) both traveled quickly, but the interpretation is still that they traveled at different paces. The tortoise traveled quickly for a tortoise, which our knowledge tells us is actually not that high a speed. Conversely, we know that hares are fast, allowing us to interpret the hare as traveling at high speed in (3.6b).

Barsalou’s conceptual account of modification highlights the fact that modification is complex and dependent on various factors external to the linguistic expression as such. This is in accordance with the definition proposed in (3.1). Although the semantic change achieved by the modifier is complex, the meaning of the expression is still of the same kind as the meaning of the original expression without the modifier. Thus, a good chair is still a chair, and can be used for any of a number of purposes by which it can also be described as good. Also, the traveling performed by an agent (such as a tortoise or a hare) following the characteristics (including typical speed of movement) of this agent remains a way of traveling, regardless of what pace it is performed at.

In conclusion, it is clear that although modification has traditionally been defined syntactically (primarily based on endocentricity), semantics is very relevant here. The definition of modification proposed here (see 3.1) elucidates both the syntax and semantics of modification. In terms of discourse, modification is a secondary function, building on an expansion of Croft’s account of parts of speech (see table 3.1). Accordingly, this definition does not go against the definitions found in the literature. Rather, it is the combination of different components that is in focus. In the next section, I will turn to how modification is related to predication.

### 3.3. Adverbial modification and predication

Predication is important for the present discussion of modification for two major reasons. Firstly, adverbial modification occurs within predicating expressions. As we shall see in the coming chapters, it is not straightforward how this location of one within the other affects the relation between modifier and predicate. In the expanded version of semantic classes and discourse functions in table 3.1, this relation is illustrated by the adjacency of modification within predication and predication as such. The second reason for discussing predication is that it is common to define manner adverbs as secondary predicates, as an alternative to defining them as modifiers. In the following two sections, I will first discuss the relation between modification and primary predication in general (section 3.3.1), and then how modification relates to secondary predication (section 3.3.2). Following this, secondary predicates will be discussed in connection to complex predicates (section 3.3.3). Finally, I will address the question of whether manner adverbs can be classified as secondary predicates (section 3.3.4). Although it is perhaps more common to use the term main predicate or predication (cf. e.g. Himmelmann & Schultze-Berndt 2005b), I have chosen the term primary predication in order to consistently contrast this with secondary predication.
3. Modification and its relation to predication

3.3.1. Adverbial modification and primary predication

When modification is defined as a discourse function, predication automatically gets a central role, at least for adverbial modification. Predication is the primary function that modification is a secondary or accessory function to, since adverbs are modifiers in predicating expressions. However, there are cases that partly blur the distinction between modification and predication, concerned with information structure and more specifically focus. According to Lambrecht (1994: 207), focus can be defined as “that portion of a proposition which cannot be taken for granted at the time of speech” or “the UNPREDICTABLE or pragmatically NON-RECOVERABLE element in an utterance”. In English, focus is realized by accent, as indicated by small caps in (3.7).

(3.7) Mary sings LOUDLY.

When an English manner adverb is used as a modifier within a predicating expression and at the same time is focused, something happens to the manner adverb: semantically, it becomes predicate-like. As loudly is focused in (3.7), this manner adverb denotes ‘the portion of the proposition which cannot be taken for granted’. More simply put, loudly may be defined as the new information. In (3.7), the semantic component of the modifier status of loudly is thus weakened. It is no longer really the case that the meaning of the expression Mary sings LOUDLY is of the same kind as the meaning of the expression Mary sings. Rather, something new is commented about Mary’s singing. The discourse component is also weakened, since the focused loudly appears to perform the function of predication, rather than modification. The syntactic component nonetheless remains, since the expression Mary sings LOUDLY has the same syntactic properties as Mary sings.

Certain languages have specific morphosyntactic strategies for marking focus, such as a syntactic position that signals focus. Hungarian (Uralic) is famous for its pre-verbal focus position (see e.g. É. Kiss 2002), illustrated in (3.8). In (3.8a), an object NP is exemplified in this position, and in (3.8b), an auxiliary is focused. Also Adverbs denoting manner can be focused in this way, as illustrated in (3.8c).

(3.8) Hungarian (Uralic) (Kenesei 1998: 69, 75, 79)

(a) Péter az unalmas jelentések olvassa.
Peter the boring reports.ACC read.3SG
‘It is the boring reports that Peter reads.’

(b) Péter fogja olvasni a Hamlet-et.
Peter will.3SG read.INF the Hamlet
‘Peter will read Hamlet.’

(c) Mari szépen vasalta ki az inget.
Mari beautifully ironed out the shirt.ACC
‘Mari ironed the shirt BEAUTIFULLY.’

3 Although new information is often focused, it should be noted that the two cannot be equated, cf. Lambrecht (1994: 206).
3.3. Adverbial modification and predication

In (3.8c), the focused Adverb szépen ‘beautifully’ is also semantically and pragmatically predicate-like (Valéria Molnár, p.c.). A different strategy for indicating focus is with a specific marker. This is attested in Cavineña (Tacanan), one of the languages within the sample of the present study, in the form of the clitic particle =dyā. According to Guillaume (2008: 665), =dyā is comparable to the stress focus of English. The examples in (3.9) illustrate how =dyā marks focus on a verbal predicate, an argument, and a so-called da-adjective used adverbially (see Guillaume 2008: 357).

(3.9) Cavineña (Tacanan) (Guillaume 2008: 665–666)

(a) JuyeO nitya-nuka-wa. Neti-chine=dyā juyeš
ox stand-REIT-PFV stand-RECPST=FOC ox

‘I stopped (lit. stood) the oxen once again. (This time) THEY STOPPED (while earlier they wouldn’t).’

(b) [Jee=ke ebakwapiji=ra=dyā/A =yatseO duju-chine
here=1IG small.child=ERG=FOC=1DU take-RECPST

‘This child (in the picture) took us (to the other side of the river in his canoe, which is quite an achievement because he is very young).’

(c) Weni-da=dyā=ekwana kwa-chine.
vigorous-ADJ=FOC=1PL go-RECPST

‘We went FAST (lit. vigorous).’

Also in the case of (3.9c), where wenida ‘vigorous, fast’ is focused by the use of =dyā, it seems that the modifier is semantically predicate-like.

Focus is sometimes tested by constructing the supposed focused content as an it-cleft. As illustrated by Lambrecht (1994: 70), in an English it-cleft such as It is my keys that I lost, “the proposition expressed in the relative clause must be pragmatically presupposed, i.e. assumed by the speaker to be known to the addressee”. In this case, it is assumed that the addressee knows that the speaker lost something. The it-cleft highlights the focus of the utterance, namely my keys. Applied to example (3.7), we get the it-cleft in (3.10).

(3.10) It is loudly that Mary sings.

Here, the addressee is expected to know that Mary sings. Although this example does not come across as very natural out of context, it is clearly acceptable in a context where it must be clarified in which way Mary sings (e.g. – Mary sings quietly, – No, it is loudly that Mary sings, but Sara sings quietly).5

In the English, Hungarian, and Cavineña examples above, the adverbial modifiers are focused. However, averbials often occur in other positions, and in Hungarian, Adverbs denoting manner are in fact more naturally placed after the Verb, but may also occur in pre-focus position (Valéria Molnár, p.c.).

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4 In examples (3.9a-b), ‘A’ and ‘O’ in subscript indicate transitive subject and object, respectively.

5 Note that this does not work with well. When turning Mary sings well into an it-cleft, the adjective good must be used: It is good that Mary sings, implying that the fact that Mary sings is good, either in general, or for Mary in particular (Andrew Cooper, p.c.).
3. Modification and its relation to predication

(3.11) Hungarian (Uralic) (Valéria Molnár, p.c.)

(a) Mari tegnap vasalta ki az inget szépen.

Mari yesterday ironed out the shirt.ACC beautifully

‘It was YESTERDAY that Mari ironed the shirt beautifully.’

(b) Mari szépen tegnap vasalta ki az inget.

Mari beautifully yesterday ironed out the shirt.ACC

‘It was YESTERDAY that Mari ironed the shirt beautifully.’

In (3.12a), an example from Cavineña is taken where a non-focused *da*-Adjective is used adverbially.

(3.12) Cavineña (Tacanan) (Guillaume 2008: 361)

[Misi-da tawi-tsu]/=yatse tawi ju-ya.

thick-ADJ sleep-SS=1DU dream be-IPFV

‘When we sleep deeply (lit. when we sleep thick) we dream.’

In English, examples with a different accent such as *Mary sings well* (implying that there is something else she does not do well) illustrate a non-focused Adverb.

The effect of focus which makes modifiers appear predicate-like semantically does not only happen to modifiers within predicating expressions. It seems that modifiers within referring expressions can be affected in the same way, in examples like the Swedish one below.

(3.13) Swedish (Indo-European) (constructed ex.)

Jag såg det RÖD-A hus-et.

I see.PST ART red-DEF house-DEF.

‘I saw the RED house.’

In example (3.13), the modifier *röda* ‘red’ is focused by being emphatically stressed. The modifier appears to take on a reference-like usage here, since the addressee is expected to know that the speaker saw a house, and it is primarily *röda* ‘red’ that refers to the house in question. While this is highly context-specific and not unexpected, it does not pose a problem for treating the Swedish Adjective *röda* ‘red’ as a modifier. Nor should it be problematic that modifiers within predicating expressions may sometimes take on semantically predicate-like uses, without therefore becoming predicates as such. Rather, although the semantic and perhaps also the discourse component are weakened in these examples, the syntactic component remains.

### 3.3.2. Adverbial modification and secondary predication

Secondary predicates can be defined as adjuncts that predicate (Himmelmann & Schultze-Berndt 2005b: 4). Thus, they share with modifiers the characteristic of being adjuncts. Two main construction types are generally discussed as instantiating secondary predication: depictives and resultatives (see section 2.5.2 for a detailed discussion), as illustrated with English examples in (3.14) and (3.15).
3.3. Adverbial modification and predication

(3.14) I ate the fish **raw**.

(3.15) We painted the barn **red**.

The question we are interested in here is whether manner adverbs should also be seen as instances of secondary predication. This is a matter that seems to divide linguists. Winkler (1997: 11) suggest a "there-sentence test" following Milsark (1976 cited in Winkler 1997: 11) which can be applied in order to resolve the matter. Based on the assumption of Drubig (1992), who assumes that “depictive secondary predicates denote stage-level predicates, whereas subject-oriented manner adverbs like cleverly, stupidly, and cheerfully are predicates of properties of individuals”, Winkler (1997: 11-12) illustrates the applicability of the there-sentence test with the following examples.

(3.16)  
(a) John dropped his spoon **drunk/**clever.  
(b) John dropped his spoon **cleverly**.

(3.17)  
(a) There are some men drunk.  
(b) *There are some men **cleverly**.

While the manner adverb in (3.16b) cannot be used in a there-sentence as illustrated in (3.17b), the depictive in (3.16a) can, as illustrated in (3.17a). But as pointed out by Winkler, Milsark’s original there-sentence test is intended to allow predicates of states but not properties (1976, cited in Winkler 1997: 11). This is evident when applied to the depictive in (3.14): *There was some fish raw* is clearly unacceptable.

Loeb-Diehl (2005) and Verkerk (2009) both define manner adverbs (as well as depictives and resultatives) as secondary predicates. Loeb-Diehl (2005) bases the classification of manner adverbs as secondary predicates on the assumption that manner adverbs fulfill the semantic function of predicating a property of an event. Since this event is denoted by a primary or main predicate, the element that denotes the property is logically classified as a secondary predicate. But Loeb-Diehl points to the difference between depictives and resultatives on the one hand, and manner adverbs on the other, that is often referred to. The former are participant-oriented and the latter are event-oriented (cf. Geuder 2000, discussed in section 2.3.2). This is obvious in example (3.14) above, where the property raw relates to the fish, at the time of being eaten, and ate is the primary predicate. Similarly, in (3.15), red relates to the barn that is being painted, and painted is the primary predicate. Both the fish and the barn are participants in the respective events. This can be compared to the manner adverb in (3.18).

(3.18) He ran **slowly**.

In (3.18), slowly modifies ran, which denotes an event and not a participant. To analyze slowly as a secondary predicate, it must thus be seen as separate from the primary predicate ran. The participant orientation that unites depictives and resultatives is important for Loeb-Diehl, but a number of similarities between depictives and manner predications, as they are termed, are also pointed to. Depictives and manner predications are argued to share the feature of expressing a property that is simultaneous with the main event.
3. Modification and its relation to predication

Resultatives, however, denote a result of the main event, and are therefore consequent to it. For depictives and manner predications, the difference between event and participant orientation can be blurred in certain cases, e.g. with expressions of human propensity. For instance, enthusiastically can be interpreted as either participant- or event-oriented (cf. discussion in section 2.3.2). Loeb-Diehl comes to the conclusion that “manner encoding and depictive encoding form domains which are semantically distinct for their prototypical ‘core’ cases, but which turn out to be non-discrete in their peripheral instantiations” (2005: 12). This means that the encoding in these two domains may overlap in specific languages, a fact which Loeb-Diehl also exemplifies (2005: 12–13). One language that has this pattern is Lezgian (Nakh-Daghestanian), which is also in my language sample (cf. section 4.4).

(3.19) Lezgian (Nakh-Daghestanian) (Haspelmath 1993: 196)

(a) Jusuf.a ne-laj ḥajit’ani qʰsan-diz mani-jar luwu-zwa.
   Jusul(ERG) who-SREL INDF good-ADVZ song-PL say-IPFV
   ‘Jusuf sings better than anyone.’

(b) jak čig-diz t’ü-n
   meat raw-ADVZ eat-MSD
   ‘to eat meat raw’

In Lezgian, Adverbs can be derived from Adjectives, primarily by two suffixes: -dakaz and -diz/-z (Haspelmath 1993: 113). Example (3.19a) illustrates the typical use of manner adverbs. But as illustrated in (3.19b), derived Adverbs may also function as depictives. Despite such encoding patterns, Loeb-Diehl argues that depictives primarily share characteristics with resultatives, in that they are both participant-oriented. She also shows that it is not particularly common that encoding is shared between manner predications and resultatives in her language sample (2005: 14).

Also Verkerk (2009) places resultatives, depictives, and manner predications within the domain of secondary predication, based on the assumption that they “share the property of containing two predicative constituents”, one expressing an event and the other a state or a property (2009: 115). Here too, event orientation is argued to be a characteristic of manner predications, as opposed to participant orientation in the case of resultatives and depictives. Like Loeb-Diehl (2005), Verkerk (2009) argues that manner predications nonetheless share with depictives the property of being simultaneous with the main event. As already mentioned in section 2.5.2, Verkerk introduces another characteristic, which manner predications and resultatives share, namely that “their controller is not the subject introduced by the primary predicate” (2009: 119). This is straightforward in the case of resultatives, as they most commonly predicate something of the object of a transitive sentence (e.g. the barn in example 3.15 above). But depictives, too, may have a non-subject (or object) controller, as Verkerk herself shows, e.g. in Mary drinks her coffee black, where the object her coffee is depicted as black, as opposed to cases like Carla went to work drunk, where the subject Carla is depicted as drunk (2009: 116). In fact, there are also resultatives that have a subject controller, e.g. The river froze solid, but these are classified as marginal by Verkerk (2009: 117–118). Verkerk argues that, instead of the subject, manner predications “refer to the event encoded by the primary clause as
a whole” (2009: 117). With typical manner adverbs such as *Mary ran fast*, it is unclear whether these really relate to ‘the event encoded by the primary clause as a whole’ (e.g. Mary’s running), or simply ‘the event encoded by the main predicate’ (e.g. the running). In other words, it is not always clear whether manner adverbs that modify an event also modify the participants of that event. If they do relate to the whole clause, this is a very different scope of modification compared to the participant of a clause found in the subject or object of the main predicate, in the case of resultatives and depictives. The shared characteristic of resultatives and manner predications can also be questioned since this is based on their lack of a property, rather than an actual shared feature. But Verkerk argues for the relevance of this assumption when using her three-way division to motivate cross-linguistic encoding patterns. The three constructions are all encoded in the same way in some languages, and pattern in pairs in either combination in other languages. This is argued to be due to their shared properties. It may appear to be both practical and plausible to treat resultatives, depictives, and manner predications as instances of secondary predication, but whether typological findings provide enough basis for this conclusion can nonetheless be discussed.

Contrary to the accounts described so far, Himmelmann & Schultze-Berndt (2005b) do not classify manner adverbs as secondary predicates. They define secondary predicates as adjuncts that predicate, meaning that “the state encoded by the secondary predicate is interpreted as holding for one of the participants of the main predicate” (2005b: 4). Depictive and resultative constructions can both be classified as secondary predicates. Manner adverbs, on the other hand, do not encode a state that can be interpreted as holding for a participant. Thus, it is the difference between participant and event orientation that appears to be the reason why Himmelmann & Schultze-Berndt exclude manner adverbs from the domain of secondary predication. This does not imply that they expect the construction types to always be neatly distinguished: Himmelmann & Schultze-Berndt (2005b), too, state that overlaps between constructions encoding participant and event orientation are common across languages. Both Verkerk (2009) and Himmelmann & Schultze-Berndt (2005b) are studies of secondary predicates specifically (depictives in the case of the latter), but with opposing views on whether manner adverbs are secondary predicates. Contrary to this, Loeb-Diehl (2005) focuses on manner expressions, but defines them as secondary predicates. In the more general definition found in the entry on predication by Rothstein (2006: 73–76) in *Encyclopedia of Language and Linguistics*, secondary predicates are said to comprise resultatives and depictives only, whereas adverbs are not even mentioned.

3.3.3. Secondary predicates and complex predicates

In Croft’s approach, described in section 3.2, adverbs appear to belong within modification rather than predication. This conclusion is complicated by the fact that Croft (2003) defines modification as “a secondary propositional act function which can aid to establish reference (restrictive modification) or assert a secondary predication (nonrestrictive modification)” (2003: 184–185). *Restrictive modification* is clearly instantiated by attributive adjectives. But Croft does not state explicitly how *nonrestrictive modification* is attested. Since nonrestrictive modification asserts a secondary predication, it could be instantiated
by depictives and resultatives, but adverbs are of course also candidates.

In later work, Croft (in prep.) discusses the matter from a different perspective, where manner adverbs along with resultatives and depictives are placed under the label *complex predicates*. In general, there appears to be little consensus regarding how complex predicates are to be delimited (cf. Alsina et al. 1997 and Amberber et al. 2010). Schultze-Berndt & Himmelmann (2004) distinguish depictives from complex predicates, since “depictives constitute a predication which is to some extent independent of that of the main predicate” (2004: 69). In contrast to secondary predicates more generally, it could then be argued that for complex predicates, it is not possible to distinguish between the primary and secondary predicates. Serial verb constructions constitute one typical example of a construction type where the primary and secondary predicates cannot be distinguished. But Croft includes many other construction types in his wide definition of complex predicates: they “are predicates that are expressed by more than one element in a clause” (in prep: 202). Apart from the traditional examples of complex predicate types, such as constructions with serial verbs or deranked verbs, Croft argues that complex predicates include various other constructions involving manner adverbs, predicative adjectives, predicative nouns, and so on (in prep: 202ff.).

Within the domain of complex predicates, Croft (in prep.) separates what he terms *manner constructions* from secondary predicates, which comprise depictives and resultatives. While manner adverbs are not explicitly defined as secondary predicates, Croft groups all three construction types together as one “semantically and typologically coherent subtype of complex predicate” (in prep: 205). The characteristic of this subtype of complex predicates is, according to Croft, that they combine an action concept and a stative concept. This means that manner adverbs, like depictives and resultatives, are “stative predicates” (in prep: 231). But typical manner adverbs such as *quickly* and *slowly* can hardly be classified as states. Something cannot be in a state of being slow – rather, moving at a slow pace is dependent on an action concept, denoted by the main event. It appears that properties of events are, or can be, very different from properties of entities, which are clearly states (see further discussion in chapters 8 and 9). Croft (in prep.) further discusses the results of Loeb-Diehl (2005) and Verkerk (2009), which show that the encoding of secondary predicates and manner adverbs recurrently overlaps cross-linguistically. Such findings, he argues, support the treatment of these constructions types as belonging to the same type of predicate (in prep: 205). Also Croft points to the necessary simultaneity of the property encoded by the manner adverb and the event encoded by the main predicate (as shared with depictives), and emphasizes event orientation as the primary characteristic of manner adverbs. Along with the English encoding difference of secondary predicates and manner adverbs, this is argued to be the main reason why manner adverbs are commonly placed outside the realm of secondary predicates, or even that of complex predicates: “Manner adverbs are often not treated as parts of complex predicates, although as event modifiers, they are no different from object (noun) modifiers in complex (multiword) argument phrases” (in prep: 231). It is interesting, if somewhat problematic, that manner adverbs are treated on the one hand as modifiers on a par with modifiers within referring expressions, and on the other as more or less equivalent to secondary predicates. The question arises as to whether something can be a modifier and a predicate at the same time, and if so, how this is compatible with Croft’s model.
of semantic classes and discourse functions (cf. tables 2.2 and 3.1). Moreover, although Croft describes the shared characteristics of depictives, resultatives, and manner adverbs, along with their overlaps in encoding strategies, as sufficient grounds for treating them together as one coherent complex predicate type, he does not explicitly classify manner adverbs as secondary predicates.

In conclusion, opinions differ in the literature on whether or not manner adverbs should be defined as secondary predicates. With support in cross-linguistic findings, Loeb-Diehl (2005) and Verkerk (2009) argue that what they term manner predications are instances of secondary predication. For Himmelmann & Schultze-Berndt (2005b), the difference between participant and event orientation is the distinguishing point between secondary predicates and manner adverbs. Croft (in prep.) partly avoids the issue of whether manner constructions are secondary predicates by focusing on complex predicates, very broadly defined.

3.3.4. Are manner adverbs secondary predicates?

Some of the alleged shared characteristics of depictives, resultatives, and manner adverbs require closer examination. One such point is the simultaneity of the property and the main event, which many scholars argue to be a shared feature of depictives and constructions with manner adverbs (e.g. Loeb-Diehl 2005, Verkerk 2009, Croft in prep.). In the case of depictives, this simultaneity is obvious – in example (3.14) above, the fish was raw when, or simultaneously to, being eaten. But in example (3.18), this argumentation hardly makes sense – ‘The running was slow while he performed it’ is a dubious paraphrase. The problem here is that slowly relates to ran in a different way from how raw relates to fish, and what is more, to the eating of the fish. The fish may or may not be raw whether it is being eaten or not, which is why it can be raw simultaneously with being eaten. In contrast, the running cannot be slow without being performed, and it cannot be performed without being so at a certain pace. Thus, running and being slow can simply not be accurately or sufficiently described as simultaneous, since they both describe aspects of the same event. Alternatively, a great many things would have to be described as simultaneous, but this does not seem to apply in other cases (e.g. for a good book, ‘the book was good while it was a book’ simply does not make sense). In this way, the simultaneity characteristic that depictives and manner adverbs are supposed to share can be questioned for the latter.

If secondary predicates are to be defined semantically – and note that whether this is the case is not explicit in the accounts discussed in sections 3.3.2–3.3.3 – then it should be possible to turn a secondary predicate into a primary predicate. Attempts to do so with the examples discussed in the previous section are presented in table 3.2.
Table 3.2. Turning secondary predicates into primary predicates

<table>
<thead>
<tr>
<th>Construction type</th>
<th>Secondary predication</th>
<th>Primary predication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depictive</td>
<td>(a) I ate the fish raw</td>
<td>(d) The fish was raw</td>
</tr>
<tr>
<td>Resultative</td>
<td>(b) We painted the barn red</td>
<td>(e) The barn was/became red</td>
</tr>
<tr>
<td>Manner</td>
<td>(c) He ran slowly</td>
<td>(f) The running was slow</td>
</tr>
</tbody>
</table>

Both depictives and resultatives can clearly be turned into primary predicates. As for the manner adverb in table 3.2, example (f) is at the very least an acceptable paraphrase. However, it is more altered by the paraphrase than the other two examples. Treating manner adverbs as predications in this way presupposes that events can be subjects. The predicative adjective slow must also be used instead of the adverb slowly, implying that the -ly ending can hardly be seen as derivational. At the very least, the difference between slow and slowly must be regarded as trivial for the paraphrases to work, since *The running was slowly is not an option. Here, we may recall the there-sentence test that Winkler (1997) argues as being able to distinguish depictives from manner adverbs, as discussed in section 3.3.2. The -ly ending seems to play a certain role in the there-sentence test, in ruling out examples such as *There were some men cleverly (see example 3.17). In contrast, other uses of manner adverbs are questionable as primary predications, as illustrated in (3.20).

(3.20) (a) Mary quickly opened the door.

(b) ?Mary’s opening of the door was quick.

Example (3.20a) has the adverb in a different position (i.e. before the verb), and as a consequence, (3.20b) is slightly odd as a primary predicate. It may be argued that this is entirely dependent on information structure, which is partly signaled by word order: if quickly were to be placed sentence-finally, the paraphrase in (3.20b) would be quite acceptable. However, we may recall the point argued by Tenny (2000), as discussed in section 2.3.2, that different placement of quickly yields different interpretations. By that analysis, (3.20a) would mean that Mary opened the door immediately (quickly modifies the event), whereas a sentence-final placement of quickly would mean that the manner of opening was quick (quickly modifies the process). From such a perspective, quickly is not a manner adverb when it is placed before the verb, and this may be enough to explain why the paraphrase in (3.20b) does not work. Regardless of the perspective taken, it is clear that constructions with manner adverbs cannot be as easily and consistently rephrased as primary predicates as depictives and resultatives can be.

In the description of the Functional Grammar account of adverbs in section 2.3.3, it was pointed out that English does not have a predicative use of its manner adverbs.
(3.21) (a) John sang well/beautifully.
(b) *It (the singing) was well/beautifully.

It may of course be suggested that *well* is a suppletive form, and that the -ly ending that is found on most English Adverbs denoting manner is only triggered in adverbial function – *The singing was good/beautiful* is perfectly fine. Some English manner Adverbs have the characteristic that they can be used in isolation as imperatives, e.g. *Quickly!* and *Slowly!*, where the action that is to be performed quickly or slowly must be interpreted from linguistic or extra-linguistic context. This is a pattern that recurs cross-linguistically, as attested in the language sample of this study, although this is not discussed any further here. There are other languages that have only a few simple adverbs, where these cannot be used predicatively either, as illustrated by Swedish (Indo-European) below.

(3.22) Swedish (Indo-European) (constructed ex.)

(a) Tåg-et körde **fort/sakta**.  
train-DEF drive.PST fast/slowly  
‘The train went fast.’

(b) *Tåget var **fort/sakta**.  
train-DEF be.PST fast/slowly  
‘The train was fast/slowly.’

Notably, the adverbs *fort* ‘quickly, fast’ and *sakta* ‘slowly’ can also be used in isolation as imperatives: *Fort!* and *Sakta!* As we will see in chapter 6, there are also languages that have predicative adverbs, even in addition to having predicative adjectives, although it is much more common that languages have predicative adjectives only.

Within Croft’s approach, manner adverbs are defined as modifiers within predicating expressions, meaning that they belong within modification. As already discussed, Croft (2003: 184-185) states that modification can “aid to establish reference (restrictive modification) or assert a secondary predication (nonrestrictive modification)”. From this, it seems to be possible for an item to be a modifier and a predicate at the same time: secondary predication is defined as an instance of modification. But at the same time, Croft separates modification and predicating as two different functions. Unless secondary predicates are essentially different from the discourse function of predication, it seems contradictory to classify manner adverbs as modifiers and (secondary) predicates at the same time. In the case of the other major type of modifier treated within Croft’s approach, namely attributive adjectives, it appears to be sufficient to define them as modifiers within referring expressions. They are not called instances of ‘secondary reference’ or anything of the sort. Instead, when adjectives predicate, they switch function. In predication, they are either used as predicative adjectives (a type of primary predicate), or as secondary predicates in the form of depictives and resultatives. If this works consistently, then it should also hold for adverbs. In those cases where adverbs are used as predicates, they are no longer modifiers. The modifying and the predicating instances must be kept apart, otherwise it does not make sense to distinguish between these two functions. The view held here is that modification is a separate function, although it is secondary in
the sense that it relies on reference and predication. Modifiers in the form of attributive adjectives are found within referring expressions, and modifiers in the form of manner adverbs are found within predicating expressions. Since manner adverbs are modifiers within predicating expressions, meaning that modification takes place within the function of predication, it is only natural that they should sometimes appear predicate-like. The fact that modification in predicating expressions and predication as such are adjacent in Croft’s conceptual space also captures this (cf. table 3.1). From the discussion around the examples in table 3.2, it can be concluded that manner constructions are not as straightforwardly turned into primary predicates as secondary predicates are. This supports the view that it is not possible for an item to be a modifier and a predicate at the same time.

Even though manner adverbs are not classified as secondary predicates here, but as modifiers, they share certain characteristics with secondary predicates. In both cases, a property (or something similar) is introduced, and this property is secondary to the main event. As the accounts of depictives and resultatives discussed above made clear, manner adverbs differ from them in what they ascribe this property to, i.e. the event encoded by the main predicate, instead of a participant as in the case of secondary predicates. But although the accounts discussed tend to search for a shared characteristic such as stative meanings, or in the case of depictives and manner adverbs, simultaneity, they do not discuss one important point: manner adverbs share with depictives and resultatives the feature of being secondary. Modification is a secondary discourse function, always occurring within a referring or predicating expression. Likewise, secondary predication is, needless to say, secondary, always occurring in addition to another predicate. It is highly important that modification is part of a referring or predicating expression, whereas secondary predicates occur in addition to a primary predicate. Modifiers in the form of manner adverbs are more tightly knit with the predicating expression in which they occur than secondary predicates are with their primary predicate. This further explains the differences in paraphrasing adverbs and secondary predicates as primary predicates, exemplified in table 3.2.

In conclusion, manner adverbs are not secondary predicates. It suffices to define them as modifiers. Those accounts that classify manner adverbs as secondary predicates appear to do so because it is useful to compare them to resultatives and depictives, and for this purpose, a cover term is desirable. This is, however, not enough reason for classifying manner adverbs as secondary predicates. Still, adverbial modifiers and secondary predicates share important characteristics. In terms of semantics, both of them are often instantiated by property words. As discourse functions, they are both secondary, to the predicating expression in which they occur and to the primary predication, respectively. The fact that the same encoding patterns are often attested cross-linguistically for one or both types of secondary predicates and manner adverbs is thus only natural.

3.4. Back to modification

Adverbs are modifiers, and modification is a discourse function, which is also defined syntactically and semantically (see 3.1). It is the combination of these three components that defines modification. In section 3.3.1, we nonetheless saw that at least the semantic
component, and perhaps also that of discourse, may be weakened when a modifier is focused. There are other instances of modification, in which another component, or a pair of them, is weakened. In chapter 5, languages with adverbial affixation and incorporation will be presented (see section 5.3.5). In such cases, the syntactic component of the definition is weakened, although the semantic and discourse components remain the same. Among numerous other Verb suffixes, Urarina (isolate) has the “velocity suffix” -uri (with allomorphs), which may also indicate diminutive or politeness (Olawsky 2006: 471).

(3.23) Urarina (isolate) (Olawsky 2006: 195)

\[ ku \ kuru-ri-i, \ nakwaahnei \ kwajte-u-ra, \ na-a \ hah \]

there swallow-SPEED-PTCP again repeat-IMP-EMP say-3 because

‘He quickly swallowed it, and as he said “do it again”, [he caught another fish].’

In (3.23), it does not make sense to argue that any potential input expression has the same syntactic properties as the output expression, since the modifier is attested as the suffix -uri. On the other hand, this construction could be analyzed as performing modification morphologically, implying a morphological component for modification. Either way, the semantic and discourse components clearly remain in the example from Urarina.

There are also cases of modification in which the discourse component is weakened. For instance, if a prototypical adjective (cf. section 2.5.1) is used adverbially.

(3.24) The fire gleamed red.

In (3.24), the prototypical English Adjective red is used to describe the way the fire appears when it gleams. The syntactic and semantic components remain: syntactically the properties are the same as those of The fire gleamed, and semantically the meaning is of the same kind. But the discourse component can be questioned, since the property red does not really act as a modifier in a predicating expression, as it seems to somehow primarily describe the fire. In conclusion, these examples serve to illustrate that although one or two components may be weakened in less typical instances of modification, it seems that another component always remains.

In section 3.2, the case of nested modification was treated, i.e. the implication that a modified expressions should also be able to serve as input for modification, by the definition proposed in (3.1). However, the input that modification takes may be highly restricted, by both semantic and language-specific requirements. For instance, different types of modifiers may give different types of modification, as illustrated by semantically fixed orders of modifiers in an NP, e.g., the big red house vs. *the red big house. Here, it is evident that modification interacts with other processes. While this thesis focuses on modification within predicating expressions, modification may naturally take place on different levels, as straightforwardly illustrated in Role and Reference Grammar (cf. section 2.3.1). Modification of nouns and verbs, noun and verb phrases, and whole clauses can be argued to instantiate tighter and looser types of modification. These more complex sides of modification do not alter the fundamental idea of modification as defined by the three components of discourse, syntax, and semantics.
3. Modification and its relation to predication

3.5. Conclusion

In this chapter, I have proposed a three-way definition of modification, based on the components of discourse, syntax, and semantics. The discourse component builds on the approach of Croft (1991, 2001, 2003), although an expansion of this model is required in order to include adverbial modification (cf. table 3.1). The syntactic component is far from new: the fact that a modified expression has the same syntactic properties as the non-modified expression follows the principle of endocentricity. While it seems to be generally acknowledged that modification is also a semantic phenomenon, the details of what happens semantically when an expression is modified are unclear. The semantic component of the definition in (3.1) states that a modified expression has a meaning that is of the same kind as the meaning of the expression before the modifier was added. This covers complex and less typical instances of modifiers as well, as exemplified in section 3.2. In section 3.3.4, I concluded that manner adverbs cannot be convincingly defined as secondary predicates, since they are already modifiers. The overwhelming cross-linguistic evidence for the affinity of manner adverbs and secondary predicates does not challenge this. Rather, it illustrates that in certain instances, modification and predication are two very closely related domains. This is not a problem, as long as it can be accepted that secondary predicates and manner adverbs can be conceptually as well as empirically related, without classifying manner adverbs as secondary predicates.

While none of the three components of my definition of modification go against the way that this phenomenon is treated in the literature, or state anything not known before, it is the combination of the three that is the important point. This is the purpose of the definition, as illustrated in sections 3.3.1 and 3.4 with various examples where one or two components may be weakened, but at least one component still applies consistently. In conclusion, by bringing different approaches together, modification can be understood as the complex phenomenon that it is.
4. The constructional-typological approach, sampling, and data collection

4.1. Introduction

In this chapter, I discuss the methodology used in this dissertation. First, the functions under examination (adverbs, attributive adjectives, and predicative adjectives) are examined in detail in section 4.2, with a discussion of how they have been chosen and their relevance to the typological comparison. For the analysis of (parts of) the data, I use the constructional-typological approach, as described in detail in section 4.3. The sampling procedure and data collection are discussed in section 4.4.

4.2. The domains of attributive adjectives, predicative adjectives, and adverbs

Adjectives and adverbs are both modifiers, although within different domains, as discussed in the previous two chapters. Adjectives modify nouns within referring expressions, and adverbs modify verbs within predicating expressions (cf. Croft 2001: 94). Although the aim of this study is primarily to examine adverbs typologically, the parallel modifier function of adjectives and adverbs calls for a cross-linguistic comparison of the two, as different types of modifiers within the same function of modification. Adjectives are traditionally defined as having two different functions: attributive and predicative (cf. e.g. Dixon 2004: 10). Based on the parallel modifier function, attributive adjectives appear to be the most obvious comparative counterpart to adverbs. Predicative adjectives, on the other hand, do not function as modifiers. In this thesis, predicative adjectives are functionally defined as *property predication* (cf. Croft 2001: 92, see also sections 2.3.4 and 3.2), and adverbs are defined as *property modification within a predicating expression*. Both predicative adjectives and adverbs thus contain property words that are closely connected to predication. Property predication is, needless to say, an instance of predication. Adverbs use properties to modify within predicating expressions, and are thus somehow involved in predication. If adverbs are to be fully examined and compared to adjectives cross-linguistically, predicative adjectives must then also be included. In many languages, predicative adjectives consist of a property word and a copula verb, whereas adverbs are property words that occur with any of a large number of verbs. Structurally, the only difference appears to be the choice of verb, which further points to a potential affinity between predicative adjectives and adverbs. The expanded version of Croft’s table of
structural coding constructions for parts of speech that I proposed in section 3.2 is presented once again in table 4.1. Here, the area that represents the three functions in focus has been highlighted, and it is clear that we are dealing with three adjacent subregions. Note that we are interested in the regions adjacent to adverbs, which is why deadjectival nouns (property words used for reference) are not included. The larger picture shows that these three domains are related, which is yet another reason to compare their encoding cross-linguistically.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Modification within referent</th>
<th>Predication within predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNMARKED NOUNS</td>
<td>genitive, adjectivilizations, PPs on nouns</td>
<td>PPs on verbs, predicate nominals, copulas</td>
</tr>
<tr>
<td><strong>Properties</strong></td>
<td>deadjectival nouns</td>
<td>UNMARKED ADJECTIVES UNMARKED ADVERBS predicate adjectives, copulas</td>
</tr>
<tr>
<td><strong>Actions</strong></td>
<td>action nominals, complements, infinitives, gerunds</td>
<td>participles, relative clauses, converses</td>
</tr>
</tbody>
</table>

Attributive adjectives, predicative adjectives, and adverbs are here defined according to their functions, as illustrated by the column headings in table 4.1. Attributive adjectives belong to the semantic class of property words that modify nouns within referring expressions. Predicative adjectives are property words that are predicated. Adverbs are property words that modify verbs within predicating expressions. The combination of property concepts and each of these three functions will henceforth be referred to as ATTR, PRED, and ADV, respectively. In the typological study, the three functions will be used as comparative concepts in the sense of Haspelmath (2010). Based on the three functions, labels such as adjective and adverb, in all lower case, are also used, referring to the comparative concepts defined in (4.1). These definitions are partly based on the functions from the expansion of Croft (2001: 88) and partly on Haspelmath (2010: 670).

---

1 Table 4.1 might suggest that unmarked adjectives and predicate adjectives are not related, which they clearly are. For a fully expanded version that clarifies this, where also the horizontal row of property words has been added to, see tables 9.3 and 9.4 in chapter 9.
4.2. The domains of attributive adjectives, predicative adjectives, and adverbs

(4.1) (a) an attributive adjective is a lexeme that denotes a property and that can be used to modify a noun within a referring expression

(b) a predicative adjective is a lexeme that denotes a property and that can be used in predication

(c) an adverb is a lexeme that denotes a property and that can be used to modify a verb in a predicking expression

As mentioned in the introduction in chapter 1, when language-specific lexical category terms are used, these are capitalized (e.g. ‘English has a class of Adjectives’) as according to convention following, e.g., Comrie (1976: 10). I use the term simple adverbs (and sometimes adjectives) to refer to monomorphemic adverbs (or adjectives). When I examine ATTR, PRED, and ADV, the purpose is to compare their encoding in different languages. Encoding refers to the structural form attested in a function, for instance, whether property notions in ADV are found as lexemes derived from, e.g., adjectives, as simple lexemes, or as complex constructions, involving anything from a serialized verb to a prepositional phrase. The aim of this study is to examine the variation in encoding of ATTR, PRED, and ADV. For instance, a specific language may have the same encoding for two or all of the functions, or the encoding may be different for each of the functions. One single function within one single language may also have several different encodings. The primary goal is nonetheless to compare the three functions across languages, in order to see if any typological patterns of encoding can be found, and to what extent such patterns vary. If a language has exactly the same encoding in more than one function, I will call this an encoding overlap. In language examples, I highlight property items in boldface.

Let us first consider what combinations of encoding overlap there are for ATTR, PRED, and ADV in English. In (4.2), a typical property in ATTR, PRED, and ADV is illustrated. Note that the function (i.e. ATTR, PRED, or ADV) that an individual example instantiates is indicated in the right margin of the specific example. This is a procedure that will be followed throughout the remainder of the thesis.

(4.2) English [ATTR PRED] [ADV] LEXEME

(a) The sad person over there is Sheila. ATTR

(b) Sheila is sad. PRED

(c) Sheila smiled sadly. ADV

These examples instantiate an overlap of ATTR and PRED on the level of the lexeme, since these two functions are identically encoded (sad). ADV, on the other hand, requires the ending -ly (sad-ly). The overlap is indicated with square brackets in the example heading, but can also be illustrated as in figure 4.1.
It may be objected that it is far from clear whether the -ly ending is derivational (cf., e.g., Haspelmath 2002: 60). Happily could be regarded as the same lexeme as sad. Such an analysis could also be used for the purpose of the present study. However, I will assume that examples such as sad and sadly instantiate different lexemes, and base my analysis on this assumption. It is nonetheless important to note that an inflectional analysis of -ly, which implies that sad and sadly are different forms of the same lexeme, could also be applied, rendering somewhat different results. The treatment of sad and sadly as different lexemes also highlights the need for another more narrow level of analysis to capture the fact that English has the same root in all examples in (4.2).

(4.3) English [ATTR PRED ADV] ROOT
(a) The sad person over there is Sheila.  
(b) Sheila is sad.  
(c) Sheila smiled sadly.

A root is here defined as a form that cannot be divided into any morphologically simpler form. On the root level, the overlap in (4.3) includes ATTR, PRED, and ADV. This is illustrated in figure 4.2.

(4.4) English [ATTR PRED ADV] LEXEME/ROOT MINOR
(a) The fast runner over there is Sheila.  
(b) Sheila is fast.
4.2. The domains of attributive adjectives, predicative adjectives, and adverbs

(c) Sheila runs fast.

The examples with fast show an overlap of all three functions on both the lexeme and root levels, as illustrated in figure 4.3.

![Diagram showing overlap of ATTR, PRED, and ADV]

Figure 4.3. The English lexeme/root overlap of ATTR, PRED, and ADV

Yet other minor examples do not even occur in all three functions, as in the case of alone in (4.5), found only in PRED and ADV (cf. *The alone person over there is Sheila).

(4.5) English \[\text{[PRED ADV]} \text{LEXEME/ROOT} \text{MINOR}\]

(a) Sheila is alone.

(b) Sheila runs alone.

The example with alone shows a case in which the lexeme in question cannot be encoded in ATTR. Not being able to be encoded in a function is clearly different from being encoded in a way separate from the other two functions. This overlap is illustrated in figure 4.4.

![Diagram showing overlap of PRED and ADV]

Figure 4.4. The English lexeme/root overlap of PRED and ADV

As noted in the example, alone constitutes a minor pattern and since it is not a typical property word, it is of limited interest here. The example of fast in (4.4) also instantiates a minor pattern, since the great majority of English Adverbs in ADV are formed with the -ly ending, as exemplified in (4.2). But in terms of semantics, fast is a typical property word, and it is therefore particularly interesting that a minor pattern occurs here. More importantly, the fact that a language may have several different ways of encoding the same function, minor as well as major, is expected from a typological point of view and should be accounted for. The overlaps in figures 4.1–4.4 thus illustrate different lexeme and root overlaps within one and the same language. Figure 4.1, which illustrates an overlap of ATTR and PRED, with ADV encoded in a different way, is nonetheless the most common pattern on the lexeme level for English.

Although the root and lexeme provide detailed levels of analysis, other languages may require a third level, as illustrated with examples from Swedish (Indo-European) in (4.6).
Swedish has two genders: common and neuter. When the Noun that the property is ascribed to is neuter, Adjectives take the neuter ending -t both in ATTR and PRED. When the Noun has common gender, there is no inflection. Adverbs are formed from Adjectives with an ending that is either the same as or coincides with the neuter -t (whether this is derivation or inflection is left an open question here).

(4.6) Swedish (Indo-European) (constructed ex.)  [ATTR PRED ADV]  WORD FORM

(a) Lisa är en lycklig person.  
   Lisa be.PRS ART.INDF.COMM sad.COMM.SG person  
   ‘Lisa is a sad person.’

(b) Det blev ett lycklig-t slut.  
   Det become.PST ART.INDF.NEUT sad-NEUT.SG end  
   ‘It was a sad ending.’

(c) Lisa är lycklig.  
   Lisa be.PRS sad.COMM.SG  
   ‘Lisa is sad.’

(d) Slut-et var lycklig-t.  
   Slut-NEUT be.PST sad-NEUT.SG  
   ‘The ending was sad.’

(e) Lisa log lycklig-t.  
   Lisa smile.PST sad-NEUT.SG  
   ‘Lisa smiled sadly.’

To analyze the Swedish examples as instantiating encoding overlaps, a word form level must be acknowledged. Thus, it could be argued that Swedish has a word form overlap of all three functions in the case of the neuter ending -t.

The utility of the word form level varies across languages. As we shall see, very few languages in my sample have tendencies towards such patterns as Swedish. These are briefly discussed in section 6.3. The point here is nonetheless that the word form level may be necessary for analysis of ATTR, PRED, and ADV in certain languages. Assuming word forms as a level of analysis also leads to the morphosyntactic problems surrounding words and whether they can be distinguished from affixes (see e.g. Haspelmath 2011). While this is a complex issue, it does not pose any problems for the distinctions drawn here.

So far, we have focused on the root, lexeme, and word form levels. But there are other ways to analyze the English examples discussed in (4.2-4.4). If the focus is shifted to constructions as wholes, the interpretation of overlaps will necessarily also shift. In (4.7), we revisit the examples with sad, paying attention to entire constructions (here indicated with square brackets in the examples) instead of lexemes or roots (the property word is still highlighted).

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2 Note that Swedish also has a couple of simple adverbs such as fort ‘fast’ and sakta ‘slowly’, which means that the lexeme level would also be relevant here (cf. examples in 3.22 in section 3.3.4).
4.2. The domains of attributive adjectives, predicative adjectives, and adverbs

(4.7) English [ATTR] [PRED] [ADV] CONSTRUCTION

(a) [The sad person] over there is Sheila.  
   (attr)

(b) [Sheila is sad].  
   (pred)

(c) [Sheila smiled sadly].  
   (adv)

In (4.7a), the construction which contains a property word that functions as a modifier within a referring expression is the NP made up of the definite article, the Adjective sad and the Noun person. In PRED, the construction that predicates a property consists of the subject Sheila, the third person singular copula is, and the Adjective sad. Finally, in ADV, the construction that contains a property word that is a modifier within a predicing expression is made up of the subject Sheila, the Verb smiled and the derived Adverb sadly. From a constructional point of view, English (as expected) has three different ways of encoding the three functions.

Figure 4.5. The English constructions in attr, pred, and adv

If the examples with fast (see 4.4) are analyzed on the level of constructions, this will result in the same three different types of encoding. In the case of alone, there will be no overlap either. Rather, PRED and ADV are encoded in different ways.

The shift to focus on the level of the construction does perhaps not appear to be very fruitful for English, in comparison to focusing on the levels of the lexeme and the root. At most, it shows us what we already know, that the constructions in the three functions differ. But there are languages in which it is necessary to capture whole constructions in order to understand how ATTR, PRED, and ADV are related. For instance, one cross-linguistically recurring pattern is a construction that is intermediate between PRED and ADV. This is attested in Lakota (Siouan). Lakota has several other constructions found in PRED and ADV, more central to the two functions (cf. appendix B). The examples of the intermediate construction are taken specifically in order to illustrate why the construction level is important for the analysis of Lakota. It is neither possible to distinguish two different constructions nor two different functions here. This is illustrated in the examples in (4.8), where both examples can be interpreted as either PRED or ADV.

(4.8) Lakota (Siouan) (Ingham 2003: 45) PRED/ADV CONSTRUCTION

(a) [paha ki wanjkatu-ya he]  
   mountain TOP be.high-ADV be  
   ‘The mountain stands highly. / The mountain was high.’

3 The English translation alternatives come from Ingham (2003: 45), but it seems that (4.8a) could equally well be translated as ‘The mountain stands high’.
4. The constructional-typological approach, sampling, and data collection

(b) \[taku \quad way \quad ska-yela \quad he\]

something one be.white-ADV be

‘something stood whitely / there was something white there’

The existential verb *he* ‘be’ used in (4.8) is not a copula, but a full lexical verb. The suffixes *-ya* and *-yela* are two of a number of Adverb-deriving suffixes in Lakota, which attach primarily to verbal stems, but sometimes also to nominal stems (Ingham 2003: 43-44). However, *-ya* and *-yela* can be distinguished from other Adverb-deriving suffixes in that the Adverbs that they form “are often used in a construction with the existential verbs *-hay/he* or *-yapka/e* ‘be in a place’ to describe an object” (2003: 45). This is illustrated with *he* in (4.8a) above, where it is impossible to distinguish between *pred* (e.g. ‘The mountain was high.’) and *adv* (e.g. ‘The mountain stands highly.’). This is not a construction that is a prototypical instance of either *pred* or *adv*. It is rather exactly between the two functions, and illustrates how their edges can be blurred. Loeb-Diehl (2005: 243) treats Lakota forms with *-ya* as participles. Depending on where the line is drawn, they may also be seen as converbs. More importantly, if only the lexeme or root and not the whole construction were analyzed, the fact that this construction is intermediate between *pred* and *adv* could not have been accounted for.

Let us now consider what logical combinations of encoding overlap there are for *attr*, *pred*, and *adv*, regardless of language and level (lexeme, root, word form, or construction). Firstly, the three functions may all show different encoding, i.e. no overlap. Secondly, they may all be encoded in the same way. Thirdly, there may be pairs of encoding overlaps, with the remaining function being encoded in a separate way. This results in five potential types of encoding overlap, as illustrated in figure 4.6.
4.2. The domains of attributive adjectives, predicative adjectives, and adverbs

![Figure 4.6. Potential combinations of separating and overlapping encoding](image)

As we have seen above, a certain semantic notion or even a single lexeme may occur in only one or two of the three functions in a specific language. Along the same lines, a certain language may also have different types of encoding overlap, depending on what semantic notions or lexemes that are examined, and more importantly, depending on whether the focus is the lexeme, the root, the word form, or the whole construction. Accordingly, to capture ATTR, PRED, and ADV in a specific language, several of the combinations of encoding patterns in figure 4.6 may be needed to account for all relevant examples. When encoding overlaps covering two functions are attested in this thesis, these are usually not treated as opposed to any specific encoding in the function that is not included in the overlap. Rather, when an overlap of two functions is discussed, this simply implies that the third function is encoded in a different way.

In summary, individual languages may have several different encoding patterns in one and the same function. Whether or not these are instances of major or minor patterns, it must be possible to account for all of them. Moreover, when comparing the three functions, the focus may be on individual roots, lexemes, word forms, or whole constructions. For a full picture, one must be able to make comparisons at all these levels (although the word-form level applies only marginally, see section 6.3). In order to do so, I have cho-
4. The constructional-typological approach, sampling, and data collection

...sen to use the constructional-typological approach (Koch 2012). This approach employs a notation that captures constructions in their entirety for each language and function examined, and thus provides a level of abstraction at which they can be compared. In this way, it becomes possible to analyze whole constructions as well as the roots, word forms, or lexemes inside constructions. In (4.9), the English examples discussed above are captured in their entirety in constructional-typological format.

(4.9) **ATTR, PRED, and ADV in English**

**ATTR**

Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form: ART ADJ N
Example: (4.7a)

**PRED**

Function: PROPERTY PREDICATION
Form: S be cop ADJ
Example: (4.7b)

**ADV**

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: S V ADJ-*ly
Form 2: S V ADJ_subset
Example: (4.7c), (4.4c)

The notation in (4.9) contains three different types of lines for each of the functions **ATTR**, **PRED**, and **ADV**. The first one is **Function**, which gives a definition of the function in question. This is language-independent, or in other words, constant across languages. The second line is **Form**, which contains the language-specific encoding form found in the function, in constructional notation (see more on this in section 4.3), here for English. The third one is **Example**, which contains cross-references to actual examples. As illustrated for **ADV** in (4.9), there can be more than one instance of **Form**, i.e. more than one way of encoding the function. In that case, the forms are numbered. In **ADV** in (4.9), **Form 1** refers to such examples as *sadly*, and **Form 2** refers to the example with *fast* (the examples with *alone* are not included here, since they are considered to be outside the scope of this study). Example may contain more than one cross-reference, according to how forms that are found and examined in the function in question for a specific language.

There are several advantages to presenting and analyzing examples in this way. First, we neither have to limit the analysis to the level of the root, word form, or lexeme, nor to a set number of elements surrounding them. Instead, the construction as a whole can be analyzed, in addition to the more delimited levels of root and lexeme. Secondly, the study does not have to be limited to one or even a few forms for each function and language. This reduces the risk of skewed results considerably. The forms and examples

---

4 In **ADV** in (4.9), the forms could be seen as being ranked according to productivity, since **Form 1** is a major pattern, but **Form 2** is a minor one. However, this is not a principle that I will employ generally, since it is often not possible to tell which patterns are major and minor in individual languages.
4.3. The constructional-typological approach

The constructional-typological approach can be as many as necessary according to what is found in a specific language. In order not to miss relevant data, or not to focus on certain forms at the expense of others, all possible forms occurring in a specific function must be considered, to the extent this is possible. Most importantly though, the constructional-typological notation is suitable for making a cross-linguistic comparison of ATTR, PRED, and ADV in a consistent way. In the next section, the constructional-typological approach is described and evaluated in greater detail.

4.3. The constructional-typological approach

The constructional-typological approach was introduced by Koch (2012) and is a method inspired by Construction Grammar. Koch introduces this approach in a cross-linguistic examination of the semantic space that he terms LOCATION–EXISTENCE–POSSESSION. In the case of English, this can be illustrated with the examples in (4.10) (2012: 536).

(4.10) (a) There is a book on the table. LOCATION
(b) There is a book. EXISTENCE
(c) The boy has a book. POSSESSION

In examining these three domains in different languages, Koch aims to capture “cross-linguistic patterns of joint linguistic expression of categories or of clear distinction of categories” (2012: 544). Many languages have verbs of location, existence, and possession, and it may appear plausible that the focus should then be on verbs as such. But it is not always the case that the meaning can be found in a single lexeme: more complex expressions, such as idiomatic expressions, must sometimes also be taken into account. Moreover, a characteristic of individual verbs is their valency, and if the verb is examined in isolation, its valency is disregarded. Thirdly, as seen in the English examples in (4.10), the verbal item in question is a copula, while in another language, the verbal item may consist of a lexical verb. Such differences must also be considered in a comprehensive analysis.

Koch finds the solution to these problems in the principles of Construction Grammar (henceforth CxG). This is a functionally oriented framework whose main tenet is that not only words, but constructions as units, carry meaning (Fillmore 1988; Goldberg 1995, 2006; Croft 2001; Croft & Cruse 2004). A construction is a label for any conventionalized pair of form and meaning, irrespective of its complexity. Accordingly, a construction can consist of anything from a single morpheme to a complex syntactic structure. CxG distinguishes between substantive and schematic constructions. In a substantive construction, the elements are lexically filled, as in the case of idioms. An example of a substantive construction is presented in (4.11) (2012: 551).

(4.11) Meaning: RESIGNATION TO AN UNPLEASANT FACT
Form: There it is!
The elements of (4.11) are all fixed. None of them can be exchanged for another element without yielding a completely different meaning (cf. *There he is!, which does not mean anything like ‘RESIGNATION TO AN UNPLEASANT FACT’). A schematic construction, on the other hand, consists of slots in which whole classes of elements may fit. A classic example is the English ditransitive construction discussed in detail by Goldberg (1995: 24–66), which is also exemplified by Koch (2012: 550–551).

(4.12) **Ditransitive construction**

<table>
<thead>
<tr>
<th>Meaning: X CAUSES Y TO RECEIVE Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form: S V IO DO</td>
</tr>
<tr>
<td>Example: Joe gave Sally the ball</td>
</tr>
</tbody>
</table>

In (4.12), the slots are variable to a certain extent, and they are denoted by their function on the form line (i.e. subject, verb, indirect object, and direct object). Each of them can be filled with certain elements, but not others (e.g. *She handed him the book* but not *The bear growled the elephant an apple*). The meaning is altered by who or what is participating, and how the causing to receive is performed, but the basic meaning of causing someone to receive something remains the same.

There is a continuum between wholly substantive and wholly schematic constructions, yielding intermediate constructions that have both substantive and schematic components. This is the case in Koch’s examples of RHEMATIC LOCATION in Brazilian Portuguese and French:

(4.13) Brazilian Portuguese (Koch 2012: 542)

\begin{verbatim}
 tem um livro sobre a mesa
 have.PRS.3SG INDF.M book-M upon DEF.F table-F
\end{verbatim}

‘There is a book on the table.’

(4.14) French (Koch 2012: 546)

\begin{verbatim}
 il y a un livre sur la table
 3SG there have.PRS.3SG INDF.M.SG book upon DEF.F.SG table
\end{verbatim}

‘There is a book on the table.’

While the verb form *tem* in (4.13) is substantive, the remaining parts of the construction are schematic. Similarly, the complex verbal item *y a* in (4.14) is substantive, whereas the rest of the construction is schematic. Based on CxG notation, Koch denotes these two examples as in (4.15), with the direct object (DO) encoding the LOCATED (L_{ED}) and the locational adverbial (LOCA for short) encoding the LOCUS (L_{US}) (2012: 551).

(4.15) **Rheumatic locational construction** (Koch 2012: 551)

<table>
<thead>
<tr>
<th>Meaning: L_{US} LOCATES L_{ED}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form: Braz. Portuguese LOCA ter3sg DO</td>
</tr>
<tr>
<td>Example: (4.13)</td>
</tr>
</tbody>
</table>

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4.3. The constructional-typological approach

The notation in (4.15) captures the similarities between RHEMATIC LOCATION in Brazilian Portuguese and French, namely the schematic items LOCA and DO, which are made up of noun phrases. The differences in substantive items also becomes clear, in that Brazilian Portuguese has the simple verb *ter*, whereas French has the complex verbal item *y+avoir*. Also, French syntax requires the dummy subject (*S°*) *il*. The French verbal item is captured without difficulty, showing that CxG is able to handle complex combinations (even idioms) in this notation. Both the verbal item, which is substantive, and the schematic noun phrases that go with it are taken into account, meaning that valency is not disregarded. More generally, the notation presents the constructions in their entirety, providing a good foundation for comparison within as well as across languages, without the risk of excluding any element. Koch elaborates the constructional-typological approach in a much more sophisticated way than it is employed here, to include other CxG features such as inheritance links (cf. 2012: 561ff.). But the description provided here should suffice to illustrate the utility of the constructional-typological approach for the present study.

Already in (4.9) in the previous section, I introduced the notation of the constructional-typological approach in the discussion of *attr*, *pred*, and *adv*. For the purpose of the present study, I have chosen to replace the term *meaning* with *function*. Constructions are usually defined as having *meaning* and *form*. In the case of *attr*, any attempt to capture its meaning would likely end up in something like what Hilpert (2014: 52) phrases as “an X has the quality of being Y”. This meaning may seem adequate at first, but will fail to cover many examples, such as *old friends*, which does not mean ‘friends that have the quality of being old’ (Hilpert 2014: 52), but rather ‘friends that have been friends for a long time’. In fact, as pointed out by Hilpert (2014: 52), Fillmore et al. (2012: 326) define the English construction in *attr* as a *meaningless* construction, and label it the Modifier-Head construction. According to Hilpert, the “construction reflects a formal generalisation, but it does not contribute any meaning of its own that would go beyond the combined meanings of the component lexical items” (2014: 52). *pred* is no easier to pinpoint in terms of meaning: ‘X is property Y’ or ‘X has the property of being Y’ are futile attempts. Along the same lines, proposing a meaning for *adv* such as ‘X performs action in Y way’ is too general. On the other hand, *adv* could perhaps be defined as a Modifier-Predicate construction, in a fashion parallel to the Modifier-Head construction in *attr*. Meaningless constructions in the account by Fillmore et al. (2012) are reminiscent of phrase structure rules, in that they only yield a grammatically acceptable combination of elements and nothing else. On the other hand, *meaninglessness* as a feature of these constructions seems uncalled for, especially against a CxG background, since this is an approach in which it is fundamental that constructions have meanings. Another perspective on constructions such as those found in *attr*, *pred*, and *adv* is that they have very general meanings, or even a family of meanings (cf. family resemblance according to Wittgenstein 1953). It

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6 There are three meaningless constructions according to Fillmore et al. (2012: 326), the other two being *Head-Complement* and *Subject-Predicate*.

7 This actually also covers adverbs modifying adjective, e.g. *completely full* (Fillmore et al. 2012: 326).
could also be argued that these constructions are extremely schematic, in the sense that very large classes of elements fit into their respective slots. Based on such considerations, I use the term function instead of meaning, to accurately describe these constructions. The definition of each function implements the discourse function for ATTR, PRED, and ADV following Croft (2001, see sections 2.3.4 and 3.2). The broad meanings of ATTR, PRED, and ADV are as such important to capture. Since they are constructions with very general meanings, it is more fitting to describe them as having functions than meanings. The term function will thus be used instead of meaning in the construction descriptions of ATTR, PRED, and ADV, even though this is not the way it would be done traditionally within CxG.

Let us reconsider the examples of English in constructional-typological notation from (4.9) in the previous section, reproduced in (4.16).

(4.16) ATTR, PRED, and ADV in English

**ATTR**

Function: PROPERTY MODIFICATION WITHIN REFERENCE  
Form: ART ADJ N  
Example: (4.7a)

**PRED**

Function: PROPERTY PREDICATION  
Form: S be\textsubscript{cop} ADJ  
Example: (4.7b)

**ADV**

Function: PROPERTY MODIFICATION WITHIN PREDICATION  
Form 1: S V ADJ-ly\textsubscript{ADV}\textsubscript{LY}  
Form 2: S V ADJ\textsubscript{SUBSET}  
Example: (4.7c), (4.4c)

The Form lines in (4.16) contain the forms of whole construction, and not just individual roots, word forms, or lexemes. For ATTR, the construction is entirely schematic, composed of an article slot (ART), an Adjective slot (ADJ) and a Noun slot (N). The construction in PRED is partly substantive, since the Copula be is required. It is also schematic in the slots of the subject (S) and the Adjective (ADJ). In ADV, (at least) two constructions must be captured as discussed above: one with Adverbs derived with -ly, and one with Adjectives used adverbially. But including many forms is not a problem for the constructional-typological approach. The labels in subscript in the constructional-typological notation provide a gloss for substantive items. In the case of be in (4.16b), this is glossed as a Copula, which can be compared to the Verb he in Lakota (see 4.17 below), glossed V to indicate that it is a lexical verb. Major elements are abbreviated in large capitals and include nouns, verbs, subjects, any type of modifiers, and stative verbs. Stative verbs are here defined as verbs that denote states, and not actions, and are often attested in languages that do not have adjectives. Conventions for notation other than glossing (which follows the glossing abbreviations listed in the beginning of this book) that are
used in the constructional-typological notation are listed in appendix A. When elements are schematic, they are abbreviated independently (e.g. ART for ‘article’). When they are substantial, they are attached to the italicized schematic element in subscript (e.g. $be_{\text{cop}}$ in PRED in 4.16 above). Sometimes, translations are also provided for clarification. Full constructional notation for all languages can be found in appendix B.

An issue that arises at this point is how to delimit constructions. Starting with ADV, in a fashion parallel to ATTR, it seems plausible to limit the construction found here to the modifier and the modified. For ATTR in English, this is an Adjective and a Noun that heads the NP, whereas for ADV in English, this is an Adverb (whether derived or not) and a Verb. To capture the whole predication in which the modification is found, I have nonetheless chosen to include the Subject when it is overt, as in the case of English. Here, we may recall an important point from Role and Reference Grammar (see section 2.3.1), where adverbs denoting manner and pace are located in the periphery of the core. The core contains both the predicate and its arguments, and manner and pace adverbs are assumed to modify both. Only aspectual adverbs are located in the periphery of the nucleus, since they are assumed to modify the predicate alone. Also the semantic accounts discussed in chapter 2 pointed to various uses of manner adverbs and the subtle meaning distinctions that follow from these, interacting with the participants of an event. This provides further support for including any subject in the constructional notation for ADV. For PRED, the subject is included for the whole construction to be presented, on the same grounds as for ADV. Alternatively, the English construction in PRED may be denoted in the form of $[NP \ be \ ADJ]$ as proposed by Croft & Cruse (2004: 253). Although that is a reasonable option, I have nonetheless chosen to follow Koch (2012) more generally and use $S$ for the subject slot. Another way in which delimitation of constructions may be problematic is when examples vary in their extension. For instance, in an English example such as Sheila drives her lawnmower fast, the object her lawnmower could also be included in its constructional-typological notation. But objects are usually not expected to affect the modification performed by property words in predicating expressions (as is evident in examples such as Sheila drives fast vs. Sheila drives her lawnmower fast). Still, in the case of language-specific examples where the level of detail of the construction appears to be problematic in the typological study, I will discuss this. Note also that I do not assume any specific phrase structure in the constructional notation. It may seem counterintuitive if a different perspective is taken, where the $V$ in the form lines of example (4.16) may be interpreted as the VP head. However, this is not implied by $V$ in its present use. Rather, constructions are different from phrases. In terms of distinguishing between phrase-like components, I would rather argue for something along the lines of the idea of formal groupings proposed by Croft (2001: 190–197).

The notation in (4.16) shows how comparison is facilitated by the constructional-typological approach, even within a single language. The focus on the construction does not exclude the option of focusing on the lexeme, root, or form. The examples in (4.16) also illustrate that in a certain case (i.e. fast), the same Adjective is used in all three functions, indicating an [ATTR PRED ADV] lexeme overlap for English. The constructional notation clearly spells out the similarities and differences both between forms within the same function (e.g. Form 1 and Form 2 in ADV) and between forms within different functions (e.g. the one in PRED and the two forms in ADV). Recalling the examples from
Lakota in (4.8), the utility of the constructional notation can be made even clearer. If the encoding found for PRED and ADV is to be presented, the intermediate construction must be included in both functions, in addition to other constructions not discussed here (but see 7.18 in section 7.3.2). Note that only PRED and ADV are reproduced in (4.17), since these are the only examples from Lakota that have been described so far.

(4.17) PRED and ADV in Lakota

PRED

Function: PROPERTY PREDICATION
Form: S ST.V-ya/-yela_{ADV} he_{V}
Example: (4.8)

ADV

Function: PROPERTY MODIFICATION WITHIN PREDICATION
Form: S ST.V-ya/-yela_{ADV} he_{V}
Example: (4.8)

Spelled out in this way, it becomes even clearer that Lakota has a construction that is between PRED and ADV, and must be represented in both functions (although it should again be noted that there are other constructions as well, more prototypical to the two functions). The Verb stems with the suffixes -ya and -yela are denoted as stative verbs (ST.V) in the constructional-typological notation.

So far, the benefits of the constructional-typological approach have been illustrated in terms of comparisons within the same language. But there are yet greater advantages when turning to cross-linguistic comparison, since it is possible to consistently capture any number of forms in one function and compare them to the forms in the same function in another language (cf. Koch’s comparison of Brazilian Portuguese and French as reproduced in 4.15 above).

In summary, the constructional approach is highly suitable for typological comparison, since it is both comprehensive and allows for analysis of more limited domains. The notation is a way of describing examples from individual languages in a much more useful way than giving a full description of each individual example. It provides a level of abstraction that allows for comparison, while still capturing the diversity of language-specific facts. It is not the only option for a typological study of this kind – other methods could also have been used. But it is difficult to picture any method that would perform as consistently and comprehensively, without designing a comparative standard from scratch. This strongly motivates the choice of the constructional-typological approach for the present study. While Construction Grammar is a family of theoretical models, it is not necessary to adhere to its theoretical claims in order to employ the constructional-typological method for descriptive purposes. Importantly, the latter is not intended to be a syntactic theory. However, constructions must naturally be acknowledged – which is generally done by typologists without much discussion – as well as the identified functions and the relevance of comparing them.
As this is not a theoretical syntax-oriented study, it is not about Construction Grammar. The constructional-typological method still serves as an appropriate tool for comparison. Constructions are language-specific, and the constructional-typological method is employed for the purpose of comparing them. Therefore, it is within comparison that its strength lies.

4.4. Sampling procedure and data collection

The language sample of this study contains 60 languages from around the world. The first principle for selecting sample languages was whether any encoding characteristic of the ADV function could be found. This principle comes from the focus of the thesis on adverbs specifically, and the fact that many languages do not have any adverbs. The 60 languages of the sample are presented in table 4.2. As indicated in the leftmost column, the languages are grouped into five linguistic continents, with around a dozen languages for each continent. The boundaries for linguistic continents were roughly based on Dryer (1992), with the difference that Dryer groups Southeast Asia with Oceania, and Australia with New Guinea. In my sample, Southeast Asia is placed with Eurasia, and Australia and Oceania have been collapsed into one continent which includes Papua New Guinea. The language names are found in the middle column, and the rightmost column presents their family affiliation. Families follow the classification of Glottolog (Hammarström et al. 2017), except where this clashes with a well-recognized reference grammar classification. Language names are primarily used based on reference grammars. Only in a few cases where this clashes with Glottolog is the name used according to the latter, if that name is more established.

The sample has 48 different families and three isolate languages. Two families have a representation of three languages each, and five families contribute two languages each. In these cases, languages have been included because they display encoding patterns remarkably different from the one or ones that already represented the family in the sample. There is no intention behind the exact distribution of the families that are represented by more than one language. Rather, these languages were selected based solely on the fact that their data contributed something new to the study. To achieve areal spread and a representative distribution in this worldwide sample, twelve languages from each of the major five linguistic continents were selected. Unrelated languages have thus been selected as far as possible, aiming for maximal genealogical diversity. The geographic spread of the languages is captured in the map in figure 4.7.
### 4. The constructional-typological approach, sampling, and data collection

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4.4. Sampling procedure and data collection

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Table 4.2. Language sample

Figure 4.7. Language sample with linguistic continents

The data used in this study comes primarily from language descriptions in the form of reference grammars. Secondarily, language experts and native speakers have been consulted in unclear cases wherever possible.

As discussed in sections 4.2, a qualitatively thorough analysis is necessary to investigate the functions of ATTR, PRED, and ADV in a way that can answer the research questions (cf. chapter 1). This motivates the average size of my sample – with too large a sample, detailed analysis would not be possible. Since I have selected languages partly based on
4. The constructional-typological approach, sampling, and data collection

whether they have any characteristic features in ADV, my sample is in accordance with
the characteristics of a variety sample (Bakker 2011; Veselinova 2012). Bakker describes a
variety sample as suitable “when linguistic variables are explored about which not much is
known in advance” (2011: 105). As discussed in chapter 2, adjectives have been thoroughly
studied typologically, but adverbs have received far less attention. The presence of the
phenomenon in focus is a requirement for a language to be included in a variety sample.
In my sample, I have not exclusively selected such languages, with the aim of balancing
the sample with languages that have other encoding patterns as well (see, e.g., section 5.3
in the next chapter). However, an implication of primarily selecting languages in which a
phenomenon is in some way attested is also that languages for which useful documentation
can be found must be chosen. This is in line with what Bakker discusses as a bibliographic
bias (2011: 107), by which all documented languages already belong to a biased sample
of all the languages of the world. Furthermore, language descriptions vary in terms of
what they include, both when it comes to focusing on different aspects of a language as
such, and in cases where theoretical frameworks are used as a basis. In my case, the fact
that encoding characteristic of the ADV function does not appear to be that widespread
made it all the more important to find as reliable sources as possible, resulting in further
restrictions on the availability of appropriate languages for the sample. For an overview
of sampling methods and the problems surrounding them, see Bakker (2011).

4.5. Summary

In this chapter, the functions of ATTR, PRED, and ADV have been discussed. The relations
between these functions have been examined as involving property words in modification
for ATTR and ADV, and property words at some level of predication for PRED and ADV.
Different potential encoding patterns for the three functions were examined along with
texts from English and Lakota. It was shown that analysis of encoding must be car-
ried out at three, or perhaps even four, different levels: the lexeme, root, word form, and
construction. The constructional-typological approach following Koch (2012) was intro-
duced and discussed in detail, in order to be employed in the analysis of the results that
follow in the next part of this dissertation. Finally, the language sample was presented,
and the procedures that were followed in sampling and data collection were discussed.
Part II.

Results
5. Results I: adverbs and adverbials

5.1. Introduction

In this chapter and the two that follow, the results of examining the encoding of ATTR, PRED, and ADV are analyzed. In chapter 6, this analysis is carried out at the root, word form, and lexeme levels, while in chapter 7, it is done at the level of the construction. The present chapter is devoted specifically to how the adverbial function (ADV) is encoded in the languages of the sample. The aim is to primarily examine encoding characteristic of ADV, i.e. encoding that cannot be used in exactly the same form in any other function. The most important findings are the following:

- The majority of languages within the sample have at least a few simple adverbs.
- A considerable number of languages with simple adverbs do not have simple adjectives.
- In the languages without simple adverbs, various encoding strategies are attested in ADV.

Languages with simple adverbs are described in section 5.2. A number of examples are presented that show how classes of simple adverbs vary across languages. Section 5.3 is devoted to other encoding strategies: derived adverbs, case-formed adverbs, adverbials formed by reduplication, ideophonic adverbs, adverbial affixation, etc. The chapter is summarized and concluded in section 5.4.

5.2. Languages with simple adverbs

Just over two thirds of the languages in the sample of this study have simple adverbs. We may recall from chapters 1 and 4 that simple here means single-word, monomorphemic lexemes. The languages with simple adverbs are listed in table 5.1, and are displayed on the map in figure 5.1.
Table 5.1. Languages with simple adverbs

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<thead>
<tr>
<th>Language</th>
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<tbody>
<tr>
<td>Acoli (Nilotic)</td>
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</table>

Figure 5.1. Languages with and without simple adverbs

The number of adverbs in each language varies remarkably. For instance, Fedden (2011) lists 38 Adverbs in Mian (Nuclear Trans New Guinean), whereas Koyra Chiini (Songhay) has only two Adverbs, according to Heath (1999: 253). Following the comparative concept

1 The Ewe simple Adverbs constitute a marginal example, since they can also be used adjectivally. However, the adverbial use seems to be primary (Ameka 1991: 55, Yvonne Agbetsoamedo, p.c.), which is why they are included here.

2 Turkish is a marginal example, on similar grounds as Ewe (Hatice Zora, p.c.).
that I use, the scope for ADV is delimited to property words that are modifiers within predicating expressions. Only 13 of the Mian Adverbs are property words, as illustrated in table 5.2 (2011: 21).

Table 5.2. Mian Adverbs (Fedden 2011: 21)

<table>
<thead>
<tr>
<th>Property word</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>aaleing ‘without shame’</td>
<td>ambá(ye) ‘anyway, nonetheless’</td>
</tr>
<tr>
<td>beténg ‘carefully’</td>
<td>amít(ye) ‘always’</td>
</tr>
<tr>
<td>bli ‘quickly’</td>
<td>asalùt ‘high up’</td>
</tr>
<tr>
<td>dilbê ‘loose’</td>
<td>besa ‘just’</td>
</tr>
<tr>
<td>dim ‘in vain, infelicitous’</td>
<td>daaít ‘collectively, commonly’</td>
</tr>
<tr>
<td>fiab ‘slowly’</td>
<td>dót ‘very’</td>
</tr>
<tr>
<td>fút ‘quickly’</td>
<td>ēfamak ‘somewhere around here’</td>
</tr>
<tr>
<td>hebmamsâb ‘fast, quickly’</td>
<td>ēle ‘here’</td>
</tr>
<tr>
<td>imblia ‘heedlessly, unthoughtfully, inadvertently, through an oversight’</td>
<td>f(l)ifl ‘across’</td>
</tr>
<tr>
<td>klâ ‘really, properly’</td>
<td>kimín ‘same’</td>
</tr>
<tr>
<td>kweimiki ‘deliberately’</td>
<td>makob(ye) ‘like, quasi’</td>
</tr>
<tr>
<td>mifin ‘selfishly’</td>
<td>mêb ‘close’</td>
</tr>
<tr>
<td>sanggwâu ‘quickly, suddenly’</td>
<td>mikîl ‘ready’</td>
</tr>
<tr>
<td>misim ‘for free, (as) a treat’</td>
<td></td>
</tr>
<tr>
<td>imín ‘again’</td>
<td></td>
</tr>
<tr>
<td>sin ‘already, first’</td>
<td></td>
</tr>
<tr>
<td>skéim ‘far’</td>
<td></td>
</tr>
<tr>
<td>smá ‘still’</td>
<td></td>
</tr>
<tr>
<td>sún ‘habitually’</td>
<td></td>
</tr>
<tr>
<td>un ‘temporarily’</td>
<td></td>
</tr>
<tr>
<td>wekîb ‘very, a lot’</td>
<td></td>
</tr>
<tr>
<td>yé,yó ‘there, so’</td>
<td></td>
</tr>
<tr>
<td>yèbbaka ‘together, as well’</td>
<td></td>
</tr>
<tr>
<td>yèfamak ‘somewhere around there’</td>
<td></td>
</tr>
</tbody>
</table>

Fedden (2011) illustrates a common way to employ the term adverb in language descriptions. Items of various semantic types are classified as belonging to one and the same adverb category. Generally, my aim is to distinguish property words from adverbs that denote, e.g., time, place, aspect, or deictic expressions. However, sometimes this distinction is unclear, as in the case of the Mian dim ‘in vain, infelicitous’, where one could argue whether this is really a property word. Cases like this are not unexpected, and do not constitute a problem for the majority of clearcut cases such as bli ‘quickly’ (property-denoting adverb) and smá ‘still’ (aspectual adverb). In what follows, I will include non-property-denoting adverbs in the discussion when these are grouped with property-denoting adverbs, or when the line is difficult to draw. Nevertheless, the focus remains on property words. In (5.1), an example of a Mian Adverb in context is provided.

(5.1) Mian (Nuclear Trans New Guinean) (Fedden 2011: 121)

\[
\text{naka=e } \quad \text{hebmamsâb } \quad \text{wen-b-e=be}
\]

man=SG.M fast eat.IPVF-IPVF-3SG.M.SBJ=DECL

ADV

‘The man is eating fast.’

The 38 members that the Mian Adverb class displays, according to Fedden (2011), may not seem like a great number, let alone the 12 that remain when the set is restricted to property-denoting Adverbs. Compared to other languages, the Mian Adverbs are
5. Results I: adverbs and adverbials

nonetheless quite numerous. In Krongo (Kadugli-Krongo) only a handful of Adverbs are attested: \( \text{akåràkkårà} \) ‘fast’, \( \text{ämùsù} \) ‘slowly’, and \( \text{ämåλù} \) ‘secretly’ (Reh 1985: 300). Languages with a small number of adverbs can be compared to languages with very few adjectives, as described by Dixon (1982 [1977]: 4).

(5.2) Krongo (Kadugli-Krongo)(Reh 1985: 300)

(a) íisò káaw \( \text{akåràkkårà} \).
    M.IPfv.run person fast
    ‘The man runs fast.’

(b) íisò káaw \( \text{ämùsù} \).
    M.IPfv.run person slowly
    ‘The man runs slowly.’

The Adverbs in Koyra Chiini (Songhay) consist of one antonym pair only, with reduplicated versions: \( \text{mooso} \) or \( \text{mooso-mooso} \) ‘gently, slowly, delicately’ and \( \text{tamba} \) or \( \text{tamba-tamba} \) ‘fast, quickly, immediately, early’ (Heath 1999: 253). Although both examples seem ideophonic, no comment on this is found in the grammar. Whereas \( \text{tamba} \) can in fact also be used as a Verb meaning ‘hurry, do fast, go fast’, this is not the case with \( \text{mooso} \) (see examples 129–130 in appendix B). Further difficulties in limiting adverbs to property words arise here, since \( \text{tamba} \) has a clear property meaning (‘fast, quickly’), but also time-related meanings such as ‘immediately, early’. Such polysemy will be discussed in detail in chapter 8.

(5.3) Koyra Chiini (Songhay) (Heath 1999: 253)

\( a-a \) fana \( \text{mooso-mooso} \).
    3SGSBJ-IPfv crawl slow-REDUP
    ‘He crawls slowly.’

In Estonian, only one single simple Adverb is attested, namely \( \text{ruttu} \) ‘quickly’, as illustrated in (5.4).

(5.4) Estonian (Uralic) (Viitso 1998: 142)

\( \text{jookse ruttu} \).
    run quickly
    ‘run quickly’

The ‘simple’ status of \( \text{ruttu} \) is debatable, since it could be treated as a case form of the Noun \( \text{rutt} \) ‘haste’ (Wiedemann 1973). However, \( \text{ruttu} \) seems to be undergoing lexicalization as a simple Adverb (for further discussion of lexicalization in ADV, see section 8.4).

The differing number of simple adverbs cross-linguistically is reminiscent of how adjective classes vary in size, as described by Dixon (1982 [1977], 2004). The above examples illustrate that the semantic content of the adverbs is nonetheless fairly constant. This will be discussed in detail in chapter 8.
5.2. Languages with simple adverbs

Although the majority of sample languages with adverbs also have a class of adjectives, this is not always the case, contrary to what has been claimed in the works of, e.g., Hengeveld (2013: 35). Out of the languages with adverbs listed in table 5.1, a dozen languages do not have adjectives. Jamul Tiipay (Cochimi-Yuman) is one of these. Here, Stative Verbs are used in ATTR and PRED.

(5.5) Jamul Tiipay (Cochimi-Yuman) (Miller 2001: 208, 138)

(a) ... *shenyaaw-pu [suukwiny kw-\textit{atay}-lly] shuuwii...* \textsc{ATTR}
\hspace{1cm} \text{acorn-DEM [pot SBJ.REL-be.\textit{big}-in put.in.container}
\hspace{1cm} \text{‘... she put the acorn [flour] into a big pot (lit. pot which was big)...’}

(b) *me-\textit{tay}* \textsc{PRED}
\hspace{1cm} \text{2sg-\textit{big}}
\hspace{1cm} \text{‘you are big’}

Miller (2001) lists 19 Jamul Tiipay Adverbs, and the property words among them are presented in table 5.3.

Table 5.3. Property-denoting Adverbs in Jamul Tiipay (Miller 2001: 170)

<table>
<thead>
<tr>
<th>Adverb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>llye’yum / llyeyum</td>
<td>‘quickly, promptly’</td>
</tr>
<tr>
<td>lyepaay</td>
<td>‘gently, slowly, softly’</td>
</tr>
<tr>
<td>spir</td>
<td>‘hard, fast, loudly’</td>
</tr>
<tr>
<td>ta’ruy / taruy</td>
<td>‘straight, well, carefully, directly, honestly’</td>
</tr>
<tr>
<td>tewaylly</td>
<td>‘reluctantly’</td>
</tr>
</tbody>
</table>

Two of the Jamul Tiipay Adverbs are exemplified in context in (5.6).

(5.6) Jamul Tiipay (Cochimi-Yuman) (Miller 2001: 170)

(a) *nya-xiichuur-chm nya\textit{a} llye’yum we-sip-ch tiinyam* \textsc{ADV}
\hspace{1cm} \text{when-be.winter-DS day quickly 3-be.extinguished-SS be.night}
\hspace{1cm} \text{‘When it is winter, the day is quickly gone and it is night.’}

(b) *mu’\textit{yuu} lyepaay me-kwerkwar-a* \textsc{ADV}
\hspace{1cm} \text{why softly 2-talk-Q}
\hspace{1cm} \text{‘Why are you whispering (lit. talking softly)?’}

As in Jamul Tiipay, Guarani (Tupian) has Stative Verbs in ATTR and PRED, uninflected in the former, but inflected in the latter.
5. Results I: adverbs and adverbials

(5.7) Guaraní (Tupian) (Gregores & Suárez 1967: 148, 172)

(a) \( a\text{'}opot\text{'i} \) clothes clean
   ‘clean clothes’

(b) \( i\text{'}pot\text{'i}-må \) 3-be.clean-thoroughly already ART 2SG-plate
   ‘your plate is thoroughly clean already’

Guaraní also has a number of simple Adverbs, which Gregores & Suárez (1967: 135) describe as the third major part of speech. However, it is unclear exactly how many Adverbs there are, and the class includes many non-property-denoting items (1967: 140). Two examples are \( pia\text{'e} \) ‘fast’ and \( ra\text{'e} \) ‘formerly’. One example with context is provided in (5.8).

(5.8) Guaraní (Tupian) (Gregores & Suárez 1967: 176)

\( \text{né } pia\text{'e} \text{ tereí } \text{ re-ye\text{'e}} \) ADV
2SG fast very 2SG-speak
‘you speak very fast’

All the languages that have simple adverbs but lack simple adjectives are listed in table 5.4. A map of all the languages with adverbs, distinguishing the languages with adjectives from the ones without them, is presented in figure 5.2.

Table 5.4. Languages with simple adverbs but without simple adjectives

<table>
<thead>
<tr>
<th>Language (Isolate)</th>
<th>Language (Muskogean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ainu</td>
<td>Koasati</td>
</tr>
<tr>
<td>Gooniyandi (Runaban)</td>
<td>Koyra Chiini (Songhay)</td>
</tr>
<tr>
<td>Guaraní (Tupian)</td>
<td>Krongo (Kadugli-Krongo)</td>
</tr>
<tr>
<td>Jamul Tiipay (Cochimi-Yuman)</td>
<td>Lakota (Siouan)</td>
</tr>
<tr>
<td>Kambera (Austronesian)</td>
<td>Nishnaabemwin (Algic)</td>
</tr>
<tr>
<td>Kalaallisut (Eskimo-Aleut)</td>
<td>Warekena (Arawakan)</td>
</tr>
</tbody>
</table>

Interestingly, a few of my sample languages overlap with a few of the sample languages of Hengeveld (1992), with contrary analyses. Hengeveld (1992: 69–70) analyzes Bambara (Mande), Kalaallisut (Eskimo-Aleut), Krongo (Kadugli-Krongo), and Turkish (Turkish) as lacking adverbs, while I have concluded that they have simple adverbs. The three former languages could have been analyzed differently since they have very few simple adverbs, which could be seen as exceptions, or as providing too little evidence to constitute a class. In my analysis, having simple adverbs does not depend on the amount of adverbs, but on whether they are attested at all. Hengeveld (1992: 70) analyzes Turkish as a flexible language with a class of items that may be used both adjectivally and adverbially (potentially including nouns as well). Contrary to this, I have classified some of the Turkish property words as simple adverbs, since they appear to have primary usage as
5.3. Languages with other strategies in ADV

Apart from the simple adverbs described in the previous section, various encoding strategies are attested in the languages of the sample. We may recall Loeb-Diehl’s (2005: 36) finding that adverb-deriving markers in different languages tend to have very different origins (see section 2.4). Moreover, the adverbial markers attested in the present language sample are often multifunctional, making it difficult to determine whether they are really derivational. Adverbs and adverbials formed with case markers or prepositions are sometimes also difficult to distinguish from derived adverbs, and may even be undergoing lexicalization processes. In the following sections, I will describe the main types of encoding found in ADV, apart from simple adverbs: derived adverbs (section 5.3.1),

Figure 5.2. Presence and absence of adjectives in sample languages with simple adverbs

adverbs (Hatice Zora, p.c.). Abkhaz (Northwest Caucasian) and Basque (isolate) are analyzed as having adverbs by Hengeveld (1992: 70), but not by me. But Hengeveld includes derived adverbs in his analysis, which may explain this difference. The encoding found in these two languages is discussed in sections 5.3.1 and 5.3.2 below.

In this section, the sample languages with simple adverbs have been presented (see map in figure 5.1). Examples have been given that illustrate that the size of the simple adverb class varies from comparatively large (Mian), to fairly small (Krongo), to just a pair of adverbs (Koyra Chiini), even down to one adverb candidate (Estonian). The languages with simple adverbs but without adjectives were given particular attention (see map in figure 5.2) and were illustrated with examples from two languages (Guaraní and Jamul Tiipay). These data manifest that there are simple adverbs in a substantial number of unrelated languages from around the world. Moreover, a substantial number of the languages with simple adverbs do not have simple adjectives. These languages are also unrelated and geographically distant. It is thus clear that it is not necessary for a language to have adjectives in order to have adverbs, and that the two are not conceptually dependent on each other. In the next section, I will turn to other types of encoding attested in ADV.
adverbs formed with case markers (section 5.3.2), adverbials formed through reduplication (section 5.3.3), adverbs that are ideophones (section 5.3.4), and adverbal affixation (section 5.3.5). Finally, other encoding patterns that do not fit into any specific type are described (section 5.3.6). Note again (as described in the introduction to chapter 2) that the use of the term *adverb* refers to single-word adverbs (simple or derived), whereas *adverbial* refers to multi-word expressions or constructions. As hinted at already, the different types of encoding presented here are not always clearly distinguishable, and may in certain instances overlap with each other. This also holds for the difference between adverbs and adverbials. But the aim is not to obtain a clearcut division of these encoding patterns, which are not the main interest of the present study. Rather, a rough division will suffice for a general picture of encoding patterns in ADV other than simple adverbs. Importantly, while it might be most interesting to examine languages that do not have simple adverbs in ADV in order to see what strategies can be used instead, the encoding patterns described below are independent of whether the languages have simple adverbs or not.

### 5.3.1. Derived adverbs

It has been shown (in section 5.2) that simple adverbs are attested in unrelated languages from around the world. Along the same lines, it is interesting to speculate how common it is to derive adverbs from adjectives, as in the case of the *-ly* ending in English, or whether there are any other recurrent derivation patterns. Among the languages of the sample, adverbs derived from adjectives with a marker (potentially with variants) that is mainly devoted to the derivation of adverbs is attested in only four languages: Basque (isolate), Ewe (Atlantic-Congo), Lezgian (Nakh-Daghestanian), and Turkish (Turkic). In Lezgian, Adverbs are derived from Adjectives by one of the two suffixes *-dakaz* and *-diz/-z*, or a variant thereof.

(5.9) Lezgian (Nakh-Daghestanian) (Haspelmath 1993: 196)

\[
\begin{aligned}
\text{Jusuf.} & \quad \text{ne-laj} \quad \text{žajit'ani} \quad q^h\text{san-diz} \quad \text{mani-jar} \quad \text{luku-zwa}. \\
\text{Jusuf(ERG)} & \quad \text{who-SREL} \quad \text{INDF} \quad \text{good-ADV} \quad \text{song-PL} \quad \text{say-IPFV}
\end{aligned}
\]

‘Jusuf sings better than anyone.’

In a few other languages, adverbs are derived from adjectives by attaching a clitic. This is illustrated in (5.10) for Imonda (Border). The clitic *=nam* that occurs here also has the function of deriving other types of Adverbs from other classes, e.g. Adverbs of time from Nouns. Of course, this could also be argued for the English *-ly* ending, exemplified by, e.g., *daily, weekly* (although they are used both in ATTR and ADV, e.g. *daily news and run daily*).

(5.10) Imonda (Border) (Seiler 1985: 29)

\[
\begin{aligned}
\text{ðh-nél} & \quad \text{ebes}=\text{nam} \quad \text{fe-}u \\
\text{PROX-SRC} & \quad \text{good}=\text{ADV} \quad \text{do-IMP}
\end{aligned}
\]

‘do this well!’
There are also languages that derive adverbs from other classes than adjectives, such as stative verbs (e.g. Kiowa, Kiowa-Tanoan) and nouns (e.g. Kham, Sino-Tibetan). Another strategy is to attach the same derivational ending or clitic to a number of different classes, which is the case in, e.g., Gooniyandi (Gunwinyguan) and Kewa (Nuclear Trans New Guinea) (see examples of the extensive derivation pattern in Kewa in section 9.4.2). Nama (Khoe-Kwadi) has a few Adverb-deriving suffixes, but the most productive one is -se, which attaches to Noun, Verb, and Adjective roots (Hagman 1977: 99). This is illustrated with a Noun in (5.11a) and an Adjective in (5.11b).

(5.11) Nama (Khoe-Kwadi) (Hagman 1977: 99, 152)

(a) |‘iip ke kāó‘ao-se hà.  ADV he DECL king-ADV be
   ‘He is being a king / He is behaving like a king.’

(b) xa´ m-i ke ‘a /ũũ-ũ hóá-ũ ti kāó‘ao káí-se-p    
   DECL COP animal-3PL of king big-ADV-3SG.M
   ‘a /ãi-sa /õũ /xámú kxáó, tsũ !háé-se ra
   strong-ADJ thick chest slim waist and fast-ADV IMP
   !xóé-s ‘!áróma.  ADV
   run-3SG.F because
   ‘The lion is king of all the beasts because he is very strong, thick of chest, slim of waist, and runs fast.’

The Nama -se suffix is multifunctional: it is also attested as a “clause relator” and a subordinating suffix (Hagman 1977: 99, 130). Many adverb-deriving affixes and clitics in the languages where they are attested are multifunctional to different extents. In some languages, a marker that already has another primary function is used also to form adverbs. In Bininj Gun-Wok (Gunwinyguan), Adverbs are formed from Adjectives by attaching the class III prefix (ng)an-/man- (Evans 2003: 130). Hup (Nadahup) has the clitic =yì which attaches to Adjectives to form Adverbs, though it also functions as a marker of telicity or contrastive focus (Epps 2008: 447). In Ainu (isolate), the Adverb-deriving ending -no, which attaches to stative verbs, is also a coordinate marker (Refsing 1986: 143), as illustrated in (5.12).

(5.12) Ainu (isolate) (Refsing 1986: 134)

(a) Pìrka-no nu yan!  ADV
    be.good-ADVZ listen IMP
    ‘Please listen well!’

(b) Keraan no ipe an ruwe ne.  
    be.delicious CNJ eat we ASS
    ‘(The meal) was delicious and we ate’

While it is not uncommon for adverbs to be derived, the derivation patterns in question differ remarkably in the languages of the sample, in terms of which or how many categories serve as the basis for derivation, and whether the affix or clitic used is devoted to forming
5. Results I: adverbs and adverbials

Adverbs or has other additional functions. In many cases, it is thus difficult to tell whether the formation of adverbs can actually be classified as derivation. Table 5.5 summarizes the sample languages (18/60) that have adverb derivation or, alternatively, a derivation-like pattern in ADV. Note that no claims are made in terms of which encoding patterns actually constitute derivation. The language-specific encoding is found in the middle column, with the rightmost column providing comments on the encoding wherever this is useful. It should be noted that I have only taken productive patterns into account, and that if a language is represented in table 5.5, this does not exclude that there are other encoding patterns in ADV.

Table 5.5. Languages with adverb derivation

<table>
<thead>
<tr>
<th>Language</th>
<th>Derivation</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ainu (isolate)</td>
<td>ST.V-no</td>
<td>coordinate marker</td>
</tr>
<tr>
<td>Basque (isolate)</td>
<td>ADJ-ki</td>
<td></td>
</tr>
<tr>
<td>Bininj Gun-Wok (Gunwinyguan)</td>
<td>(ng)an-/man-ADJ</td>
<td>class III prefix</td>
</tr>
<tr>
<td>Ewe (Atlantic-Congo)</td>
<td>ADJ-i/-ie</td>
<td></td>
</tr>
<tr>
<td>Gooniyandi (Bunaban)</td>
<td>N/V/ADV-wa/-wadda</td>
<td></td>
</tr>
<tr>
<td>Hup (Nadahup)</td>
<td>ADJ=yi?</td>
<td>telicity/contr. focus marker</td>
</tr>
<tr>
<td>Imbabura Quechua (Quechuan)</td>
<td>ADJ-ta</td>
<td>ACC / ‘through’, ‘via’</td>
</tr>
<tr>
<td>Imonda (Border)</td>
<td>ADJ=nam</td>
<td></td>
</tr>
<tr>
<td>Kewa (Nuclear Trans New Guinea)</td>
<td>N/ADJ/V/ADV=rupa³</td>
<td></td>
</tr>
<tr>
<td>Kham (Sino-Tibetan)</td>
<td>N-so</td>
<td>associative marker</td>
</tr>
<tr>
<td>Kiowa (Kiowa-Tanoan)</td>
<td>ST.V-l/-y</td>
<td></td>
</tr>
<tr>
<td>Lakota (Siouan)</td>
<td>ST.V-y/a/-yela</td>
<td></td>
</tr>
<tr>
<td>Lezgian (Nakh-Daghestanian)</td>
<td>ADJ-dakaz/-diz/-z</td>
<td></td>
</tr>
<tr>
<td>Mian (Nuclear Trans New Guinea)</td>
<td>N-dakin</td>
<td>‘like’</td>
</tr>
<tr>
<td>Nama (Khoe-Kwadi)</td>
<td>N/V/ADJ-se</td>
<td>multifunctional</td>
</tr>
<tr>
<td>Turkish (Turkic)</td>
<td>ADJ3-ca⁴</td>
<td>multifunctional</td>
</tr>
<tr>
<td>Waiwai (Cariban)</td>
<td>ti-V-re</td>
<td></td>
</tr>
<tr>
<td>Yimas (Lower Sepik-Ramu)</td>
<td>ADJ/V-mpi</td>
<td></td>
</tr>
</tbody>
</table>

³This clitic may even attach to demonstratives or whole clauses in order to form adverbials (Franklin 1971: 34, 82), see appendix B.

⁴The number 3 indicates that this is one out of at least three adjective types in Turkish.
5.3.2. Case-formed adverbs

A few sample languages (7/60) form adverbs by the use of case affixes. Abkhaz (Northwest Caucasian), Estonian (Uralic), and Georgian (Kartvelian) all have forms that have traditionally been labeled as adverbial case. It may be argued that it does not seem possible to accurately distinguish such case forms from derivation, if it has no other function than forming adverbs. Based on the traditional case label, these languages will nonetheless be discussed here, although they could equally well have been treated in the previous section. For Abkhaz, Hewitt (1979) calls this case adverbial/predicative, and it has two variants: -s and -nə. Although -s is the more common variant in predicative examples (see appendix B), primarily -nə appears to be used in adv. The form attaches to stative verbs that also carry a pronominal suffix, which is either third person singular nonhuman or the subject pronoun (1979: 101). This form of the Stative Verb appears to be a Converb, as argued by Loeb-Diehl (2005) (cf. section 2.5.3).

\[(5.13)\] Abkhaz (Northwest Caucasian (Hewitt 1979: 253)
\[
\begin{align*}
\text{s\dot{a} \text{r\dot{a}}} & \quad \text{y\={o}-l\={a}s-n\={o}}/s-l\={a}s-n\={o} \\
\text{I} & \quad \text{it-be.quick-ADV/I-be.quick-ADV} \\
\text{I\-walk.DYN-FIN} & \quad \text{ADV}
\end{align*}
\]

‘I walk quickly.’

In addition to adverbial derivation, Estonian (Uralic) has the option of using ablative case in ADV.\(^5\) Kham (Sino-Tibetan) also has ablative case in ADV, although with slightly less property-like items.

\[(5.14)\] Estonian (Uralic) (Bernhard Wälchli, p.c., cited in Loeb-Diehl 2005: 232)
\[
\begin{align*}
\text{t\={u}dr\={u}k} & \quad \text{lau}l\={u}b & \quad \text{ilusa-sti} & \quad / & \quad \text{ilusa-}lt \\
\text{girl} & \quad \text{sing.3SG.PRS} & \quad \text{beautiful-ADVZ} & \quad / & \quad \text{beautiful-ABL}
\end{align*}
\]

‘The girl sings beautifully.’

---

\(^5\) Notably, Finnish (Uralic, not in my sample) has the same ending -sti to form Adverbs from Adjectives, though it is unclear whether this is also a case ending, see e.g. Sulkala & Karjalainen (1992: 349).
5. Results I: adverbs and adverbials

(5.15) Kham (Sino-Tibetan) (Watters 2002: 144)

\[ o-h\ddot{a}:na-ni \quad do-ke-o \]

3SG-volition-ABL do-PFV-3SG

‘He did it of his own volition.’ (lit. ‘by his own will’)

Finally, in Krongo (Kadugli-Krongo) and Sahaptin (Sahaptian), instrumental case is used to form Adverbs, as is illustrated for the latter in (5.16).

(5.16) Sahaptin (Sahaptian) (Jansen 2010: 454)

\[ \ddot{a}nach’a-xi \quad nch’i-ki \quad i-h\ddot{a}ash-\dddot{i}nkik-a \quad wi\ddot{y}at-yaw... \]

again-same loud-INS 3SG.SBJ-breathe-TRNS-PST far.away-DAT

‘Again, louder, he took a deep breath, way down deep...’

Table 5.6. Languages with case-formed adverbs

<table>
<thead>
<tr>
<th>Language</th>
<th>Adverb</th>
<th>Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abkhaz (Northwest Caucasian)</td>
<td>PRO-ST.V-n\ddot{o}</td>
<td>adverbal/predicative</td>
</tr>
<tr>
<td>Estonian (Uralic)</td>
<td>ADJ-sti, -lt</td>
<td>adverbal, ablative</td>
</tr>
<tr>
<td>Georgian (Kartvelian)</td>
<td>ADJ-ad/-d</td>
<td>adverbal</td>
</tr>
<tr>
<td>Kham (Sino-Tibetan)</td>
<td>N-n\ddot{i}</td>
<td>ablative</td>
</tr>
<tr>
<td>Krongo (Kadugli-Krongo)</td>
<td>a-N</td>
<td>instrumental</td>
</tr>
<tr>
<td>Sahaptin (Sahaptian)</td>
<td>ADJ-ki</td>
<td>instrumental</td>
</tr>
<tr>
<td>Turkish (Turkic)</td>
<td>ADJ ART N-de</td>
<td>locative</td>
</tr>
</tbody>
</table>

Figure 5.4. Languages with and without case-formed adverbs

The languages with adverbs formed with case are summarized in table 5.6. Again, note that apart from including a case form, the encoding patterns vary and that some encoding patterns placed here may just as well be treated as derivational patterns, and vice versa. There is further a clear areal pattern here, in that primarily languages in central Eurasia tend to have case-formed adverbs, as illustrated in the map in figure 5.4.
5.3.3. Adverbials formed by reduplication

In many of the sample languages, reduplication occurs in ADV, with various functions such as intensification. This means that the reduplicated items can be used in ADV also when they are not reduplicated. As a strategy for forming adverbials, it is attested in four languages that all have different bases for reduplication. Hdi (Afro-Asiatic) has two different reduplication strategies in ADV. Firstly, there are Adverbials like *mísít*mísím ‘fast, easily’, *kī’yā kī’yā ‘in small quantities’, and *ndā*~*ndānā* ‘immediately’\(^6\), where the origin of the reduplicated element is not always clear (Frajzyngier & Shay 2002: 233–234). Secondly, Adverbials can be formed from reduplicated Verbs combined with the locative preposition *tā*.

\[(5.17)\] Hdi (Afro-Asiatic) (Frajzyngier & Shay 2002: 234)

\[
\begin{array}{llllll}
\text{mghám tá ġhūn-āf-t-ī̂} & \text{tā ġwáyá tá ġwáyá} \\
\text{chief PART send-up-REF-LSG PREP run PREP run} \\
\text{‘It is the chief that sent me urgently.’}
\end{array}
\]

In Imbabura Quechua (Quechuan), reduplicated Nouns form Adverbials (Cole 1985: 116). In Ma’di (Central Sudanic), Adjectives, Adverbs themselves, and Nouns can be reduplicated in order to form Adverbials (Blackings & Fabb 2003: 126–127).

\[(5.18)\] Ma’di (Central Sudanic) (Blackings & Fabb 2003: 126–127)

\[
\begin{array}{llllllll}
(a) & ēmū ēzē ēzē & \text{ADV} \\
& \text{go early early} \\
& ‘He came quickly.’
\end{array}
\]

\[
\begin{array}{llllllll}
(b) & kā r-3-dā ēgū ēgū & \text{ADV} \\
& 3 \text{REFL-3-do thief thief} \\
& ‘She behaves like a thief.’
\end{array}
\]

The few languages with reduplicated adverbials and their respective reduplicating strategies are listed in table 5.7.

<table>
<thead>
<tr>
<th>Language</th>
<th>Adverbial</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hdi (Afro-Asiatic)</td>
<td>X X</td>
<td>unclear origin</td>
</tr>
<tr>
<td></td>
<td>tà V tà V</td>
<td>locative preposition</td>
</tr>
<tr>
<td>Imbabura Quechua (Quechuan)</td>
<td>N N</td>
<td></td>
</tr>
<tr>
<td>Ma’di (Central Sudanic)</td>
<td>N/ADJ/ADV N/ADJ/ADV</td>
<td></td>
</tr>
<tr>
<td>Mapudungun (Auracanian)</td>
<td>V-V</td>
<td></td>
</tr>
</tbody>
</table>

\(^6\) The Leipzig Glossing rules use the tilde (~) between reduplicated elements, as applied to these example from Hdi. I do not use this when independent or complex elements are reduplicated.
5.3.4. Ideophonic adverbs

A number of sample languages (9/60) have ideophones in ADV. As pointed out by Dingemanse (2018: 4), it is a common misconception that ideophones are equal to onomatopoeia, i.e. words that imitate sounds. While many ideophones are indeed onomatopoeic, “ideophones depict many aspects of sensory scenes beyond sound” (2018: 4). This is illustrated in many of the examples below. Jamsay (Dogon) has what Heath (2008: 317) describes as “expressive adverbials” (expressive is a term used for ideophones in many language descriptions), which can be used both in PRED (with an enclitic verb form meaning ‘be’) and in ADV, and interestingly also as interjections. These adverbs further “have a notable prolongation of the final segment...except when followed by a clitic” (2008: 317).

(5.19) Jamsay (Dogon) (Heath 2008: 432, 318)

(a) \texttt{démm}=w3-Ø
 \texttt{straight}=be-3SG.SBJ

‘He (=his body) is straight.’

(b) \texttt{démm} \ yā:
 \texttt{straight} \ go.IMP

‘Go straight!’

While ideophonic adverbs appear to constitute one of two major strategies in ADV in Jamsay (the other one being verb chaining, see appendix B), Mian (Nuclear Trans New Guinean) has simple adverbs, modifiers that occur in both ATTR and ADV, derived adverbs, and in addition to these encoding patterns, a number of ideophonic adverbs. However, the ideophones have quite specific meaning. They all express “manner of movement” (Fedden 2011: 153).

(5.20) Mian (Nuclear Trans New Guinean) (Fedden 2011: 153)

\texttt{Milsen}=e \texttt{blublu} \ un-Ø-e=be

\texttt{PN=M.SG run} \texttt{go.PFV-REAL-3SG.M.SBJ=DECL}

‘Milsen ran.’

While (5.20) does perhaps not appear as an example of ADV in a strict sense, the ideophone \texttt{blublu} modifies the verb meaning ‘go’ with the meaning ‘ran’ being the result. This can be compared to the patterns of languages that lack verbs for ‘run’, discussed in detail by Wälchli (2009). For instance, Basque (isolate) only has a borrowed verb for ‘run’, but also uses the expressions \texttt{lasterka joan} ‘race go’ and \texttt{lasterka egin} ‘race do’ (2009: 304). In Urarina (isolate), clear property concepts can be found among the ideophones in ADV.

(5.21) Urarina (isolate) (Olawsky 2006: 145)

\texttt{itca-kuru-á heraae}
\texttt{do-PL-3 slowly}

‘They did it slowly.’
Table 5.8. Languages with ideophonic adverbs

<table>
<thead>
<tr>
<th>Language</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoli (Nilotic)</td>
<td>combine with particle lí</td>
</tr>
<tr>
<td>Bora (Witotoan)</td>
<td></td>
</tr>
<tr>
<td>Ewe (Atlantic-Congo)</td>
<td></td>
</tr>
<tr>
<td>Jamsay (Dogon)</td>
<td></td>
</tr>
<tr>
<td>Kham (Sino-Tibetan)</td>
<td>combine with one/few verb(s) each</td>
</tr>
<tr>
<td>Ma’di (Central Sudanic)</td>
<td></td>
</tr>
<tr>
<td>Mian (Nuclear Trans New Guinean)</td>
<td>express manner of movement</td>
</tr>
<tr>
<td>Urarina (isolate)</td>
<td></td>
</tr>
<tr>
<td>Yagua (Peba-Yagua)</td>
<td></td>
</tr>
</tbody>
</table>

The sample languages with ideophones in ADV are summarized in table 5.8 and in the map in figure 5.5. There is a clear areal pattern for ideophones in some of the languages in Africa, as well as a tendency towards an areal pattern for a few languages in South America. Ideophones in ADV are not uncommon, and may be highly relevant for understanding ADV as a function. However, examining ideophones in ADV more thoroughly would constitute a study of its own, and is thus not attended to any further here. It should nonetheless be noted that ideophones deserve more attention in the discussion of adverbs.

5.3.5. From incorporation to affixation

Another encoding pattern attested in ADV is the use of lexical affixes. Lexical affixation and incorporation are discussed in detail by Dahl (2004: 209ff.), who shows that the distinction between the two is in many cases very difficult to draw. In what follows, I focus on languages with adverbial affixes, although I do not assume that they can be
5. Results I: adverbs and adverbials

consistently distinguished from incorporated elements. Ainu (isolate) has both simple adverbs (see section 5.2) and derived ones (see section 5.3.1). In addition, both Stative Verbs and simple Adverbs can be incorporated, and Verb prefixes with property-related meanings are attested, as illustrated in (5.22a)\(^7\) and (5.22b), respectively.


(a) Ratki apa a-moyre-caka.

hung door 1sg-be.slow-open

‘I opened the suspended door slowly.’

(b) Wen sanpe kor pe ekuskonna sir-ko...ki...

be.bad temper have NMLZ suddenly suddenly-attack

‘Bad-tempered people may suddenly flare up at you...’

Another example is Sahaptin (Sahaptian), which also has lexical prefixes, e.g. ká- ‘suddenly, all at once, quickly’ and lá- ‘slowly or leisurely’. These prefixes can add quite subtle meaning, as see in, e.g., káwapáw-°xi- ‘spill or drop’ from wapáw-°xi- ‘let go’, or lá’ayk- ‘sit around comfortably, leisurely’ from ayík- ‘sit’ (2010: 221).

(5.23) Sahaptin (Sahaptian) (Jansen 2010: 221)

\[ i\text{-}lá\text{-}wachi\text{-}ya \quad \text{táakwín\text{-}nan} \quad \text{kúsi\text{-}nan} \]

3sg.sbj-leisurely-watch-PST whatchamacallit-obj horse-obj

‘He casually kept an eye on the - whatchamacallit - horse.’

All sample languages in which adverbial affixation has been attested are listed in table 5.9. For further examples and discussion of the semantics of these affixes, see section 8.5.

<table>
<thead>
<tr>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abau (Sepik)</td>
</tr>
<tr>
<td>Ainu (isolate)</td>
</tr>
<tr>
<td>Alamblak (Sepik)</td>
</tr>
<tr>
<td>Cavinéña (Tacanan)</td>
</tr>
<tr>
<td>Kalaallisut (Eskimo-Aleut)</td>
</tr>
<tr>
<td>Nuu-chah-multh (Wakashan)</td>
</tr>
<tr>
<td>Sahaptin (Sahaptian)</td>
</tr>
<tr>
<td>Urarina (isolate)</td>
</tr>
</tbody>
</table>

\(^7\) This example contains a Stative Verb but also Adverbs can be incorporated (Shibatani 1990: 71–72). The same can be done with Stative Verbs as modifiers in ATTR (1990: 72–75)
5.3.6. Other adverbial encoding

In addition to the patterns discussed above, the encoding found in ADV across languages may naturally vary in a number of ways. This section discusses encoding patterns attested in the sample that do not fit into any of the above subsections. Since this is not the main focus of the dissertation, only a few examples are provided, followed by a summarizing table with all languages with other types of adverbials. This list is not intended to be exhaustive, and any number of different encoding patterns may exist within the individual sample languages. These are just the ones attested during my data collection, which, although aiming to cover as much as possible, makes no claim of being exhaustive. Moreover, some of the constructions may be candidates also for the types in the subsections above. As already mentioned, the aim is not a precise classification, but rather a rough picture of attested encoding.

Nuu-chah-nulth (Wakashan) has a serial verb construction in ADV, as illustrated in (5.24). A serial verb construction is also attested in Krongo (Kadugli-Krongo). Note that it is difficult (if possible at all) single out a property concept in this example (cf. discussion in section 3.3.3).

(5.24) Nuu-chah-nulth (Wakashan) (Nakayama 2001: 104)

\[ \text{wik-sṭich-wilas kamatq-uk} \]

not-taking.direction-about.to run-DUR

‘He was going to run frantically (without taking a specific direction).’

Other languages with constructions with verbs in ADV are Kalaallisut (Eskimo-Aleut), with a converb formed with instrumental case (Fortescue 1984: 100); Mapudungun (Auracanian), with an adjectivalized verb carrying a distributive suffix (Smeets 2008: 113); Slave (Athapaskan-Eyak-Tlingit), with a stative verb taking a postpositional suffix (Rice 1989: 368); and Urarina (isolate), with a converb (Olawsky 2006: 175). Lahu (Sino-Tibetan) attaches the prefix gha- (also an independent adverb meaning ‘all, completely’) to the verb in question. The latter is illustrated in (5.25).
5. Results I: adverbs and adverbials

(l.25) Lahu (Sino-Tibetan) (Matisoff 1973: 280)

\[
\text{lāhu-khō qha-cô yō piô} \quad \text{ADV}
\]

Lahu-language all-be.beautiful speak can already
‘He speaks Lahu beautifully now.’

The languages with various types of encoding in ADV are summarized in table 5.10, along with notation of these strategies. The encoding for the whole adverbial is included, except in the case of serial verb constructions, denoted ‘SVC’ for the sake of simplicity. Even based on this simplified description, it is evident that there are various encoding patterns in ADV in the languages of the sample.

<table>
<thead>
<tr>
<th>Language</th>
<th>Adverbial</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kalaallisut (Eskimo-Aleut)</td>
<td>V-PTCP/CVB-INS</td>
<td></td>
</tr>
<tr>
<td>Krongo (Kadugli-Krongo)</td>
<td>SVC</td>
<td></td>
</tr>
<tr>
<td>Lahu (Sino-Tibetan)</td>
<td>qha-V</td>
<td>‘all, completely’</td>
</tr>
<tr>
<td>Ma’di (Central Sudanic)</td>
<td>N (N) ri</td>
<td></td>
</tr>
<tr>
<td>Maltese (Afro-Asiatic)</td>
<td>bi-/bla-N</td>
<td>‘by, with’/‘without’</td>
</tr>
<tr>
<td>Mapudungun (Auracanian)</td>
<td>V-ke_{ADJVZ}-che_{DISTR}</td>
<td></td>
</tr>
<tr>
<td>Nuu-chah-nulth (Wakashan)</td>
<td>SVC</td>
<td></td>
</tr>
<tr>
<td>Slave (Athapaskan-Eyak-Tlingit)</td>
<td>ST.V-ta_{POST}</td>
<td></td>
</tr>
<tr>
<td>Swahili (Atlantic-Congo)</td>
<td>VII-/VIII-N</td>
<td></td>
</tr>
<tr>
<td>Turkish (Turkic)</td>
<td>ADJ olarak_{CVB}</td>
<td></td>
</tr>
<tr>
<td>Urarina (isolate)</td>
<td>ST.V-i_{PTCP/CVB}</td>
<td></td>
</tr>
</tbody>
</table>

5.4. Summary and conclusion

In this chapter, it has been shown that simple adverbs are attested in the majority of the sample languages (41/60). Moreover, a substantial portion of the languages with adverbs do not have adjectives (12/41). The languages that have adverbs but lack adjectives are genealogically unrelated and geographically distant. This shows that it is not necessary for a language to have adjectives in order for it to have adverbs, as earlier argued by Hengeveld (1992, 2013). More generally, I draw the conclusion that adverbs are conceptually no less basic than adjectives. The chapter also described other encoding strategies found in ADV. Many languages (18/60) have adverb derivation or something that comes very close to it, although the base for derivation and the type of derivational markers and their functions vary remarkably. Fewer languages have adverbs formed with case-marking, but even these few languages show an areal pattern in being located primarily in central Eurasia. Fewer languages still have reduplication as an adverbializing strategy. Nine of the sample languages have ideophones that are adverbs. Also ideophonic adverbs show a clear areal
distribution, primarily in languages in Africa. Finally, the remaining adverbial encoding strategies were described, illustrating a number of different patterns.

The two clearest results are firstly that simple adverbs are found in a majority of the sample languages, and secondly that a substantial part of these languages do not have adjectives. What remains is to examine how the encoding in ADV is related to that of ATTR and PRED, and it is to this that the next two chapters are devoted.
6. Results II: Overlaps at the root, form, and lexeme levels

6.1. Introduction

In this chapter and the next, I will show that attributive adjectives, predicative adjectives, and adverbs are interrelated in various ways that have not received due attention before. In the language sample of this study, this is manifested in the encoding strategies found, and the extent to which they overlap with each other. As described in chapter 4, overlaps are patterns of identical encoding in two or more functions. The present chapter describes the results of examining the encoding of ATTR, PRED, and ADV on three different levels: the root, the word form, and the lexeme, as introduced in chapter 4. The overlaps attested at the root level are discussed in section 6.2. The overlaps at the word form level, described in section 6.3, are less important for this dissertation, as they are attested in very few sample languages. Still, as discussed in chapter 4, it is important to take the form level into account as a potential basis of analysis. The most significant level for present purposes is the lexeme level, discussed in section 6.4.

The most important findings of encoding analysis at the root and lexeme levels are the following, from most to least common:

- All three functions show identical encoding in a large majority of languages at the root level and in over half of the languages at the lexeme level (see sections 6.2.3 and 6.4.4).
- ATTR and PRED, as opposed to ADV, show identical encoding in over a third of the languages at the root level and in almost two thirds of the languages at the lexeme level (see sections 6.2.1 and 6.4.1).
- PRED and ADV, as opposed to ATTR, show identical encoding at the root level in only five languages, and at the lexeme level in six languages (see sections 6.2.2 and 6.4.2).

In the following sections, the overlaps are described in the same order at each level of analysis: from ATTR and PRED to PRED and ADV, to ATTR and ADV, and finally to the overlap of all functions. Throughout the sections, one or two language examples from each attested overlap are given, followed by a table summarizing all languages that instantiate the overlap at the end of each section. Just as in the preceding chapters, individual examples are marked in the right margin for the function that they instantiate (ATTR, PRED, or ADV). Any overlap that an example is argued to instantiate is indicated in the right margin of the example heading within square brackets (e.g. [ATTR PRED]). Any
6. Results II: Overlaps at the root, form, and lexeme levels

overlap at the lexeme level implies at least the same, or a greater overlap, at the root level.

6.2. The root level

The root level is the smallest domain at which the encoding of \textit{attr}, \textit{pred}, and \textit{adv} is analyzed. Recall from chapter 4 that \textit{root} is defined as a form that cannot be divided into smaller morphological forms. Individual roots that occur in more than one of the three functions are identified. In (6.1), an English example from the previous chapter is repeated to illustrate this.

(6.1) English \[\text{[\textit{attr} \textit{pred} \textit{adv}] root}\]

(a) The \textit{sad} person over there is Sheila. \[\textit{attr}\]

(b) Sheila is \textit{sad}. \[\textit{pred}\]

(c) Sheila smiled \textit{sad}-ly. \[\textit{adv}\]

In (6.1), the same root \textit{sad} is used in all three functions, meaning that a total overlap on the root level is attested in English. The following subsections are devoted to a description of the three encoding overlaps at the root level: that of \textit{attr} and \textit{pred} in section 6.2.1, that of \textit{pred} and \textit{adv} in section 6.2.2, and that of all three functions in section 6.2.3. Note that an overlap of \textit{attr} and \textit{adv} has only been marginally attested on the root level in the case of Imonda (Border) which has intensifiers used in \textit{attr} that also attach to Verbs in \textit{adv} (see (83) and (84) in appendix B).

6.2.1. \textit{[\textit{attr} \textit{pred}] root overlap}

Over a third of the sample languages (23/60) show an encoding overlap of \textit{attr} and \textit{pred} at the root level. One of these is Alamblak (Sepik), which has a closed Adjective class with around 45 members. In \textit{attr}, Adjectives may either come before or after the head of the NP within which they modify, with some shifts in emphasis, as illustrated in (6.2). A clitic indicating person, number, and gender attaches to the last element of the NP, which may or may not be the Adjective.

(6.2) Alamblak (Sepik) (Bruce 1984: 90) \[\text{[\textit{attr} \textit{pred}] root}\]

(a) \textit{ind} \textit{bro} \textit{fēh= r}

\textit{DEM} \textit{big} \textit{pig= 3SG.M}

‘the big pig’ \[\textit{attr}\]

(b) \textit{ind} \textit{fēh} \textit{bro- r}

\textit{DEM} \textit{pig} \textit{big= 3SG.M}

‘the \textit{big} pig’ \[\textit{attr}\]

In the \textit{pred} function, the copula -\textit{e} attaches to the Adjective.
6.2. The root level

(6.3) Alamblak (Sepik) (Bruce 1984: 181) [ATTR PRED]

\[
\begin{array}{ll}
gima-r & \text{bro-}e=r \\
\text{man=3SG.M} & \text{big-COP=3SG.M} \\
\end{array}
\]

\text{yima-r man=3SG.M bro-e=r big-COP=3SG.M} \\
‘The man is big.’

As can been seen when comparing (6.2) and (6.3), the same root is used, although it carries the enclitic in ATTR when it occurs as the last element of the NP, and has a copula attached to it in PRED.

On a much smaller scale, Yagua (Peba-Yagua) has only two items that can be classified as Adjectives (Payne & Payne 1990: 416). These are \text{jáámu} ‘big’ and \text{pasiiy} ‘little’, and at least \text{jáámu} ‘big’ occurs in both ATTR and PRED (1990: 416).

(6.4) Yagua (Peba-Yagua) (Payne & Payne 1990: 416, 96)

(a) \text{jáámu} \text{rooriy}
\text{big} \text{house}
‘big house’

(b) \text{Néé jágamu-quií-}nu-quií \text{ráy:} \text{jágamu-quií-}nu-quií \text{jiíta}
\text{NEG big-long-CLF.AN.SG-long} \text{1SG big-long-CLF.AN.SG-long CLI}
\text{Tomasa.}
\text{Tom}
‘I am not tall; Tom is tall.’

All languages with an overlap of ATTR and PRED on the root level are listed in table 6.1, and plotted on the map in figure.

Table 6.1. Languages with [ATTR PRED] root overlap

<table>
<thead>
<tr>
<th>Language (Family)</th>
<th>Language (Family)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alamblak (Sepik)</td>
<td>Maltese (Afro-Asiatic)</td>
</tr>
<tr>
<td>Bambara (Mande)</td>
<td>Mam (Mayan)</td>
</tr>
<tr>
<td>Bukiypip (Nuclear Toricelli)</td>
<td>Mapudungun (Auracanian)</td>
</tr>
<tr>
<td>Gooniyandi (Bunaban)</td>
<td>Marathi (Indo-European)</td>
</tr>
<tr>
<td>Guaraní (Tupian)</td>
<td>Mian (Nuclear Trans New Guinean)</td>
</tr>
<tr>
<td>Hup (Nadahup)</td>
<td>Nishnaabemwin (Algic)</td>
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<tr>
<td>Jamsay (Dogon)</td>
<td>Paumarí (Arawan)</td>
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<tr>
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<td>Yimas (Lower Sepik-Ramu)</td>
</tr>
<tr>
<td>Kilivila (Austronesian)</td>
<td></td>
</tr>
</tbody>
</table>
6. Results II: Overlaps at the root, form, and lexeme levels

6.2.2. [PRED ADV] root overlap

Five sample languages have a root overlap of PRED and ADV. One of these is Jamsay (Dogon), for which it was illustrated in section 5.3.4 that its ideophonic Adverbs can be used both in PRED and ADV (see example 5.19). Another is Waiwai (Cariban), which has simple adverbs that can be used both in PRED, with a copula, and in ADV. This also implies a lexeme overlap of PRED and ADV (cf. section 6.4.2).

(6.5) Waiwai (Cariban) (Hawkins 1998: 126, 89)

(a) **Ehcopo** ❂-zakne noro y-apo-rî. **PRED**
    unequal 3.SBJ-be 3 GEN-arm-POSS
    'His arms were unequal (in length).'

(b) **Kayka, yari** k-mokyasi **yamoro.** **ADV**
    let’s-go in.your.direction 1SBJ-come **slowly**
    'Let’s go, I will come your way slowly'

Note that although different property words are used in (6.5a) and (6.5b), they belong to the same class of simple Adverbs. All languages with a root overlap of PRED and ADV are listed in table 6.2.

<table>
<thead>
<tr>
<th>Table 6.2. Languages with [PRED ADV] root overlap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jamsay (Dogon)</td>
</tr>
<tr>
<td>Mian (Nuclear Trans New Guinean)</td>
</tr>
<tr>
<td>Waiwai (Cariban)</td>
</tr>
<tr>
<td>Yankunytjatjara (Pama-Nuyngan)</td>
</tr>
<tr>
<td>Yimas (Lower Sepik-Ramu)</td>
</tr>
</tbody>
</table>

Four of the languages with a root overlap of PRED and ADV have the corresponding overlap with the same roots on the level of the lexeme (see section 6.4.2).
6.2.3. [ATTR PRED ADV] root overlap

An overwhelming majority of the sample languages (50/60) display an overlap of ATTR, PRED, and ADV at the root level. This is the most common overlap for the root level. Swahili (Atlantic-Congo) is one such instance. Since it does not really make sense to separate Nouns from Adjectives here, property words will be labeled Nouns in the present description. Nouns take class markers, which are identical for the property-denoting Nouns in ATTR and PRED.

(6.6) Swahili (Atlantic-Congo) (Myachina 1981: 64–65)

(a) m-sichana m-zuri
    1-taka 1-pretty
   ‘a pretty girl’

(b) m-toto wako ni m-zuri sana
    1-child your COP 1-beautiful INT
   ‘Your child is very beautiful.’

The same Nouns can be used in ADV, but then they require a different class marker than the one they take in ATTR and PRED (but see exception in appendix B). In the example below, class marker I m- is thus exchanged for class marker VIII vi-.

(6.7) Swahili (Atlantic-Congo) (Marilena Thanassoula, p.c.)

A-li-soma vi-zuri.
3SG-PST-read VIII-good
   ‘She read well.’

Since the class marker is exchanged in ADV, Swahili has a clear root overlap of all three functions.

Another instance of an overlap of ATTR, PRED, and ADV is found in Imbabura Quechua (Quechuan). Here, property words are attested among Nouns. In ATTR, they are used in simple form, but in PRED, they require the Copula ka-, except in present tense third person, where the Copula may be omitted. Here, a ‘validator’ -mi is also required (Cole 1985: 67). In ADV, Adverbs are derived from Nouns with the suffix -ta, which is the accusative marker, although it can also mean ‘through’ or ‘via’ (1985: 186, cf. table 5.5 in section 5.3.1).

(6.8) Imbabura Quechua (Quechuan) (Cole 1985: 77, 67, 162, 186)

(a) yuraj wasi white house
   ‘a/the white house’

(b) ſuka wasi-ka yuraj-mi ka-rka
    my house-TOP white-VAL be-PST.3
   ‘My house was white.’
6. Results II: Overlaps at the root, form, and lexeme levels

(c) *maymi sumaj-mi ka-ngui*  
very *pretty-VAL be-2*  
‘You are very pretty.’

(d) *tayta-ka sumaj-ta trabaja-rka*  
father-TOP beautiful-ACC/ADV work-PST.3  
‘Father worked well.’

Examples (6.8a) and (6.8b) show the same root *yuraj* ‘white’ in ATTR and PRED respectively, while (6.8c) and (6.8d) show the same root *sumaj* ‘beautiful; well’ in PRED and ADV, respectively. The examples belong to the same type of property words whose roots occur in all three functions, although semantically *yuraj* ‘white’ is hardly expected in ADV. For *sumaj* ‘beautiful; well’, a certain semantic shift also occurs from use in PRED to ADV, but this is fairly subtle (for a discussion of such semantic shift, see section 8.8).

All languages with an overlap of ATTR, PRED, and ADV are listed in table 6.3. It should be noted that the language-specific patterns vary greatly in terms of what language-specific class the root in question belongs to, as well as the productivity of the overlap. Accordingly, a certain language may have a root overlap of all functions filled by, e.g., a subset of stative verbs, but still have a class of simple adverbs as the major encoding strategy in ADV. It should be kept in mind that the overlap below is most often not the only encoding possibility for ATTR, PRED, and ADV. No claim is made here in terms of whether the encoding pattern in table 6.3 is more productive than another in ATTR, PRED, and ADV for any specific language.

![Figure 6.2. Languages with [ATTR PRED ADV] root overlap](image-url)
Table 6.3. Languages with \[\text{ATTR PRED ADV}\] root overlap

<table>
<thead>
<tr>
<th>Language (Geographic Region)</th>
<th>Language (Geographic Region)</th>
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<tbody>
<tr>
<td>Abau (Sepik)</td>
<td>Koyra Chiini (Songhay)</td>
</tr>
<tr>
<td>Abkhaz (Northwest Caucasian)</td>
<td>Krongo (Kadugli-Krongo)</td>
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<tr>
<td>Acoli (Nilotic)</td>
<td>Lahu (Sino-Tibetan)</td>
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<tr>
<td>Ainu (isolate)</td>
<td>Lakota (Siouan)</td>
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<tr>
<td>Basque (isolate)</td>
<td>Lezgian (Nakh-Daghestanian)</td>
</tr>
<tr>
<td>Bininj Gun-Wok (Gunwinyguan)</td>
<td>Ma’di (Central Sudanic)</td>
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<tr>
<td>Bora (Witotoan)</td>
<td>Maltese (Afro-Asiatic)</td>
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<tr>
<td>Cavineña (Tacanan)</td>
<td>Mapudungun (Auracanian)</td>
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<tr>
<td>Cherokee (Iroquoian)</td>
<td>Marathi (Indo-European)</td>
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<tr>
<td>Cuicatec (Otomanguean)</td>
<td>Mian (Nuclear Trans New Guinea)</td>
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<tr>
<td>Dutch (Indo-European)</td>
<td>Nama (Khoe-Kwadi)</td>
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<tr>
<td>Estonian (Uralic)</td>
<td>Nuu-chah-nulth (Wakashan)</td>
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<td>Pirahā</td>
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<tr>
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<td>Sango (Atlantic-Congo)</td>
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<tr>
<td>Imbabura Quechua (Quechuan)</td>
<td>Slave (Athapaskan-Eyak-Tlingit)</td>
</tr>
<tr>
<td>Imonda (Border)</td>
<td>Swahili (Atlantic-Congo)</td>
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<tr>
<td>Jamul Tiipay (Cochimi-Yuman)</td>
<td>Tagalog (Austronesian)</td>
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<td>Yimas (Lower Sepik-Ramu)</td>
</tr>
</tbody>
</table>

6.2.4. Summary of root level overlap

Three types of overlap of \textit{ATTR}, \textit{PRED}, and \textit{ADV} have been examined on the root level: \[\text{ATTR PRED}], \[\text{PRED ADV}], and \[\text{ATTR PRED ADV}]. By far, the most common overlap is that of all three functions, attested in a great majority of the sample languages. This is a stable finding across languages which shows that, regardless of what other encoding patterns there may be in the three functions, it is extremely common for languages to have one type of root used in all three functions. It can thus be concluded that languages commonly have related root encoding in the functions of \textit{ATTR}, \textit{PRED}, and \textit{ADV}. The second most common overlap is that of \textit{ATTR} and \textit{PRED}, occurring in over a third of the languages. Most of these languages also have an overlap of the same two functions on the lexeme level (see section 6.4.1), although this is not necessarily the case. For instance, an overlap of \textit{ATTR} and \textit{PRED} on the level of the lexeme may include a root that is used in all three functions, which would then imply an overlap of all three functions on the root level. It is not surprising that \textit{ATTR} and \textit{PRED}, the functions traditionally associated with adjectives, tend to overlap in terms of encoding at the root level. Only five languages
show root overlaps of PRED and ADV, and there is no language in which an overlap of ATTR and ADV only is attested on the root level.

6.3. The word form level

As discussed in chapter 4, an exhaustive analysis and comparison of the encoding found in ATTR, PRED, and ADV in certain languages requires the use of a word form level, as opposed to a lexeme level. The word form level is relevant when a word form (or affix) occurring as agreement in one function is used also for the purpose of expressing another function. While there is no example in the sample quite like that of Swedish (Indo-European), where one Adjective form (the neuter) appears to be used also to form Adverbs (cf. example 4.6 in section 4.2), Estonian (Uralic) is a candidate for a similar pattern, using ablative case to form Adverbs.

(6.9) Estonian (Uralic) (Bernhard Wälchli, p.c., cited in Loeb-Diehl 2005: 232)

\[
\begin{array}{ccc}
\text{túdruk} & \text{laulub} & \text{ilusa-lt} \\
\text{girl} & \text{sing.3SG.PRS} & \text{beautiful-ABL}
\end{array}
\]

‘The girl sings beautifully.’

The fact that ablative occurs as a case ending in ATTR by agreement with the Noun and can form Adverbs in ADV would then mean that Estonian has a partial word form overlap of at least ATTR and ADV.

A different overlap of encoding in terms of word form, or at least a candidate for this, is found in Cavineña (Tacanan). Here, a subclass of what Guillaume (2008: 360) calls “Predicative Adjectives” carry the empty suffix -da. In ATTR, they are used in a relative clause with an optional copula ju-.

(6.10) Cavineña (Tacanan) (Guillaume 2008: 360-361)

(a) \[\ldots ja=\text{ra} \ t\text{inu-kware} \ \text{amen}a \ [\text{wika} \ \text{ari-da}=-\text{ke}]\ldots \]

\text{fish=ERG pull-REMPST BM hook big-ASF=LIG}

‘...the fish pulled the big hook (lit. the hook that is big)…’

(b) \[\text{Nereka-da} \mbox{ ju-kware=}\text{ke} \ \text{ekwita}=\text{mi-ke}(=\text{Ø}) \ \text{kweja-ya}. \]

\text{miserable-ASF be-REMPST=LIG person=2SG-P(-1SG-ERG) inform-IPFV ATTR}

‘I am going to tell you about the man who was poor.’

In PRED, these Adjectives are also optionally combined with the same Copula.

(6.11) Cavineña (Tacanan) (Guillaume 2008: 359)

\[\text{Ari-da} \ \text{ju-kware} \ aja. \]

\text{big-ASF be-REMPST capuchin.monkey}

‘The capuchin monkey was big.’

In ADV, the same Adjectives occur. In the example below, a focus clitic is also attached to the Adjective (cf. section 3.3.1).

\[\text{1} \mbox{ This example is repeated in part from (5.14) in section 5.3.2.} \]
6.4. The lexeme level

(6.12) Cavineña (Tacanan) (Guillaume 2008: 362)

\[ Kwa-ya=ke=ekwana \quad ji-da=dya \quad kwa-kware. \]

\[ \text{go-IPFV=LIG=}1\text{PL} \quad \text{good-ASF=}\text{FOC} \quad \text{go-REMPST} \]

‘As we went, we went well (i.e., we did not have any accident on the road or anything).’

The fact that the -da suffix is semantically empty makes this a dubious candidate for a word form overlap, since there are no forms to contrast it with. Nor is it the case that the inflection of a property word in one function is used to express the function in another case. Still, these Adjectives require the -da suffix in ATTR, PRED, and ADV, which makes this at least a potential total word form overlap.

Although the word form level must be acknowledged for a full analysis of encoding within the word, as manifested by examples from Estonian (in sample), Swedish (outside of sample, see section 4.2), and potentially Cavineña (in sample), the majority of sample languages do not have any word form overlaps. It would be interesting to examine how common word form level overlaps that include ADV are, but this is outside the scope of this dissertation. Instead, the lexeme level is the most prominent level of analysis of encoding within the word, and it is to this that we turn in the next section.

6.4. The lexeme level

We will now turn to the lexeme level, which is particularly important for the purposes of this dissertation. It is here that we find overlapping correspondences to the simple adverbs described in section 5.2 For clarification, the English examples from section 4.2 may again be considered in order to distinguish the root and lexeme level.

(6.13) English \[ \text{[ATTR PRED] [ADV]} \]

\begin{itemize}
  \item[(a)] The \textbf{sad} person over there is Sheila. \quad \text{ATTR}
  \item[(b)] Sheila is \textbf{sad}. \quad \text{PRED}
  \item[(c)] Sheila smiled \textbf{sadly}. \quad \text{ADV}
\end{itemize}

In (6.13), \textit{sad} and \textit{sadly} are analyzed as different lexemes. Thus, in this case English has a lexeme level overlap of ATTR and PRED, whereas ADV is encoded differently. This can be compared to the root level analysis in the previous section, which yielded a total overlap for the same examples. In the sections that follow, the overlaps of the ATTR, PRED, and ADV functions found at the lexeme level in the sample languages are described. This means that individual lexemes are identified for each function and compared to each other. The lexemes found within an overlap belong to different categories or class types in the individual languages. Such classes are discussed throughout the sections and are indicated in the summarizing tables at the end of each section. The overlap of the ATTR and PRED functions is described in section 6.4.1. This is followed by the overlap of the PRED and ADV functions in section 6.4.2. The only language with a lexeme level overlap of ATTR and ADV is described in section 6.4.3. The total overlap of all three function is described in section 6.4.4.
6. Results II: Overlaps at the root, form, and lexeme levels

6.4.1. [ATTR PRED] lexeme overlap

Almost two thirds of the sample languages (37/60) have a lexeme overlap of the ATTR and PRED functions. Note that this overlap is encountered in more languages on the lexeme level than on the root level. However, many languages with an overlap of ATTR and PRED on the lexeme level include roots that are used also in ADV, thereby yielding a total overlap on the root level. The lexeme level overlaps of ATTR and PRED are attested in the form of adjectives, as items where adjectives cannot be distinguished from or property words are found among nouns, and as stative verbs. The lexemes manifesting the overlap belonging to a traditional adjective class (i.e. a class of property words that are used attributively and predicatively) are discussed under the heading ‘Adjectives’ below. Those languages where the items used in the overlap cannot be distinguished from nouns are described under the heading ‘Nouns/adjectives’. Finally, the languages that have stative verbs in their overlap of ATTR and PRED are exemplified in the section named ‘Stative verbs’. The results of the [ATTR PRED] overlap are summarized at the end of the section with a table of all languages where the overlap is attested.

Adjectives

Mam (Mayan) has Adjectives in ATTR and PRED, suffixed with a person marker (which may be zero) in PRED (England 1983: 75).

(6.14) Mam (Mayan) (England 1983: 149, 238)

(a) *ajaj* *oox* *tx’yan* *saz*
    DEM three dog white
    ‘these three white dogs’

(b) *saz*-Ø
    white-3SG.ABS
    ‘It is white.’

The same lexeme *saz* ‘white’ is used in the two examples above, but is not attested in ADV. Mam thus has an overlap of ATTR and PRED, on the level of the lexeme, instantiated by its Adjectives.

Nouns/adjectives

In some languages, the lexemes used in the ATTR and PRED functions cannot really be distinguished from nouns, although they show some characteristics that nouns in general lack. In Gooniyandi (Bunaban), such an apparent subclass of Nouns can be identified: its members do not occur in all the roles that Nouns in general do. In ATTR, they may either precede or follow the head that they modify.
6.4. The lexeme level

(6.15) Gooniyandi (Bunaban) (McGregor 1990: 265, 297)  
(a) *yoowooloo nyamani*  
man  big  
‘a big man’  
(b) *ngirndaji labawoo jiga*  
this  white  flower  
‘This is a white flower.’

In **PRED**, these property lexemes are used in the same form. There is no copula, but the property lexeme must follow the subject (with very few exceptions). As illustrated in example (6.16), this may result in a meaning overlap, or ambiguity between the **ATTR** and **PRED** functions.

(6.16) Gooniyandi (Bunaban) (McGregor 1990: 300)  
*biliga thiwa*  
middle  red  
‘The middle is red. / the red middle’

Accordingly, Gooniyandi shows a clear lexeme overlap of **ATTR** and **PRED**. Gooniyandi in fact also has an overlap on the level of the construction (see section 7.2). For use in **ADV**, however, a derivational ending must be attached to the property lexemes in question (see examples in appendix B).

### Stative verbs

The **ATTR PRED** overlap may also be instantiated by stative verbs. This is attested in Jamul Tiipay (Cochimi-Yuman) and nine other languages. Jamul Tiipay Stative Verbs are used in a relative clause in **ATTR**. The whole NP containing the modifier in the form of the relative clause and the head is indicated with square brackets in example (6.17).²

(6.17) Jamul Tiipay (Cochimi-Yuman) (Miller 2001: 207–208)  
... *shenyaaw-pu [suukwiny kw-ataj]-lly shuuwii...*  
acorn-DEM  [pot SBJ.REL-be.big]-in  put.in.container  
‘... she put the acorn [flour] into a big pot (lit. pot which was big)...’

In **PRED**, the Stative Verb is inflected for person. The Verb ‘to be big’ from (6.17) is used in **PRED** in (6.18).³

(6.18) Jamul Tiipay (Cochimi-Yuman) (Miller 2001: 151, 138)  
*me-tay*  
2SG-big  
‘you are big’

Jamul Tiipay is thus an example of a languages with an **ATTR PRED** overlap on the level of the lexeme, manifested by stative verbs.

---

² This example is repeated from (5.5a).
³ This example is repeated from (5.5b).
Summary of languages with [ATTR PRED] lexeme overlap

All languages with an overlap of ATTR and PRED are listed in table 6.4, where it is also indicated what category the lexemes in question belong to. One language that does not fit into the classification of lexemes and that is therefore exemplified here is Kham (Sino-Tibetan), which has nominalized Stative Verbs in ATTR and PRED. While nominalized Action Verbs can also be used in ATTR, they are not allowed in PRED (Watters 2002: 115).

(6.19) Kham (Sino-Tibetan) (Watters 2002: 114, 116)

(a) *gyo:*h-*wo* *mi:*  
    big-NMLZ person  
    ‘the big person’

(b) *ao* *gyo:*h-*wo* *li-*zya  
    this big-NMLZ be-CNT  
    ‘This is big.’

Yimas (Lower Sepik-Ramu) is the only language in the sample that has been found to have two types of lexemes, adjectives and stative verbs, found in both ATTR and PRED. It should nonetheless be emphasized that category boundaries are occasionally difficult to draw. In addition, different language descriptions may use different criteria to posit the same categories. All the more important is the finding that more than half of the sample languages have a lexeme overlap of ATTR and PRED. Clearly, this overlap does not always consist of a traditional adjective class.

Figure 6.3. Languages with [ATTR PRED] lexeme overlap
Table 6.4. Languages with \texttt{[attr pred]} lexeme overlap

<table>
<thead>
<tr>
<th>Languages with adjectives</th>
<th>Languages with nouns/adjectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bambara (Mande)</td>
<td>Bininj Gun-Wok (Gunwinyguan)</td>
</tr>
<tr>
<td>Bukiyip (Nuclear Toricelli)</td>
<td>Gooniyandi (Bunaban)</td>
</tr>
<tr>
<td>Estonian (Uralic)</td>
<td>Imbabura Quechua (Quechuan)</td>
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<tr>
<td>Ewe (Atlantic-Congo)</td>
<td>Kewa (Nuclear Trans New Guinean)</td>
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<tr>
<td>Georgian (Kartvelian)</td>
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<td>Hup (Nadahup)</td>
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<td>Kalaallisut (Eskimo-Aleut)</td>
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<td>Mam (Mayan)</td>
<td>Kambera (Austronesian)</td>
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<tr>
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<td>Yimas (Lower Sepik-Ramu)</td>
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<tr>
<td>Sango (Atlantic-Congo)</td>
<td>Languages with</td>
</tr>
<tr>
<td>Yagua (Peba-Yaguan)</td>
<td>nominalized stative verbs</td>
</tr>
<tr>
<td>Yankunytjatjara (Pama-Nyungan)</td>
<td>Kham (Sino-Tibetan)</td>
</tr>
</tbody>
</table>

6.4.2. \texttt{[pred adv]} lexeme overlap

On the level of the lexeme, the overlap of \texttt{pred} and \texttt{adv} is attested in six languages. As illustrated in section 5.2, Mian (Nuclear Trans New Guinean) is one of the languages in the sample that has a class of simple adverbs. Some of these Adverbs can be used in \texttt{pred} as well, combined with the predicator \texttt{=o} and an enclitic marking illocutionary force. The example pair in (6.20)\textsuperscript{4} illustrates two different Adverbs from the same class used in \texttt{pred} and \texttt{adv}, respectively.

(6.20) Mian (Nuclear Trans New Guinean)(Fedden 2011: 121, 123) \hfill \texttt{[pred adv]}

(a) \texttt{è buk ki-m-in=ø fiab=ø=bc} \hfill \texttt{pred}

3SG.M book read-IPFV-VN=N2 slow=PRD=DECL

‘He reads slowly.’ (lit. ‘His book reading is slow.’)

\textsuperscript{4} Example (6.20b) is repeated from (5.1) in section 5.2.
6. Results II: Overlaps at the root, form, and lexeme levels

(b) $naka=e$ $hebmamsâb$ $wen-b-e=be$

\begin{align*}
\text{man}= & \text{SG.M} \\
\text{fast} & = \text{eat.IPfv-IPfv-3SG.M.SBJ=DECL}
\end{align*}

‘The man is eating fast.’

Interestingly, the same type of construction as is found for PRED in (6.20a) is also used with Adjectives in PRED (see appendix B). A subset of the Adjectives used in the ATTR and PRED functions can also be used in ADV, meaning that [PRED ADV] is not the only overlap attested on the lexeme level in Mian (cf. section 6.4.4). However, the point illustrated in (6.20) is that Mian is one of the languages with a lexeme overlap of PRED and ADV.

Yankunytjatjara (Pama-Nyungan) also has an overlap of PRED and ADV. According to Goddard (1985: 17), two classes of Adjectives can be discerned here: a stative class and an active class. Stative Adjectives are primarily used in ATTR and PRED (cf. table 6.4), although some of them can also be used in ADV (see table 6.6). Active Adjectives “essentially describe an actor ‘in action’ ” (1985: 17). They can be used in PRED and ADV, but not in ATTR. The term adjective can thus be questioned for the active group. For practical reasons, Goddard’s use of these terms will nonetheless be followed for now.

In the PRED function, Active Adjectives take nominative case and are combined with an intransitive stance verb such as $nyina-\emptyset$ ‘sit, live’ (1985: 18). As this is a full lexical verb that can be exchanged for a number of intransitive stance Verbs, this seems to be a case where PRED and ADV cannot be separated (see section 7.3.2).

(6.21) Yankunytjatjara (Pama-Nyungan) (Goddard 1985: 29)

\begin{align*}
\text{kanmar} & \quad nyina-ma! \\
\text{quietly[NOM]} & \quad \text{sit-IMP.IPfv}
\end{align*}

‘Sit quietly!’

In clear instances of ADV, i.e. where other Verbs are used, case is assigned based on the type of Verb that is modified: intransitive Verbs trigger nominative case (just as in the PRED example in 6.21), whereas transitive Verbs yield ergative case.

(6.22) Yankunytjatjara (Pama-Nyungan) (Goddard 1985: 29–30)

\begin{align*}
(a) \quad \text{kanmar-tu} & \quad kuli-nma! \\
\text{quietly-ERG} & \quad \text{listen-IMP.IPfv}
\end{align*}

‘Listen quietly!’

\begin{align*}
(b) \quad \text{wati} & \quad \text{man[NOM]} \\
\text{wala} & \quad \text{yana-nyi} \\
\text{quickly[NOM]} & \quad \text{go-PRS}
\end{align*}

‘The man is going along quickly/slowly.’

Yankunytjatjara thus has a lexeme overlap of PRED and ADV, in the form of the active Adjectives that take case according to the transitivity of the Verb with which they combine. This holds regardless of the function in which they occur (although PRED necessarily contains an intransitive Verb, resulting in nominative case).

Four more languages have a lexeme overlap of the PRED and ADV functions, namely Jamsay (Dogon), Lakota (Siouan), Waiwai (Cariban), and Warekena (Arawakan) (see
sections 6.2.2 and 7.3 and appendix B for examples). All six languages with an overlap of PRED and ADV on the lexeme level are listed in table 6.5 along with the class type of the lexemes in question. Four of these languages (except Lakota and Warekena) are the same as those languages that have a root overlap of PRED and ADV. Thus, the lexemes used in these four languages consist of roots only.

Table 6.5. Languages with [PRED ADV] lexeme overlap

<table>
<thead>
<tr>
<th>Languages</th>
<th>Class type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jamsay (Dogon)</td>
<td>adverb</td>
</tr>
<tr>
<td>Lakota (Siouan)</td>
<td>adverb</td>
</tr>
<tr>
<td>Mian (Nuclear Trans New Guinean)</td>
<td>adverb/subset</td>
</tr>
<tr>
<td>Waiwai (Cariban)</td>
<td>adverb</td>
</tr>
<tr>
<td>Warekena (Arawakan)</td>
<td>stative verb</td>
</tr>
<tr>
<td>Yankunytjatjara (Pama-Nuyngan)</td>
<td>adverb</td>
</tr>
</tbody>
</table>

As indicated in table 6.5, the Yankunytjatjara Active Adjectives instantiate adverbs as a comparative concept. Accordingly, the lexemes found in the overlap of PRED and ADV in five out of six languages are adverbs (simple or derived), whereas in the sixth case found in Warekena, they are stative verbs.

6.4.3. [ATTR ADV] lexeme overlap

Only one language within the sample appears to have an overlap of ATTR and ADV on the level of the lexeme, namely Mapudungun (Auracanian). These examples are marginal, since in PRED, these items behave just like Verbs do in the same function (cf. Stassen 1997: 462). However, it does not seem possible to use Verbs in the same construction as Adjectives in ATTR. Adjectives precede the head that they modify in ATTR.

(6.23) Mapudungun (Auracanian) (Smeets 2008: 11) [ATTR ADV]

(a) \textit{kümé} \textit{wentru} \\
    good man  \textit{ATTR} \\
    ‘a good man’

(b) \textit{pichi} \textit{wentru} nie-n \\
    small man have-1SG.IND \textit{ATTR} \\
    ‘I have a small man’

In PRED, these Adjectives take verb endings. According to Smeets (2008: 71, 121) Verbs are zero-derived from Adjectives, as illustrated in (6.24).

(6.24) Mapudungun (Auracanian) (Smeets 2008: 71)

\begin{verbatim}
    ti wentru kümé-Ø-\textit{y} \\
    the man good-VBLZ-3.IND \textit{PRED} \\
    ‘the man is good’
\end{verbatim}
6. Results II: Overlaps at the root, form, and lexeme levels

The property word in kūmé ‘good’ in (6.24) thus behaves just like a Verb, inflected for third person indicative.

A subset of the Adjectives can be used as they are in ADV, and it these Adjectives that instantiate the overlap in question. In certain cases, this implies a semantic shift, as illustrated in (6.25b) compared to (6.23b).

(6.25) Mapudungun (Auracanian) (Smeets 2008: 81, 72) [ATTR ADV]

(a) ñochi treka-le-y kiñe
slowly walk-ST-IND-3 one
‘one walked slowly’

(b) pichi dangu-n
small speak-1SG.IND
‘I spoke for a short while.’

Examples such as (6.23b), where pichi means ‘small’, compared to (6.25b), where pichi means ‘a short while’, cannot be analyzed quite as instances of lexeme overlap (but see discussion of such shift in section 8.8). However, the cases that do not shift semantically, as in (6.25a), show that Mapudungun has an apparent overlap of ATTR and ADV on the lexeme level. Depending on how the zero-derivation that Smeets (2008) argues for in PRED is regarded, it might be suggested that Mapudungun fits better in the next section, with overlaps of ATTR, PRED, and ADV. Note that on the root level, Mapudungun has a total overlap (cf. table 6.3 in section 6.2.3).

6.4.4. [ATTR PRED ADV] lexeme overlap

Over half of the sample languages (33/60) have an overlap of ATTR, PRED, and ADV on the level of the lexeme. A substantial number of these languages have a class of lexemes that covers the functions of adjectives and adverbs, and thus occurs in ATTR, PRED, and ADV. I call this class general modifiers, and they are discussed under the heading with the same name below. It could be argued that the term general modifiers would be more suitable for lexemes that function in ATTR and ADV, but exclude PRED, since these are the two functions of modification. PRED, on the other hand, is a function of predication. Interestingly though, lexemes that are used in ATTR and ADV seem to always be used also in PRED. There is only one marginal instance of a modifier that occurs in ATTR and ADV to the exclusion of PRED, attested in Mapudungun (Auracanian), as discussed in section 6.4.3. The languages with general modifiers differ in terms of how extensive this class of items is. In some languages, it is the only type of modifier lexeme. Other languages have adjectives or adverbs, or both, in addition to general modifiers. In grammars of languages with fairly large adjective classes, it is often the case that the general modifiers are treated as a subset of adjectives, which can also be used adverbially. Such subsets vary in size, from a handful to dozens of items. Here, they will all be treated as general modifiers, irrespective of how many they are and whether they are described as a subset of adjectives, based on the fact that they are simple lexemes used in ATTR, PRED, and ADV. Yet other languages have stative verbs in ATTR, PRED, and ADV. These are discussed in the section headed ‘Stative verbs’. Again, in some cases such stative verbs found
in the overlap appear to constitute the primary way to encode ATTR, PRED, and ADV, respectively, while other languages have classes of adjectives and/or adverbs in addition. A table summary is provided for all the languages with an overlap of ATTR, PRED, and ADV in the final summarizing section. The table also indicates whether these languages have adjectives and/or adverbs in addition to having general modifiers or stative verbs.

**General modifiers**

General modifiers are simple lexemes that function in ATTR, PRED, and ADV. A third of the sample languages (20/60) have such a class. In the Austronesian language Kilivila, both a class of General Modifiers and a class of Adjectives are attested. The Adjectives can be divided into two subclasses: those that always take classifiers and those that optionally take classifiers. Contrary to this, the General Modifiers do not take classifiers at all.\(^5\) The General Modifier class also appears to be larger than the two Adjective classes.\(^6\) In (6.26), an example with *bwena* ‘good’ is presented, both in ATTR and ADV.\(^7\)

(6.26) Kilivila (Austronesian) (Senft 1986: 111, 115)  

(a) *Gala*  e-nukwali  *keda*  *bwena*.  
not  he-know  road  good  
‘He does not know the right road.’  

(b) *Ki,*  e-tatai  *bwena*?  
well  he-carve  good  
‘Well, he carves well, doesn’t he?’

In PRED, General Modifiers are also used in their bare form, as illustrated for *nanakwa* ‘fast’ in (6.27).

(6.27) Kilivila (Austronesian) (Senft 1986: 87)  

*M-to-si-na*  si  *waga*  *sena*  *nanakwa*  *taga*  *ma-waga-si*  
this-human.being-PL-this  their  canoes  very  fast  but  our-canoe-PL  
*i-kaliseva-si.*  
they-run.off-PL  
‘Their canoes are very fast, but our canoes are outstanding (they beat the others.)’

The non-classified South American language Pirahã is another example of a language in which general modifiers are attested. In (6.28), ATTR and ADV are illustrated. The property word *xaibogí* ‘fast’ can also be used in PRED, although no example with context has been attested.

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\(^5\) Two exceptions that do not take classifiers are only used in ATTR: *gumiguwamila* ‘cloudy (dull weather)’ and *tula* ‘cold’ (Senft 1986: 85).  
\(^6\) Many General Modifiers occur also as Nouns and Verbs, such as *gaga* ‘bad/badly’, found as the Verb stem -*gaga*- ‘to be bad, to be nasty’, and *mwau* ‘heavy, difficult/heavily, difficultly’, also attested as a Noun meaning ‘grief’ (Senft 1986: 85, 92)  
\(^7\) This example contains *bwena*, which is very likely a loan from Spanish or Portuguese. It has been in the language for a long time, and native speakers claim it is a Kilivila word (Gunter Senft, p.c.).
6. Results II: Overlaps at the root, form, and lexeme levels

(6.28) Pirahã (Everett 1986: 273) [ATTR PRED ADV]

(a) xaoói xaibógi gàihí
foreign fast that
‘that fast foreigner / That is a fast foreigner.’

(b) xaibógi óp-a-áti
fast go-REM-UNC
‘Go fast.’

PRED is formed with one of a few copulas, which is optional: xaagá ‘to have/to be’, xiigá ‘to be/to have temporarily’, and xai ‘to be/to do’ (1986: 203).

(6.29) Pirahã (Everett 1986: 204) [ATTR PRED ADV]

(a) hi bihíi-ígio xaa-ág-há
3 short-ASSOC be-CERT
‘He is short.’

(b) ti badí xisígá
1 bad be
‘I am sick.’

When the copula is excluded, the independent person marker is still required, as illustrated in (6.30).

(6.30) Pirahã (Everett 1986: 205) [ATTR PRED ADV]

giopaíxi hi sabí-íxi
dog 3 wild-EMP
‘The dog is really wild.’

In addition, General Modifiers can be used predicatively in a different way, with a meaning shift. This does not correspond to the PRED function. Example (6.31) illustrates that xaibógi ‘fast’ also occurs as a predicate meaning ‘run’.

(6.31) Pirahã (Everett 1986: 273)

ti xaibógi-a-hóí
1 fast-REM-ING
‘I am going to run.’

Despite the constructional differences, the uses of property lexemes in the three functions are the same, indicating an [ATTR PRED ADV] lexeme overlap for Pirahã, instantiated by general modifiers.

It is not uncommon that a language with an adjective class is described as having a subgroup within this class that can be used adverbially. This is the case in Hup (Nadahup), which is defined as having a closed class of Adjectives by Epps (2008: 441). They share many inflectional characteristics with Verbs (2008: 441). In ATTR, the property lexeme is preceded by the nominal head that it modifies (2008: 327).
6.4. The lexeme level

(6.32) Hup (Nadahup) (Epps 2008: 326) [ATTR PRED ADV]

(a) 
\[\text{tih } \text{won-hám-ay-áh}, \quad \text{té } \text{tod } \text{póg } \text{g’etpóowítmah} \]
\[\text{3SG } \text{follow-go-INC-DECL } \text{until } \text{hollow.tree } \text{big } \text{stand} \]

‘She went after (the spirit), to where a big hollow tree stood, they say.’

(b) 
\[\text{häh } \text{pih } \text{yúp } \text{n’äh-ùh} \]

sound strong that CNTR-DECL

‘That one has a strong (loud) sound.’

Epps (2008) does not state explicitly how many of the Hup property words can be used adverbially, but some of the most common are: pib ‘fast’, náw ‘well’, páy ‘badly’ do’kéy ‘correctly’, and w’ěh ‘far’ (2008: 447). Two examples with context are presented in (6.33).

(6.33) Hup (Nadahup) (Epps 2008: 447) [ATTR PRED ADV]

(a) 
\[\text{náw } \text{?äh } \text{ni-näh-ǐp} \]
\[\text{good } \text{1SG } \text{be-be.like-DEP} \]

‘I do not live well.’

(b) 
\[\text{pih } \text{tih } \text{way-yi’?-ǐy} \]
\[\text{fast } \text{3SG } \text{go.out-TEL-DYN} \]

‘He went out fast.’

If the property word in ADV follows the subject, the enclitic =yi’? is attached to it, to distinguish the construction from the corresponding ATTR version. This is illustrated in the example pair in (6.34), where the NP boundary is indicated with square brackets. The enclitic =yi’? also has other functions, e.g. as a marker for telicity or contrastive focus on Verbs (2008: 447).  

(6.34) Hup (Nadahup) (Epps 2008: 448) [ATTR PRED ADV]

(a) 
\[\text{[tiy’i’? ] } \text{pih/ } \text{way-yi’?-ǐy} \]
\[\text{man } \text{fast/strong } \text{go.out-TEL-DYN} \]

‘The fast/strong man went out.’

(b) 
\[\text{[tiy’i’? ] } \text{pih=yi’? } \text{way-yi’?-ǐy} \]
\[\text{man } \text{fast=TEL } \text{go.out-TEL-DYN} \]

‘The man went out fast.’

In PRED, property words may be inflected like Verbs, for instance, indicating aspect. This is illustrated in (6.35), where (6.35b) is a marginal example of PRED.

(6.35) Hup (Nadahup) (Epps 2008: 444-45) [ATTR PRED ADV]

(a) 
\[\text{yúp } \text{tegd’ùh } \text{póg} \]
\[\text{that } \text{tree } \text{big} \]

‘That tree is big.’

8 The enclitic =yi’? is also used to derive Adverbs from actual Adjectives, see section 5.3.1 and appendix B.
6. Results II: Overlaps at the root, form, and lexeme levels

(b) yúp tegd’uh póg-óy
    that     tree    big-DYN
    ‘That tree is getting bigger.’

Epps (2008: 115) defines the property words that can be used in all three functions as Adjectives that “can act as adverbs and as such have a relatively all-purpose modifier function”. According to my definition, these property lexemes in Hup can be classified as general modifiers.

Ewe (Niger-Congo) is another example of a language described as having a subclass of Adjectives that can be used as they are adverbially (Ameka 1991: 91). Ewe has several different types of Adjectives, and it is only within one of these types that these overlapping items are found.9

(6.36) Ewe (Niger-Congo) (Ameka 1991: 75)                  [ATTR PRED ADV]
   (a) yútsu tralaa lá vá.   ATTR
       man     thin.tall     DEF     come
       ‘The tall and thin (?lanky) man came.’
   (b) yútsu lá (le) tralaa.   PRED
       man     DEF (be.PRS)     thin.tall
       ‘The man is tall and thin.’
   (c) yútsu lá kó tralaa.   ADV
       man     DEF     be.tall     thin.tall
       ‘The man is tall in a tallish-thinny (lanky) manner.’

The examples in (6.36) can be compared to those in (6.37), with Adjectives that require overt derivation to be used in PRED and ADV. Note that Ameka (1991) treats (6.37b) as PRED (or ‘verbal’) and (6.37c) as ADV (or ‘adverbial’), which is followed here.

(6.37) Ewe (Niger-Congo) (Ameka 1991: 91)
   (a) devi nyuí lá   ATTR
       child    good    DEF
       ‘The good child.’
   (b) devi lá nyó   PRED
       child    DEF    good
       ‘The child is good.’
   (c) devi lá le nyuie   PRED/ADV
       child    DEF (be.PRS)    good
       ‘The child is well.’

---

9 According to some speakers, (6.36b) is not acceptable without the verb le ‘be’ (Yvonne Agbetsoamedo, p.c.).
6.4. The lexeme level

The important point in the examples from Ewe is the overt derivation for some property words, as in (6.37), but not for others, as in (6.36). The latter are, by the definition used here, classified as general modifiers.

In conclusion, I have chosen to treat all simple lexemes that occur in ATTR, PRED, and ADV as general modifiers, regardless of how many these lexemes are, or what other modifier classes there are in the language. These language-specific differences illustrate the fact that general modifiers play different roles in individual languages. In some cases, they are the only type of simple modifier lexemes (e.g. Pirahã). In others, they constitute a major class of modifier lexemes, alongside other major classes such as adjectives (e.g. Kilivila). In many languages for which an adjective class is established in a grammar, lexemes that function in not only ATTR and PRED, but also in ADV, are treated as a subgroup of adjectives. The size of such groups is often unclear, as in the case of Hup.

Other languages such as English (recall the examples with fast from chapter 4) only have one or a couple of property words that can be used ‘adverbially as well’ – in addition to their adjectival uses in ATTR and PRED. Against a background of a stable adjective class, it may not make sense to label exceptional examples as general modifiers. However, the widely accepted status of adjectives may come in the way of determining whether an individual language has a different modifier class, like the type labeled general modifiers here. Moreover, when general modifiers are attested in different languages in addition to adjectives and/or adverbs, the semantic content of the general modifiers is basically the same. This will be discussed in depth in chapter 8. In languages that do have adjectives as well as general modifiers, there may be instances that are difficult to place in one or the other class adjectives that get extended to use in ADV. However, such changes are expected.

Stative verbs

In total overlaps on the lexeme level, stative verbs are also attested. Lahu (Sino-Tibetan) has Stative Verbs in all three functions. In ATTR, there are two different constructions. It appears that different types of Stative Verbs are used in each of these, although it is not clear which Stative Verbs belong to which type. In the first construction, the Stative Verbs are combined with the particle ve. This particle has many functions, e.g. as a nominalizer and relativizer (Matisoff 1973: 193).

(6.38) Lahu (Sino-Tibetan) (Matisoff 1973: 194) [ATTR PRED ADV]

\[
\begin{array}{ccc}
\text{dàʔ} & \text{ve} & \text{ŋàʔ} \\
\text{be.good} & \text{NMLZ/REL} & \text{birds} \\
\end{array}
\]

‘pretty birds’

The second construction in ATTR, which (Matisoff 1973: 285) interestingly calls “stative Adverbiai”, is formed with the particle è in combination with the particle ve, as illustrated in (6.39).
6. Results II: Overlaps at the root, form, and lexeme levels

(6.39) Lahu (Sino-Tibetan) (Matisoff 1973: 288) [ATTR PRED ADV]

(a) ʂí ɛ ve ʔpɔʔlè
   be.yellow PART NMLZ/REL warm.shirt
   ‘a yellow sweater’

(b) ɕhɔ ɛ ve ʔmodoʃi
   be.sweet PART NMLZ/REL mango
   ‘a sweet mango’

In PRED and ADV, the Stative Verb and the particle ɛ are used by themselves with the Verb. The selection of Verbs in PRED is limited to “a small set of highly abstract verbs” (1973: 286). This appears to be a case between PRED and ADV on the level of the construction (see section 7.3.2).

(6.40) Lahu (Sino-Tibetan) (Matisoff 1973: 287) [ATTR PRED ADV]

γɔ ve ʔukhму ʂí ɛ cɔ ve γɔ
   he PART hair be.yellow PART be.there PART DECL
   ‘He had blond hair. (lit. His hair was there yellow(ly).’

Clear cases of Stative Verbs in ADV appear to be quite rare. One example is provided in (6.41).

(6.41) Lahu (Sino-Tibetan) (Matisoff 1973: 287) [ATTR PRED ADV]

ǎmijŋ? ȵí ɛ tɔʔ ve
   sparks be.red PART burn PART
   ‘The sparks burned red(ly).’

The Lahu Stative Verbs that are able to occur in ATTR, PRED, and ADV instantiate a total overlap on the lexeme level.

Nuu-chah-nulth (Wakashan) has Stative Verbs with a clitic or inflectional morpheme (depending on language description – note that this also affects how the examples are written) indicating person, number, and mood in ATTR, PRED, and ADV. ATTR is illustrated in (6.42).

(6.42) Nuu-chah-nulth (Wakashan) (Davidson 2002: 128) [ATTR PRED ADV]

ʔiʔi-xʷʔi ʔidiʔ xu
   big.IND.3SG dog DEM
   ‘That is a big dog.’

Compared to the PRED examples in (6.43), it is not clear how the two functions are distinguished. This is unclear also in the language description (cf. Davidson 2002).

(6.43) Nuu-chah-nulth (Wakashan) (Swadesh 1939: 446) [ATTR PRED ADV]

ʔiʔh-ma ʔoʔas-ʔi
   large-3SG.IND man-DEF
   ‘The man is big.’
In ADV, the same Stative Verbs can be used, as illustrated in (6.44).

(6.44) Nuu-chah-nulth (Wakashan) (Nakayama 2001: 113) [ATTR PRED ADV]

\[\text{\pi:}\text{h}^w-\text{`}aX-\text{`}at-qu:s \qquad \text{\textit{greatly}}-\text{TEL-SHIFT-COND.1SG} \]

\[\text{\textit{it-looking.after-SHIFT}} \]

‘They looked after me very well.’

The Stative Verb in (6.44) is the same as in (6.42) and (6.43), although the use in ADV yields a certain meaning shift. Accordingly, this is not the most appropriate example, but is the only one available as an instance of how Nuu-chah-nulth Stative Verbs can be used in ADV.

**Summary of languages with [ATTR PRED ADV] lexeme overlap**

Most of the languages with an overlap of ATTR, PRED, and ADV on the lexeme level have general modifiers in these functions. General modifiers have been exemplified extensively, in order to illustrate the variation found among this class of lexemes cross-linguistically. Sometimes general modifiers are the main modifier type of a language; in other cases, they are found alongside adjectives and/or adverbs. Moreover, the number of general modifiers varies from language to language. Yet other languages have stative verbs in their [ATTR PRED ADV] overlap. Also in these cases, adjectives and adverbs may be attested in some of the functions, in addition to the stative verbs. All languages in the sample that have an [ATTR PRED ADV] overlap on the lexeme level are listed in table 6.6 and plotted on the map in figure 6.4. For each language, the two rightmost table columns indicate whether the language has adjectives and adverbs in addition to having general modifiers or stative verbs. When languages have general modifiers, it appears to be possible for them to have any other modifier types (adjectives and/or adverbs) as well. In the case of languages with stative verbs in the total overlap of all three functions, it is clear that if they have a group of simple modifier lexemes, these are adverbs. Swahili and Cavineña are included in the table under the heading *Other*, since certain Swahili Nouns may be used for all three functions without a change of class marker, and Cavineña has *da*-adjectives (cf. section 3.3.1) in this overlap (see appendix B for examples).

A language where the three functions are completely unrelated on the lexeme level, if one exists, is yet to be found.

**6.4.5. Summary of lexeme level overlap**

All sample languages have some kind of overlap of lexemes used in the ATTR, PRED, and ADV functions. The overlap with the most numerous members is [ATTR PRED], which is attested in almost two thirds of the languages. For languages that have adjectives, this is expected, since such a class unites ATTR and PRED on the level of the lexeme. Adjectives are also the most common lexeme type found in the overlap, although we also find cases where adjectives cannot be distinguished from nouns, as well as stative verbs. The second most common overlap is [ATTR PRED ADV], which occurs in over half of the sample languages. Here, the term *general modifier* was introduced for those simple lexemes that are used in all three functions. General modifiers show diverse patterns cross-linguistically.
### 6. Results II: Overlaps at the root, form, and lexeme levels

<table>
<thead>
<tr>
<th>Language</th>
<th>General modifiers</th>
<th>Other modifiers</th>
<th>Language</th>
<th>Other modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abau (Sepik)</td>
<td></td>
<td>Adjectives</td>
<td>Abkhaz (Northwest Caucasian)</td>
<td></td>
</tr>
<tr>
<td>Basque (isolate)</td>
<td></td>
<td>Adverbs</td>
<td>Ainu (isolate)</td>
<td></td>
</tr>
<tr>
<td>Bora (Witotoan)</td>
<td></td>
<td></td>
<td>Cuicatec (Otomanguean)</td>
<td></td>
</tr>
<tr>
<td>Cherokee (Iroqian)</td>
<td></td>
<td></td>
<td>Jamul Tiipay (Cochimi-Yuman)</td>
<td></td>
</tr>
<tr>
<td>Dutch (Indo-European)</td>
<td></td>
<td></td>
<td>Kambera (Austronesian)</td>
<td></td>
</tr>
<tr>
<td>Ewe (Niger-Congo)</td>
<td></td>
<td></td>
<td>Kalaallisut (Eskimo-Aleut)</td>
<td></td>
</tr>
<tr>
<td>Hdi (Afro-Asiatic)</td>
<td></td>
<td>Adjectives</td>
<td>Koasati (Muskogean)</td>
<td></td>
</tr>
<tr>
<td>Hup (Nadahup)</td>
<td></td>
<td>Adverbs</td>
<td>Koyra Chiini (Songhay)</td>
<td></td>
</tr>
<tr>
<td>Kilivila (Austronesian)</td>
<td></td>
<td></td>
<td>Lahu (Sino-Tibetan)</td>
<td></td>
</tr>
<tr>
<td>Lezgian (Nakh-Daghestanian)</td>
<td></td>
<td>Adjectives</td>
<td>Nuu-chah-nulth (Wakashan)</td>
<td></td>
</tr>
<tr>
<td>Maltese (Afro-Asiatic)</td>
<td></td>
<td>Adverbs</td>
<td>Slave (Athapaskan-Eyak-Tlingit)</td>
<td></td>
</tr>
<tr>
<td>Mapudungun (Auracanian)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marathi (Indo-European)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mian (Nuclear Trans New Guinea)</td>
<td></td>
<td>Adjectives</td>
<td>Cavineña (Tacanan)</td>
<td></td>
</tr>
<tr>
<td>Pirahá</td>
<td></td>
<td></td>
<td>Swahili (Atlantic-Congo)</td>
<td></td>
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<tr>
<td>Sahaptin (Sahaptian)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sango (Atlantic-Congo)</td>
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<td></td>
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<tr>
<td>Turkish (Turkic)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yagua (Peba-Yagua)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yankuntjatjara (Pama-Nyungan)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cavineña (Tacanan) has *da*-adjectives (see appendix B) in all three functions (Guillaume 2008: 357), in which the *da*- suffix is empty. These Adjectives could potentially be classified as general modifiers, but I refrain from doing so, since it is unclear to what extent they are lexicalized.
In certain languages, they make up the main modifier class. In others, they are found alongside adjectives (and then often treated in grammars as a subclass thereof) and/or adverbs. In yet others, they are only attested in one or a few individual lexemes. Stative verbs also occur in the overlap of all three functions. On a much smaller scale, only six languages were found to have an overlap of the PRED and ADV functions. Although these are few, they are unrelated and geographically distant from each other. Importantly, these results demonstrate that it is possible for PRED and ADV to be lexicalized together. Mapudungun is the only language displaying an overlap of ATTR and ADV. However, the lexeme used in these functions is not unrelated to the one used in PRED – Mapudungun has a root overlap of all three functions (see table 6.3). Accordingly, it appears to be highly unlikely for PRED to have a lexeme without any connection to either ATTR or ADV.

In conclusion, the encoding on the level of the lexeme primarily unites the ATTR and PRED functions. Against the background of adjectives as a class of lexemes that takes the ATTR and PRED functions, this is not surprising – the majority of [ATTR PRED] overlaps are also instantiated by adjectives. The lexeme overlap of all functions is also stable, especially as instantiated by general modifiers. Finally, the encoding of the PRED and ADV functions are united to a much lesser extent on the level of the lexeme. However, this overlap is attested and is stable enough not to be an exception. Accordingly, it is possible for the same lexemes to be used exclusively in PRED and ADV. This points to the fact that the two functions are related.

6.5. Conclusion

In this chapter, the encoding overlaps of ATTR, PRED, and ADV have been examined at the root, word form, and lexeme levels. The word form level was included primarily to show that this is yet another level required for a complete analysis, which may be important for certain languages outside of the sample. The root and lexeme levels are nonetheless the most useful for the present study. The two most common overlaps differ for the root and lexeme levels. A large majority of sample languages have a root overlap of all three functions, while over half of the languages display the same overlap on the lexeme level.
The root level overlap illustrates that it is very common among the sample languages to have all three functions related by the use of the same root. By contrast, the lexeme level shows that the use of the same independent lexemes is less common than roots in all three functions, but still quite common. In the lexeme level overlap of all three functions, the most common type is the simple lexeme used in all three functions. This points to the need for a term for those items that cover the functions of adjectives and adverbs. For this purpose, I have proposed the term *general modifiers*. At the lexeme level, the overlap of ATTR and PRED is more common than that of all three functions. At the root level, the overlap of ATTR and PRED is slightly less common, attested in over a third of the languages. This can be explained by the fact that several of the languages with an [ATTR PRED] lexeme overlap have roots in the overlap in question that occur as roots in all three functions (i.e. an [ATTR PRED ADV] root overlap). The results for ATTR and PRED confirm the status of adjectives as occurring in both these functions. Perhaps more surprising is the overlap of PRED and ADV, attested in five languages at the root level and six languages at lexeme level. Four of these languages are the same for the two levels. This means that for four languages, the simple adverb consists of a root alone. Although this is not a common overlap, the languages in which it is attested are unrelated and located in geographically distant parts of the world. This illustrates that PRED and ADV can be lexicalized together, and that, just as many languages have predicative adjectives, there are also languages with predicative adverbs. This chapter has illustrated the overlaps of ATTR, PRED, and ADV on the root and lexeme levels. In the next chapter, we turn to overlaps in the form of whole constructions.
7. Results III: The construction level

7.1. Introduction

This chapter presents the results of examining the encoding of
attr, pred, and adv in the languages of the sample on the level of the construction. In order to capture how the three functions are related in certain encoding patterns, it is necessary to analyze whole constructions. This analysis is based on the constructional-typological approach described in section 4.3, used as a method for consistent comparison of encoding where the scope is whole constructions. The most important results, presented in order of most to least common, are the following:

• pred and adv, as opposed to attr, are very similarly encoded at the construction level in 13 of the languages (see section 7.3.1).
• attr and pred, as opposed to adv, show identical encoding at the construction level in 12 languages (see section 7.2).
• Nine languages have a construction that is intermediate between pred and adv (see section 7.3.2).
• attr and adv, as opposed to pred, are encoded by the same type of construction in four languages (see section 7.4).

We may recall from chapters 4 and 6 that overlap refers to identical encoding in two or more functions. On the construction level, it is necessary to distinguish between total and partial overlaps. A total overlap means that the exact same encoding is used in more than one function. A partial overlap means that two encoding patterns are used in two functions, but that they overlap to a large extent in their structure. The construction-typological notation introduced in chapter 4 plays a key role in the analysis. The notation for English is therefore reproduced in (7.1),\(^1\) with the actual examples included for illustrative purposes. In the rest of the chapter, the Example line contains cross-references to examples in the text and appendix B.

(7.1) attr, pred, and adv in English

**ATTR**

**Function:** PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
**Form:** ART ADJ N
**Example:** [The sad person] over there is Sheila

---

\(^1\) Example (7.1) is a repetition of examples (4.9) and (4.16) in chapter 4.
7. Results III: The construction level

PRED

Function: PROPERTY PREDICATION
Form: $S \ be_{\cop} \ ADJ$
Example: Sheila is sad

ADV

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: $S \ V \ ADJ-ly_{\adv}$
Form 2: $S \ V \ ADJ_{\subset}$
Example: Sheila smiled sadly, Sheila runs fast

The notation in (7.1) illustrates that the same root, and in some cases the same lexeme, is used in all three functions. But such findings belong to the root and lexeme levels, as discussed in chapter 6. On the construction level, it is clear that the encoding is different for all three functions. Two constructions are nonetheless quite similar: those in PRED and ADV. One difference is whether the substantive copula be (PRED) or the schematic verb slot (ADV) is found. Another is whether the Adjective is used in its bare form (PRED and Form 2 in ADV), or the adverbializing ending -ly is required (PRED). The constructional-typological notation does not tell us much here – there is no construction overlap in English – but the examples illustrate how the method is to be employed, highlighting differences as well as similarities.

In the following sections, overlaps are illustrated with examples from individual languages, followed by constructional-typological notation. When an overlap of only two functions is discussed, only these two functions are included in the notation. Full notation for examples from each language can be found in appendix B. As in the previous chapter, the overlap that they are argued to instantiate is indicated within square brackets in the right margin of the example heading (e.g. [attr pred]). The specific function is also indicated in the right margin of the example in question (e.g. attr). Some of the total overlaps are discussed in the respective sources as examples where the two functions cannot be distinguished, or where a construction is ambiguous. Other encoding overlaps are not mentioned in the sources, and are then based on my own conclusions. When I state that a certain language has an overlap of, e.g., attr and pred, this does not imply that it is the only encoding pattern attested in ATTR and PRED: for some languages, this may be the case, whereas for others, the encoding overlap in question may coexist with other types of encoding. No claim is made here regarding what encoding pattern is more common. However, in many languages, encoding that does not overlap has been attested. The constructional-typological notation includes such encoding as well, with references to examples in appendix B. Accordingly, the phrasing that ‘a language has an overlap’ does not imply that it is the language as such that has overlapping functions. Rather, it is the constructions attested in specific languages that overlap. In most cases, construction-level overlaps imply overlaps at the root and lexeme levels as well (bearing in mind that an overlap of two functions on the lexeme level can be filled by items that instantiate the same or a larger overlap on the root level). But this is not necessarily the case, as will be illustrated specifically for the construction level overlap of ATTR and ADV.
In the sections that follow, the overlaps are described in the same order as in chapter 6. First, the [ATTR PRED] overlap is treated in section 7.2. This is followed by the [PRED ADV] overlap in section 7.3, which includes partial overlaps (section 7.3.1), constructions in between PRED and ADV (section 7.3.2), and connections between constructions in PRED and ADV (section 7.3.3). The [ATTR ADV] overlap is discussed in section 7.4, and potential overlaps of all three functions are treated in 7.5. For each overlap, a few examples of individual languages are discussed, followed by a constructional-typological summary of the examples in question. At the end of each section, the languages in which an overlap is attested are summarized in a table that includes constructional notation for each language.

7.2. [ATTR PRED] construction overlap

The overlap of ATTR and PRED is the second most common overlap at the construction level, attested in 12 sample languages. This is a peculiar overlap for a number of reasons. Firstly, it is attested in examples where the interpretation is ambiguous between an NP in ATTR or and a whole clause in PRED. For instance, an individual example may mean either ‘the sad person’ or ‘the person is sad’. Secondly, and following from the first point, in order to have an overlap of ATTR and PRED, the language in question cannot have an obligatory copula. An obligatory copula is expected to appear in PRED, but not in ATTR. The presence of a copula thus clearly separates the encoding in the two functions. Languages with a constructional overlap of ATTR and PRED differ remarkably with regard to whether it appears to be the only strategy, or whether they exhibit other alternatives for ATTR and PRED, respectively. As stated in the previous section, I do not attempt to fully establish this difference, but it is still interesting to notice the tendencies in certain languages. In Maltese (Afro-Asiatic), only context appears to separate ATTR from PRED. In Warekena (Arawakan), only a few Adjectives are used in the construction where ATTR and PRED overlap, whereas other constructions are clearly separable (see examples from these two languages in appendix B.) In this section, I present examples from two languages, one in which the encoding pattern is entirely ambiguous between ATTR and PRED (Bora), and one where the encoding appears to be ambiguous between the two, although this is not made explicit in the source (Gooniyandi).

We begin by looking at Bora (Witotoan), where the construction in question is ambiguous in terms of whether it instantiates ATTR or PRED.

(7.2) Bora (Witotoan) (Thiesen 1996: 50)

\[
\text{ímí cáraca.} \\
\text{good chicken} \\
\text{‘the good chicken/the chicken is good’}
\]

In the example in (7.2), the descriptive root ímí is used, and the example could be either an instance of ATTR or of PRED. However, this is not the only option for encoding the ATTR and PRED functions. In order to avoid this ambiguity, in ATTR, the property word ímí is combined with a classifier, which turns it into a so-called ‘qualifier’ (Thiesen 1996: 50).
7. Results III: The construction level

(7.3) Bora (Witotoan) (Thiesen 1996: 50)

Ímí-ibye cárcaca majchó.
good-3SG.M chicken eat

‘The good chicken eats.’

According to Thiesen & Weber (2012), qualifiers can be analyzed as NPs that are in apposition with the NP that they modify, rather than being a modifier to it. Bare property words, as in example (7.2), appear to be more commonly used in PRED than in ATTR. The overlap and the alternative construction with a classifier in ATTR are captured in constructional-typological terms in (7.4), where the overlap is also highlighted. As it is not possible to distinguish ATTR from PRED, the item that is modified in the former and of which the property is predicated in the latter is labeled as ‘N/S’ for ‘noun or subject’ in both functions. While it does not really make sense to denote an item in ATTR as ‘S’, or to label the subject with ‘N’, it is necessary to do so here in order to capture the ambiguity, that is, the total overlap.

(7.4) ATTR and PRED in Bora

ATTR

Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION

Form 1: G.MOD N/S
Form 2: G.MOD-clf N
Example: (7.2), (7.3)

PRED

Function: PROPERTY PREDICATION

Form: G.MOD N/S
Example: (7.2)

In other languages, encoding used in ATTR and PRED appears to be exactly the same, even though the encoding is described separately for the two functions in the language description. This is the case in Gooniyandi (Bunaban), where Adjectives cannot really be distinguished from Nouns (cf. section 6.4.1). In PRED, the property word, which may carry a clitic (see 7.5b below), appears to follow the subject, as illustrated in (7.5). In ATTR, the order of the property modifier and the head is free, illustrated with examples (7.6–7.7) (McGregor 1990: 456-457). This means that in cases where the property word, without a clitic, follows the Noun, the example is ambiguous between ATTR and PRED (Bill McGregor, p.c.).

(7.5) Gooniyandi (Bunaban) (McGregor 1990: 456-457)

(a) yaanya biddinyiwoorloo thiwa yaanya biddinyiwoorloo
gooroogoorroo
other wasp red other wasp
black

‘One wasp is red, another is black.’
7.2. \textit{[ATTR PRED]} construction overlap

\begin{quote}
\begin{verbatim}
(b) minyawoo \textit{wajaddanyi} lambardi thadda \textit{nyamani}=nyali \textit{PRED}
cat different little dog \textit{big}=\textit{REP}
\end{verbatim}
\end{quote}

‘Cats are different, they’re little; dogs are big.’

(7.6) Gooniyandi (Bunaban) (McGregor 1990: 265) \textit{[ATTR PRED]}

\begin{quote}
\begin{verbatim}
jalandi \textit{gooroogooroo} \textit{ATTR}
belt black
\end{verbatim}
\end{quote}

‘a black belt’

(7.7) Gooniyandi (Bunaban) (McGregor 1990: 297)$^2$

\begin{quote}
\begin{verbatim}
ngirndaji \textit{labawoo} \textit{jiga} \textit{ATTR}
this white flower
\end{verbatim}
\end{quote}

‘This is a white flower.’

Structurally, \textit{ATTR} and \textit{PRED} have exactly the same appearance, in the case where the property word follows the head in \textit{ATTR}. This seems to be a constructional overlap, as illustrated in the notation in (7.8). The label ‘\textit{N}_{PROP}’ is used here since Adjectives cannot be distinguished from Nouns in Gooniyandi. The ‘\textit{N/S}’ label is used on the same grounds as for Bora, described above.

(7.8) \textit{ATTR} and \textit{PRED} in Gooniyandi

\textit{ATTR}

\begin{itemize}
  \item Function: \textit{PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION}
  \item \textbf{Form 1:} \textit{N/S \textit{N}_{PROP}}
  \item \textbf{Form 2:} \textit{\textit{N}_{PROP} N}
  \item \textbf{Example:} (7.6), (7.7)
\end{itemize}

\textit{PRED}

\begin{itemize}
  \item Function: \textit{PROPERTY PREDICATION}
  \item \textbf{Form:} \textit{N/S \textit{N}_{PROP}(=\textit{CLI})}
  \item \textbf{Example:} (7.5)
\end{itemize}

As discussed in chapter 6, Bora has root and lexeme level overlaps of all three functions and Gooniyandi has root and lexeme level overlaps of \textit{ATTR} and \textit{PRED}. The overlap of \textit{ATTR} and \textit{PRED} appears to imply the same or a greater overlap on the root and lexeme levels.

In table 7.1, all languages with an overlap of \textit{ATTR} and \textit{PRED} on the construction level are listed. A map with the same languages is found in figure 7.1. The constructional notation for the examples in each respective language is included in the table. The rightmost column indicates whether or not the overlap in question is stated in the source. Where this is the case, the example is explicitly treated in the source as ambiguous between \textit{ATTR} and \textit{PRED}, or the encoding of the two is stated to be identical. The distinction between stated and non-stated overlaps is only indicated for the overlap of \textit{ATTR} and \textit{PRED}, and not in the following sections, since it is only here that it applies.

$^2$ This example is repeated from (6.15b) in section 6.4.1.
### 7. Results III: The construction level

#### Table 7.1. Languages with an [attr pred] overlap on the construction level

<table>
<thead>
<tr>
<th>Languages</th>
<th>Construction</th>
<th>Stated in source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bininj Gun-Wok (Gunwinyguan)</td>
<td>PRO-N/S-ADJ(-TNS.ASP)</td>
<td>✓</td>
</tr>
<tr>
<td>Bora (Witotoan)</td>
<td>MOD N/S</td>
<td>✓</td>
</tr>
<tr>
<td>Gooniyandi (Bunaban)</td>
<td>N/S ADJ</td>
<td>§</td>
</tr>
<tr>
<td>Imonda (Border)</td>
<td>N/S ADJ-\text{l}_{\text{NMLZ}}</td>
<td></td>
</tr>
<tr>
<td>Kewa (Nuclear Trans New Guinean)</td>
<td>ADJ N/S; N/S ADJ X</td>
<td>✓</td>
</tr>
<tr>
<td>Koyra Chiini (Songhay)</td>
<td>N/S ST.V</td>
<td></td>
</tr>
<tr>
<td>Lahu (Sino-Tibetan)</td>
<td>N/S ST.V \text{ve}_{\text{NMLZ/REL}}</td>
<td>✓</td>
</tr>
<tr>
<td>Maltese (Afro-Asiatic)</td>
<td>N/S ADJ.NUM.GEN</td>
<td>✓</td>
</tr>
<tr>
<td>Nuu-chah-nulth (Wakashan)</td>
<td>ST.V=\text{IND.PER.NUM N/S}</td>
<td></td>
</tr>
<tr>
<td>Slave (Athapaskan-Eyak-Tlingit)</td>
<td>N/S ST.V</td>
<td>✓</td>
</tr>
<tr>
<td>Warekena (Arawakan)</td>
<td>N/S ST.V-\text{mi}_{\text{DER}}</td>
<td>✓</td>
</tr>
<tr>
<td>Yimas (Lower Sepik-Ramu)</td>
<td>N/S ST.V-k_{\text{IRR-NCL.NUM}}</td>
<td></td>
</tr>
</tbody>
</table>

As illustrated in Table 7.1, in more than half of the languages with a constructional overlap of ATTR and PRED, examples are explicitly stated to be ambiguous between the two functions. The rest of the languages have encoding that appears to be the same for ATTR and PRED, and which would be ambiguous in meaning between ATTR and PRED if confirmed. This expectation is implied in the constructional notation in Table 7.1. The total overlap of ATTR and PRED may seem surprising, since ATTR encodes a phrase and PRED a whole clause. As soon as the NP in ATTR is expanded with other elements, or the tense is changed in PRED, differences are bound to be exposed. The question may be raised of how far the generalization of ambiguity between ATTR and PRED holds, and whether it only applies to one or a few examples in a specific language. Based on the present analysis, it appears that this type of encoding overlap can be assumed to be fairly local. Alternatively, it could be argued that the constructions attested in ATTR and PRED are partly homonymous, and that a wider range of examples, for instance, with pronouns or other tenses, would expose this homonymy. In other words, it may be the case that in languages where certain grammatical markers are absent, or where a certain word order holds, the encoding of ATTR and PRED simply coincides. Regardless of what perspective is taken, the examples attested do instantiate encoding overlaps of ATTR and PRED. These results, and the problems that may follow from them, do not make any essential contribution to the discussion of adverbs, which is why these problems will not be discussed any further here.

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3 Although this overlap is not stated in McGregor (1990), Bill McGregor (p.c.) confirms it.
7.3. [PRED ADV] construction overlap

The overlap of PRED and ADV is the most common one on the construction level. But this overlap is different in that it includes languages with a partial overlap, languages with a construction between PRED and ADV, and languages where constructions in the two functions are closely related. In a partial overlap, the only structural difference concerns which verbs are used in PRED and ADV, respectively. In PRED we find one or a small number of verbs (copulas, existential verbs, etc). In ADV we find a larger number of (other) verbs. While the choice of verb is an important difference, the constructional similarities are also obvious. Partial overlaps of PRED and ADV are described in section 7.3.1. Not all attested encoding patterns of PRED and ADV are typical instantiations of the two functions. A recurrent finding across languages is that there is a construction that is intermediate, or between PRED and ADV (cf. section 4.3). Such constructions are described in section 7.3.2. Finally, there are yet other encoding patterns that illustrate very subtle distinctions between PRED and ADV. These are discussed in section 7.3.3.

7.3.1. Partial overlap

Thirteen languages in the sample have a partial overlap of the PRED and ADV functions. Here, the encoding of PRED and ADV only differs in terms of what verbs are allowed in the verb slot of the constructional-typological notation: one or a few verbs can be used in PRED, whereas the selection of verbs is larger for ADV. While this is a very important difference in terms of meaning, it may also illustrate the affinity of PRED and ADV. Waiwai (Cariban) has a partial overlap of PRED and ADV. At least 25 simple Adverbs that are used both in PRED and ADV are attested here (cf. sections 5.2 and 6.4.2). In PRED, they are combined with a copula, and in ADV with a number of Verbs (Hawkins 1998: 125). In (7.9) two different members of this class are shown, in PRED and ADV, respectively.
7. Results III: The construction level

(7.9) Waiwai (Cariban) (Hawkins 1998: 126)\(^4\) [PRED ADV]

(a) \textit{Ehcopo} \textit{Ø-xakne noro y-apo-rí.} \textit{pred}
\textit{unequal} \textit{3.SBJ-be 3 GEN-arm-POSS}
‘His arms were unequal (in length).’

(b) \textit{Yohno} \textit{tít-mok-o k-akro-no-ma-rí ke}
\textit{fast} \textit{1.2.SBJ-come-HODPST 1.2-with-NMLZ-VBLZ-NMLZ-POSS because}
\textit{yí-wya.} \textit{ADV}
3-to/by
‘We came fast because he helped us.’

These property items are particularly interesting in that the whole class appears to be restricted to \textit{pred} and \textit{adv} on the lexeme level (again, cf. section 6.4.2). The overlap is captured in constructional-typological notation in boldface in (7.10), along with another encoding form attested in \textit{ADV}.

(7.10) \textit{PRED} and \textit{ADV} in Waiwai

\textbf{PRED}

Function: \textit{PROPERTY PREDICATION}

\textbf{Form:} \textit{ADV COP S}

Example: (7.9a)

\textbf{ADV}

Function: \textit{PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION}

\textbf{Form 1:} \textit{ADV V}

\textbf{Form 2:} \textit{ADV-N-ADV}

Example: (7.9b), (211)

In Dutch, Predicative Adjectives and Adverbs take exactly the same form on the level of the lexeme (cf. section 6.4.2). But the entire constructions also show a partial overlap.

(7.11) Dutch (Indo-European) (Donaldson 1997: 108) [PRED ADV]

(a) \textit{Hij is} \textit{snel.} \textit{PRED}
\textit{he} \textit{be.3SG} \textit{quick}
‘He is quick.’

(b) \textit{Hij rent} \textit{snel.} \textit{ADV}
\textit{he} \textit{run.3SG} \textit{quick}
‘He runs quickly.’

Based on such examples, it is common to conclude that Dutch does not have a class of Adverbs, but rather that Adjectives are simply used adverbiaiy, or that adjectives and adverbs belong to the same class (e.g. van Lier 2009: 16–17). In this monograph, such Dutch property items have been classified as general modifiers (see section 6.4.4). However, the encodings of \textit{PRED} and \textit{ADV} can be argued to have more in common than

\(^4\) (7.9a) is a repetition of (6.5a) in section 6.2.2.
either of the two have with \textit{ATTR}, since modifiers in \textit{ATTR} inflect (agreeing with the head that it modifies) in most cases, with certain clear exceptions (see Dutch in appendix B).\footnote{\textit{It should be noted that in Croft’s terms, it is not the case that \textit{PRED} and \textit{ADV} are unmarked as compared to \textit{ATTR} in Dutch; rather, the inflection of \textit{ATTR} is a type of \textit{behavioral potential}, which does not change the function of the lexeme in question (Croft 2001).}}

(7.12) \textit{PRED} and \textit{ADV} in Dutch

\begin{itemize}
  \item \textbf{\textit{PRED}}
  \begin{itemize}
    \item Function: \textsc{property predication}
    \item \textbf{Form: } $S \textit{ziej}_\text{cop} \textit{G.MOD}$
    \item Example: (7.11a)
  \end{itemize}
  \item \textbf{\textit{ADV}}
  \begin{itemize}
    \item Function: \textsc{property modification within predicating expression}
    \item \textbf{Form: } $S \textit{V G.MOD}$
    \item Example: (7.11b)
  \end{itemize}
\end{itemize}

Yimas (Lower Sepik-Ramu) has a partial overlap where the encoding differs from the patterns of the examples described so far. Here, adverbial incorporation is attested both in \textit{PRED} and \textit{ADV}. There are two types of adverbial elements: those that only occur incorporated, and those that may also be used independently (hence, the numbers in the constructional-typological notation in 7.15, where $\textit{ADVL}_2$ can also be used independently: see appendix B for examples). The examples in (7.13) only illustrate incorporated versions and appear to be instances of \textit{PRED}.

(7.13) Yimas (Lower Sepik-Ramu) (Foley 1991: 100)

\begin{itemize}
  \item (a) kayak $i$-\textit{na-mamay}-ya-n \hfill \textit{\textsuperscript{PRED}}
    \begin{itemize}
      \item canoe.VII.SG \ VIII.SG.SBJ-DEF-\textit{slow}-come-PRS
      \item ‘The canoe is slow.’
    \end{itemize}
  \item (b) kayak $i$-\textit{na-kaykaykay}-ya-n \hfill \textit{\textsuperscript{PRED}}
    \begin{itemize}
      \item canoe.VII.SG \ VIII.SG.SBJ-DEF-\textit{fast}-come-PRS
      \item ‘The canoe is fast.’
    \end{itemize}
\end{itemize}

Most Yimas property words in \textit{PRED} are Stative Verbs (cf. appendix B), apart from the items denoting speed in (7.13). The Verb \textit{ya- ‘come’} is perhaps a bit questionable in \textit{PRED}, and it may be that it is primarily the English translation that makes it look like an instance of \textit{PRED}. However, since there does not appear to be any other way to express ‘fast’ and ‘slow’ in \textit{PRED}, it will be analyzed as such here, noting that this construction may perhaps also be analyzed as in between \textit{PRED} and \textit{ADV} (cf. section 7.3.2). An example that is clearly an instance of \textit{ADV}, with another Verb, is provided in (7.14).

(7.14) Yimas (Lower Sepik-Ramu) (Foley 1991: 342)

\begin{itemize}
  \item a\textit{jka-kaykaykay}-cu-impu-pu-n \hfill \textit{\textsuperscript{ADV}}
    \begin{itemize}
      \item HORT.DU-\textit{quickly}-out-go.by.water-away-IMP
      \item ‘Let us go outside quickly.’
    \end{itemize}
\end{itemize}
7. Results III: The construction level

The constructional-typological notation for PRED and ADV in Yimas is shown in (7.15). Any restriction on the Verb used in the adverbial incorporation in PRED remains unclear. The constructional notation is based on the attested example with -ya ‘come’.

(7.15) PRED and ADV in Yimas

**PRED**
Function: PROPERTY PREDICATION
Form 1: S ADJ-N.CL.NUM anak\_cop
Form 2: N/S ST.V-irr-N.CL.NUM
Form 3: (S) ADV\_1/-ADV\_2-ya ‘come’
Example: (231), (232), (7.13)

**ADV**
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: (S) ADV\_1/-ADV\_2-V
Form 2: ADV\_2 V
Form 3: (S) ADJ/V-mpi\_ADV-V
Example: (7.14), (8.27b), (234)

Table 7.2 lists all languages with a partial overlap of PRED and ADV.\(^6\) Note that since this is a comparison of partial overlaps, there is one column for the construction attested in PRED and one for the parallel construction attested in ADV (in contrast to how the [ATTR PRED] encoding overlap was captured in table 7.1). In a few languages, there is more than one construction pair to compare.

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\(^6\) Sango (Atlantic-Congo) is another language that could perhaps be placed here, but I have chosen to exclude it due to lack of data.
Table 7.2. Languages with partial [PRED ADV] construction overlap

<table>
<thead>
<tr>
<th>Language</th>
<th>PRED CNX</th>
<th>ADV CNX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoli (Nilotic)</td>
<td>(S) PER.NUM-bédò ‘to be’ / dɔkɔ ‘to become’ m̀adj-ADJ</td>
<td>(S) V m̀adj-ADJ</td>
</tr>
<tr>
<td>Basque (isolate)</td>
<td>X-(r)ik&lt;sub&gt;ADV&lt;/sub&gt; egon&lt;sub&gt;COP&lt;/sub&gt;</td>
<td>X-(r)ik&lt;sub&gt;ADV&lt;/sub&gt; V</td>
</tr>
<tr>
<td>Cavineña (Tacanan)</td>
<td>ADJ&lt;sub&gt;PRED1&lt;/sub&gt;-da ju&lt;sub&gt;COP&lt;/sub&gt; S</td>
<td>ADJ&lt;sub&gt;PRED1.SUBSET&lt;/sub&gt;-da(-FOC)(=PER.NUM) V</td>
</tr>
<tr>
<td>Dutch (Indo-European)</td>
<td>S COP G.MOD</td>
<td>S V G.MOD</td>
</tr>
<tr>
<td>Ewe (Atlantic-Congo)</td>
<td>S le&lt;sub&gt;V&lt;/sub&gt; ADJ&lt;sub&gt;2(-i)&lt;/sub&gt;</td>
<td>S V ADJ&lt;sub&gt;2(-i)&lt;/sub&gt;</td>
</tr>
<tr>
<td>Jamsay (Dogon)</td>
<td>ADV&lt;sub&gt;IDEO&lt;/sub&gt;=kɔ/=wɔ&lt;sub&gt;COPV&lt;/sub&gt;</td>
<td>ADV&lt;sub&gt;IDEO&lt;/sub&gt; V</td>
</tr>
<tr>
<td>Lakota (Siouan)</td>
<td>S ST.V-ya/-yela he&lt;sub&gt;V&lt;/sub&gt;</td>
<td>S ST.V-ya/-yela V</td>
</tr>
<tr>
<td>Lezgian (Nakh-Daghestanian)</td>
<td>S ADJ-dakaz/-diz/-z&lt;sub&gt;ADV&lt;/sub&gt; ama&lt;sub&gt;COP&lt;/sub&gt;</td>
<td>S ADJ-dakaz/-diz/-z&lt;sub&gt;ADV&lt;/sub&gt; V</td>
</tr>
<tr>
<td>Sahaptin (Sahaptian)</td>
<td>G.MOD COP</td>
<td>G.MOD&lt;sub&gt;SUBSET&lt;/sub&gt; V</td>
</tr>
<tr>
<td>Slave (Athapaskan-Eyak-Tlingit)</td>
<td>ST.V&lt;sub&gt;SUBSET&lt;/sub&gt;-tɛ ‘be’</td>
<td>ST.V V</td>
</tr>
<tr>
<td>Waiwai (Cariban)</td>
<td>ADV COP S</td>
<td>ADV V</td>
</tr>
<tr>
<td>Yankunytjatjara (Pama-Nyungan)</td>
<td>S ADJ&lt;sub&gt;ACT-CAS&lt;/sub&gt; ngina-Ø ‘sit, live’</td>
<td>S ADJ&lt;sub&gt;ACT-CAS&lt;/sub&gt; V</td>
</tr>
<tr>
<td></td>
<td>S ADJ&lt;sub&gt;ST-CAS&lt;/sub&gt; ngina-Ø ‘sit, live’ / ngari-Ø ‘lie’ / pupa-Ø ‘crouch, bend’</td>
<td>S ADJ&lt;sub&gt;ST-SUBSET/G.MOD-CAS&lt;/sub&gt; V</td>
</tr>
<tr>
<td>Yimas (Lower Sepik-Ramu)</td>
<td>(S) ADV&lt;sub&gt;1&lt;/sub&gt;/ ADV&lt;sub&gt;2&lt;/sub&gt;-ya ‘come’</td>
<td>(S) ADV&lt;sub&gt;1&lt;/sub&gt;/ ADV&lt;sub&gt;2&lt;/sub&gt;-V</td>
</tr>
</tbody>
</table>
7. Results III: The construction level

7.3.2. Between PRED and ADV

The partial encoding overlaps of PRED and ADV discussed in the previous section show how similar the encoding of these two functions can be. It may still be objected that the two construction types are entirely separate, since the encoding in PRED includes one or a very small number of more or less substantial verbs, while the encoding in ADV has any of a large number of verbs in the same schematic position. But there are also other encoding patterns that show how PRED and ADV can be related. At least nine languages in the sample have constructions that are intermediate between PRED and ADV. This means that it is not possible to distinguish two different functions here. Such examples are not typical instances of either PRED or ADV, but are rather exactly in between them. It appears that the two functions are not conceptually distinguished in such cases (cf. discussion of adverbs and depictives in German by Himmelmann & Schultze-Berndt 2005b, treated in chapter 2). The North-American language Lakota (Siouan) has a construction that is between PRED and ADV. This is demonstrated in the examples in (7.16), where both examples can be interpreted as either PRED or ADV (cf. earlier discussion in section 4.3).

(7.16) Lakota (Siouan) (Ingham 2003: 45)

(a) paha ki waykata-ya he
    mountain TOP be.high-ADV be
    ‘The mountain stands high(ly). / The mountain was high.’

(b) tako way ska-yela he
    something one be.white-ADV be
    ‘something stood whitely / there was something white there’

The suffixes -ya and -yela in (7.16) are two of a number of Adverb-deriving suffixes, which attach primarily to verbal stems, but sometimes also to nominal stems (Ingham 2003: 43–44). However, -ya and -yela can be distinguished from the other of these suffixes in that the Adverbs which they form “are often used in a construction with the existential verbs -ha*/he or -ya*/ka/e ‘be in a place’ to describe an object” (2003: 45). Importantly, these existential verbs are not copulas, but full lexical verbs. This is illustrated with he in (7.16) above, which has a use of the existential verb that makes it impossible to distinguish between PRED (e.g. ‘The mountain was high.’) and ADV (e.g. ‘The mountain stands highly.’) – note that the tense difference comes from the original, but appears not to be signaled in the actual example). In contrast, (7.17) illustrates an example of an Adverb derived with -ya in combination with an action verb.

(7.17) Lakota (Siouan) (Ingham 2003: 43)

    tako way mak’op’o-ya nauug u
    something one dust.cloud-ADV gallop come
    ‘Something came galloping in a cloud of dust.’

Example (7.17) does not contain a property concept, but it shows the same construction as (4.8a-b), with the Verb being exchanged. In summary, in constructional-typological

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7 These examples are repeated from (4.8) in section 4.2.
notation, the encoding in PRED and ADV in Lakota can be captured as in (7.18), including all examples considered here, as well as a third form attested in ADV (see appendix B).

(7.18) PRED and ADV in Lakota

**PRED**

Function: PROPERTY PREDICATION

**Form 1:** S ST.V-ya/-yela he

Example: (7.16)

**ADV**

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION

**Form 1:** S ST.V-ya/-yela he

Form 2: S ST.V-ya/-yela V

Form 3: ADV V

Example: (7.16), (7.17), (138)

Lakota has two encoding patterns that instantiate overlap of PRED and ADV. There is a partial overlap, in the sense that the derived Adverb ST.V-ya/-yela can be combined with the existential Verb he in PRED/ADV, and with any action Verb in ADV (cf. table 7.2 in section 7.3.1). But there is also the construction with the derived Adverb ST.V-ya/-yela combined with the existential Verb he, which appears to be intermediate between PRED/ADV.

A similar situation holds in Yankunytjatjara (Pama-Nyungan) where what Goddard (1985: 17) calls “Active Adjectives” can be combined either with intransitive “Stance Verbs”, yielding a construction that is intermediate between PRED and ADV, or with Verbs denoting actions, implying a partial overlap between the two (cf. table 7.2 in section 7.3.1 and examples in appendix B.)

Lahu (Sino-Tibetan) also has a construction that is intermediate between PRED and ADV. In section 6.4.4, I described the construction that Matisoff (1973: 285) terms “stative adverbials”: these consist of stative Verbs combined with the particle `E. Stative Adverbials modify Verbs, but they primarily occur with a small number of Verbs with abstract meanings. Combinations with other Verbs are possible, but not as frequent.

(7.19) Lahu (Sino-Tibetan) (Matisoff 1973: 287)\(^8\)

\[(a)\] yó ve úkhènu ší è cò ve yó
he PART hair be.yellow PART be.there PART DECL
‘He had blond hair. (lit. His hair was there yellow(ly)).’

\[(b)\] á-mí=jí? ni è tò? ve
sparks be.red PART beam PART
‘The sparks burned red(ly).’

The constructional-typological notation of Lahu in (7.20) captures the fact that the construction that is between PRED and ADV is only one among several encoding patterns attested in the two functions (see appendix B for actual other examples).

---

\(^8\) (7.19a) and (7.19b) are repeated from (6.40) and (6.41) in section 6.4.4.
(7.20) PRED and ADV in Lahu

(a) **PRED**

Function: PROPERTY PREDICATION
Form 1: N/S ST.V \( v_{\text{NMLZ/REL}} \)
Form 2: S ST.V \( \hat{\varepsilon}_{\text{PART}} V_{\text{SUBSET}} v_{\text{PART}} \)
Example: (135), (7.19)

(b) **ADV**

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: ADV V
Form 2: \( qha-\text{ADV} V V \)
Form 3: S ST.V \( \hat{\varepsilon}_{\text{PART}} V_{\text{SUBSET}} v_{\text{PART}} \)
Example: (136), (8.28), (5.25), (7.19)

In Lahu, the construction that is between PRED and ADV appears to be a more marked alternative to other constructions found in the two functions in question. This is also the case in Basque (isolate), where there are different Adverbs, formed in a number of ways. Some Adverbs are formed with the non-productive -(r)ik, which is also the partitive suffix. These Adverbs often occur with the copula egon (Hualde & de Urbina 2003: 426).

(7.21) Basque (isolate) (Hualde & de Urbina 2003: 194) PRED/ADV

(a) **Poz-ik** nago.

happiness-ADV be.1SG

‘I am happy.’

(b) **isil-ik** hago!

silent-ADV be-2SG

‘Be quiet’

According to Hualde & de Urbina (2003: 426), the copula egon has a more marked use than the copula izan that is attested in PRED in combination with an Adjective (see appendix B for examples, and see Stassen 1997: 180 for further comments on the matter). A parallel can be drawn to semi-copulas, as discussed by Hengeveld (1992: 34ff.). The use of egon implies a transitory state (2003: 426). This encoding, which is between PRED and ADV, is captured in (7.22), along with the other constructions found in the two functions.

(7.22) PRED and ADV in Basque

(a) **PRED**

Function: PROPERTY PREDICATION
Form 1: S ADJ(-DEF.NUM) izan\(_{\text{COP}}\)
Form 2: X-(r)ik\(_{\text{ADV}}\) egon\(_{\text{COP}}\)
Example: (25), (7.21)
7.3. /PRED ADV/ construction overlap

(b) ADV

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION

Form 1: ADJ-$ki_{ADV}$ V S
Form 2: ADJ-$to_{ADV}$ V
Form 3: X-(r)$ik_{ADV}$ $egon_{COP}$/V
Form 4: ADJ (REDUP) V

Example: (26), (8.23), (7.21); (27), (28)

Many constructions that are between PRED and ADV across languages seem to involve transitory states, although it is not always straightforward that they do. This is thoroughly discussed by Stassen (2001). In Lezgian (Nakh-Daghestanian), Adjectives are used in PRED with the copula $ja$. The PRED function can nonetheless also be formed with a continuative form of local copula $ama$ ‘be still (in)’, which requires a derived Adverb.

(7.23) Lezgian (Nakh-Daghestanian) (Haskelmath 1993: 323) PRED/ADV

*Mizafer* $k'uban-diz$ $ama$.
*Mizafer* energetic-ADV be.still

‘Mizafer is still energetic.’

While example (7.23) semantically may look primarily like PRED, the use of a certain Copula and a derived Adverb makes it look structurally more like ADV. Again, it seems that the construction is between the two functions.

All languages with constructions that are between PRED and ADV are listed in table 7.3, along with notation of the construction in question. In cases where a regular copula is used, this is simply noted as such, and the exact form is not included. However, where a special copula or another verb is used, the form is included. Whenever the meaning of the verb is something other than ‘be’, a translation is also provided. Note that seven of the languages with constructions between PRED and ADV (Acoli, Basque, Ewe, Lakota, Lezgian, Slave, Yankunytjatjara) have additional constructions that partially overlap, as described in section 7.3.1.

Figure 7.3. Languages with a construction between PRED and ADV

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Table 7.3. Languages with a construction intermediate between PRED and ADV

<table>
<thead>
<tr>
<th>Language</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abkhaz (Northwest Caucasian)</td>
<td>(S) ST.V_{SUBSET} COP</td>
</tr>
<tr>
<td>Acoli (Nilotic)</td>
<td>(S) bédò ‘to be’ / dòkò ‘to become’ mà_REL-ADJ</td>
</tr>
<tr>
<td>Basque (isolate)</td>
<td>X-{r}ik_{ADV} egon_{COP}</td>
</tr>
<tr>
<td>Ewe (Atlantic-Congo)</td>
<td>S le_{V} ADJ_{2}(-i)</td>
</tr>
<tr>
<td>Lahu (Sino-Tibetan)</td>
<td>S ST.V ª_{PART} V_{SUBSET} ve_{PART}</td>
</tr>
<tr>
<td>Lakota (Siouan)</td>
<td>S ST.V-{ya/-yela he}_{V}</td>
</tr>
<tr>
<td>Lezgian (Nakh-Daghestanian)</td>
<td>S ADJ-dakaz/-diz/-z_{ADV} ama_{COP} ‘be still (in)’</td>
</tr>
<tr>
<td>Slave (Athapaskan-Eyak-Tlingit)</td>
<td>S ST.V_{SUBSET} -whè ‘want, allow’</td>
</tr>
<tr>
<td>Yankunytjatjara (Pama-Nyungan)</td>
<td>S ADJ_{ACT}-CAS nyina-Ø ‘sit, live’</td>
</tr>
</tbody>
</table>

From the constructional notation in table 7.3, it is clear that the languages with an intermediate construction between PRED and ADV vary regarding the shape of the property word (stative verb, derived adverb, etc.) and in whether it is just a subset or special type of property word that can be used in the construction. Moreover, the languages differ in terms of what type of verb the property word combines with. These characteristics also show that the productivity of the construction differs between the languages in question. Based on these results, it can be argued that constructions that are between PRED and ADV show that adjacent subregions of PRED and ADV can be constructionalized together.

7.3.3. Connections between constructions in PRED and ADV

Some languages have constructions that are very similar or where the distinctions between PRED and ADV are quite subtle. Imonda (Border) has Adjectives that often carry the ending -l, which is a nominalizer. Adverbs, on the other hand, are formed from bare Adjectives by attaching the clitic =nam. In combination with one of a small number of existential Verbs, Adjectives provide an “inherent or objective” interpretation, while Adverbs result in a “temporary or subjective” interpretation (Seiler 1985: 155).

(7.24) Imonda (Border) (Seiler 1985: 155)

(a) che ebes-l ale-f. PRED
   3 good-NMLZ stay-PRS
   ‘she is good/nice/beautiful’

(b) ka-fa ebes=nam pete ale-f ADV
   1-TOP good=ADV INT stay-PRS
   ‘I am feeling sort of O.K.’

In contexts where a temporary interpretation is impossible, the use of the derived Adverb is ungrammatical.
7.3. \([\text{PRED ADV}] \) construction overlap

(7.25) Imonda (Border) (Seiler 1985: 155)

(a) ehe  \textit{hute}-l  (/ *\textit{hute} = \textit{nam})  \textit{lõh-f} \quad \text{PRED}

\begin{align*}
3 \quad & \text{short-NMLZ} \quad (/ \quad \text{short} = \text{ADV}) \quad \text{stand-PRS} \\
& \text{‘he is short’}
\end{align*}

(b) mé\textit{n}a \textit{hute}-l  / \textit{hute} = \textit{nam}  \textit{gê-li-f} \quad \text{PRED/ADV}

\begin{align*}
& \text{road short-NMLZ} \quad / \quad \text{short} = \text{ADV} \quad \text{CLF-lie-PRS} \\
& \text{‘the road is short/feels short’}
\end{align*}

A similar situation is found in Estonian (Uralic), where Adjectives can be formed in two different ways when combined with the Verb \textit{olla} ‘to be’. Nominative case is used when the property referred to is stable in time, as in (7.26a), whereas an adverbial ending is used when it is temporary, as in (7.26b).

(7.26) Estonian (Uralic) (Lehiste 1972: 224)

(a) \textit{Asjad}  \textit{on} \textit{halvad}. \quad \text{PRED}

\begin{align*}
things \quad & \text{be.3SG.PRS} \quad \text{bad.SG.NOM} \\
& \text{‘Things are bad.’}
\end{align*}

(b) \textit{Asjad}  \textit{on} \textit{halvasti}. \quad \text{ADV}

\begin{align*}
things \quad & \text{be.3SG.PRS} \quad \text{bad.ADV} \\
& \text{‘Things are bad.’}
\end{align*}

The encoding patterns from Imonda and Estonian can be compared to the examples from Basque discussed in section 7.3.2, where the use of a special copula with certain Adverbs yields a temporary interpretation. Another language outside of the sample with a slightly different pattern is Polish (Indo-European).

(7.27) Polish (Indo-European) (Marcin Wlodarczak, p.c.)

(a) \textit{Ksiązka}  \textit{jest} \textit{dobra}. \quad \text{PRED}

\begin{align*}
\text{book.SG.F.NOM} \quad & \text{be.PRS.3SG} \quad \text{good-SG.F.NOM} \\
& \text{‘The book is good.’}
\end{align*}

(b) \textit{Jest} \textit{dobrz-e}. \quad \text{PRED/ADV}

\begin{align*}
\text{be.PRS.3SG} \quad & \text{good-ADVZ} \\
& \text{‘It’s good; Things are good.’}
\end{align*}

(c) \textit{Czuje} \textit{się dobrz-e}. \quad \text{PRED/ADV}

\begin{align*}
\text{feel.PRS.1SG} \quad & \text{REFL} \quad \text{good-ADVZ} \\
& \text{‘I feel well.’}
\end{align*}

In Polish, the predicative Adjective is inflected for number, gender, and case, as illustrated in (7.27a). However, if the subject is impersonal, as in (7.27b), the Adjective instead takes the adverbial ending\textit{-e}. This is also the case when it is combined with the Verb \textit{czuć} ‘feel’, in cases such as (7.27c). The adverbial ending is accordingly used in certain instances of PRED, or in cases that are between PRED and ADV.

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7. Results III: The construction level

Although the languages in which temporariness distinctions are attested are few, they are found in different parts of the world. The point here is perhaps not so much the connection between PRED and ADV manifested in the affinity of the constructions, but the relatively subtle meaning distinctions in examples that come close to being intermediate between the two functions. This illustrates how close the functions of PRED and ADV can be, even though they are still distant enough to have different meanings and thus different encoding in the languages in question.

7.3.4. Conclusion

The constructional overlap of PRED and ADV shows more variation than that of ATTR and PRED (cf. section 7.2). Encoding overlaps that include the two functions as wholes are only attested as partial overlaps. When considering the difference, treating these encoding patterns as overlaps may seem a simplification. Naturally, a copula cannot be equated with a full verb. But it is not supposed to be understood as a simplification. The constructional overlap, described as partial only, does not exclude such differences, but clarifies both similarities and differences. The constructions that are between PRED and ADV show that the two functions may overlap completely, even if they do not overlap in their most typical instances. The very subtle differences that are encoded in some languages illustrate this further. In conclusion, the partial overlap of PRED and ADV occurs in unrelated languages spread out around the world, as illustrated in the map in figure 7.2. This spread is highly important. It shows that the relationship between PRED and ADV is not as rare as it may seem from a Eurocentric perspective, where PRED and ADV are often interpreted as being mutually exclusive.

7.4. [ATTR ADV] construction overlap

Four cases of overlap of the ATTR and ADV functions are attested in the languages of the sample, although two of them are perhaps more correctly classified as tendencies towards overlap. Tagalog (Austronesian) has a clear overlap. In this language, the most basic division that can be discerned in terms of categories is the distinction between content words and function words, where the latter is a closed class of particles (Himmelmann 2005: 360). Although the content words can be classified into different subcategories, these do not fit under labels like noun, verb, and adjective, since Tagalog lacks the close correspondence between morphological properties and syntactic distribution that languages such as English display. Instead, content words can occur anywhere syntactically, meaning that they “may occur as predicates, as (semantic) heads of noun phrases and as modifiers” (2005: 361). Tagalog stands out among the languages of the sample, in the nature of its encoding overlap of ATTR and ADV. What unites the two functions is that they require the same structural feature in the form of a linker. According to Himmelmann, “[a]ll non-possessive modifying constructions involve the linker na (-ng after vowels, /n/ or glottal stop) between each major constituent” (2005: 359). In (7.28), two examples of ATTR are provided.
(7.28) Tagalog (Austronesian) (Himmelmann 2005: 359, 356)<sup>9</sup> [ATTR ADV]

(a) *ang* **ma-liít** **na** *hayop*

SPEC ST-*smallness* LK animal

‘the small animal’

(b) *napakagandáng* dalaga *iyón* *e*

ELA.*beauty.LK* young.woman DIST EMPH

‘She (that one) is a very beautiful girl, you see.’

The order of the items in a construction with a linker is not fixed: e.g. ‘smallness’ and ‘animal’ in (7.28a) could switch places. If there is more than one modifying item, then the linker occurs with each one of them, as seen in the example with a numeral in (7.29).

(7.29) Tagalog (Austronesian) (Himmelmann 2005: 359) [ATTR ADV]

*ang* **apat** **na** *ma-lalim* **na** *balón*

SPEC four LK ST-*depth* LK well

‘four deep wells’

The linker is also used in relative clauses, which may precede or follow the head, as illustrated in example (7.30), where there is both a preceding and a following relative clause, as indicated with brackets.

(7.30) Tagalog (Austronesian) (Himmelmann 2005: 359)<sup>10</sup> [ATTR ADV]

[kanyá-ng *na-kita-ng*] *isá-ng* *ibon* [na *mayroón* *pugad*]

3SG.DAT-LK REAL.POT-seen-LK one-LK bird LK EXIST.LK nest

‘(There was) a bird he happened to see that had a nest.’

In ADV, the linker is used, as in the examples in (7.31).

(7.31) Tagalog (Austronesian) (Himmelmann 2005: 359, 360) [ATTR ADV]

(a) *biglá-ng* *d<um>-átìng* *yung* *utusan*

sudden-LK <AV>*arrival* DIST.LK servant

‘Suddenly that servant came...’

(b) *biglá* *siyá-ng* *nagbangon*

sudden 3SG-LK REAL.AV.rising

‘... she got quickly up (from her bed), ...’

Although *dumatíng* ‘arrival’ in (7.31a) may seem noun-like in the gloss, it has a prefix indicating actor voice, and should perhaps instead be glossed as ‘arrive’. In (7.31b), the clitic indicating third person singular is attached to the linker. In addition to the constructions described so far, the linker occurs on modifiers that function as intensifiers.

---

<sup>9</sup> In (7.28), **ST** stands for ‘stative’ and **ELA** for ‘elative’, cf. list of abbreviations.

<sup>10</sup> Brackets are added and two lines merged from the original.
results iii: the construction level

(7.32) tagalog (austronesian) (himmelmann 2005: 359)

\[ \text{lalo-ng malaki ang takot} \]
\[ \text{surpassing-lk big spec fear} \]
‘the fear was very great . . . ’

an example of pred is provided in (7.33).

(7.33) tagalog (austronesian) (schachter 1972: 64)

\[ \text{bago ang bahay} \]
\[ \text{new top house} \]
‘the house is new.’

while the same encoding strategy in the form of the linker \( na/-ng \) is attested in attr and adv, the pred function does not have this encoding strategy. this difference is obvious in the constructional-typological summary in (7.34). here, the label prop is used for ‘property’ for illustrative purposes, even though this does not follow the constructional-typological notation used here, in order to indicate that any property-denoting lexeme can be used here.

(7.34) attr, pred, and adv in tagalog

attr

function: property modification within referring expression
form: \( (\text{ang}_{\text{spec/top}}) \ \text{prop} \ n a/-ng_{\text{lk}} \ n \)
example: (7.28), (7.29)

pred

function: property predication
form: \( \text{prop} \ \text{ang}_{\text{spec/top}} \ s \)
example: (7.33)

adv

function: property modification within predicating expression
form: \( \text{prop} \ n a/-ng_{\text{lk}} \ v \)
example: (7.31)

it is remarkable that a language in which it does not make sense to distinguish any categories, and that thus clearly does not have any classes of adjectives, adverbs, or even general modifiers, still has the same encoding pattern for the two functions involving modification, i.e. attr and adv. the linker used for modification in attr and adv also occurs in relative clauses and with intensifiers. a relative clause is also an instance of modification in attr, as noted by croft (2001: 88) in the region of action modification (i.e. modification through the use of an action word) in his conceptual space (cf. table 2.2 in section 2.3.4). intensifiers are also a type of modifier, either of other modifiers, or of predicates (as appears to be the case in example 7.32). thus, tagalog shows that it is not
necessary to have an overlap on the level of the lexeme restricted to the three functions in question. Rather, the construction as such is a modification construction, and it is in this that the overlap is manifested.

A more marginal overlap of ATTR and ADV is attested in Cherokee (Iroquoian). Here, a class of General Modifiers can be identified, with certain resemblance to Verbs, such as taking pronominal prefixes indicating person and number. These prefixes normally occur in ATTR and PRED, but at least one of the General Modifiers can be used in ADV, and does not require the prefix in ATTR and ADV.

(7.35) Cherokee (Iroquoian) (Montgomery-Anderson 2008: 548) [ATTR ADV]

(a) na *osda* asgaya oginali?i.
    the good man friend
    ‘The good man is my friend.’

(b) *osda* gawonisgoPi.
    good speaks
    ‘He speaks well.’

In PRED, the pronominal prefix is required, as illustrated in (7.36).

(7.36) Cherokee (Iroquoian) (Montgomery-Anderson 2008: 497) PRED

(a) a-óósta
    3-good
    ‘good, he/she is good’

(b) anii-óósta
    3PL-good
    ‘good, they are good’

Due to a lack of data, it is unclear whether it is a subset of General Modifiers that can be used in this fashion, or whether the example in (7.35) is a single exception. A similar pattern is found in Hdi (Afro-Asiatic), where certain General Modifiers, denoting color and with a clear nominal origin, combine with the preposition *kà* ‘like’ (Frajzyngier & Shay 2002: 74, 349) in all three functions. In PRED, a copula must also be used.

(7.37) Hdi (Afro-Asiatic) (Frajzyngier & Shay 2002: 75, 349) [ATTR ADV]

(a) ndá ńgh-ýů tá vdzí kà dvá
    ASSOC see-1SG OBJ monkey like red
    ‘I saw a red monkey’

(b) kà vnúxàgá-f-t-i tántán kà ghův-a zwạ́n tā xúlā
    SEQ vomit-up-REF-1SG first like excrement-GEN child PREP back
    tsá kà kzún kzúŋ
    DEF like grass
    ‘I vomited first yellow and afterwards green.’
7. Results III: The construction level

(7.38) Hdi (Afro-Asiatic) (Frajzyngier & Shay 2002: 349) 
\[ \text{kà kùzùn-kùzùn nà lgut nà} \]
like green COP cloth DEM
\`this shirt is green’ (for a shirt that one may hold in one’s hand)

Maltese (Afro-Asiatic) has an overlap of ATTR and ADV in one specific construction with an object. In addition to Adjectives and Adverbs, Maltese has General Modifiers. In certain examples with objects, the use of General Modifiers leads to a construction where ATTR and ADV cannot be distinguished.

(7.39) Maltese (Afro-Asiatic) (Borg & Azzopardi-Alexander 1997: 118) 
\[(a) \text{ferhu ferha kbira} \]
rejoiced.3PL joy big.sg.f
\`They rejoiced a big rejoicing.’/‘They were overjoyed.’ ATTR/ADV
\[(b) \text{xorbu xarba friska} \]
drank.3PL drink fresh.sg.f
\`They drank a fresh drink.’/‘They drank freshly.’ ATTR/ADV

The translation in (7.39a) arguably makes this example look like an instance of PRED, but it seems that it could be rephrased as, e.g., ‘They rejoiced greatly’. Maltese has the only instance of a total meaning overlap of ATTR and ADV in the languages of the sample. Admittedly, it is a highly specialized construction and not a general pattern for the two functions in Maltese, but it is nonetheless interesting that ATTR and ADV can be encoded identically. Since these last examples are quite specific, constructional-typological notation has not been provided for them (but see appendix B).

The languages with an [ATTR ADV] overlap are only a handful, yet very different patterns are found here. They range from the constructional schematic overlap in Tagalog, to the highly specialized construction in Maltese, with the examples from Cherokee and Hdi somewhere in between. Still, the different patterns all share the fact that they point to ATTR and ADV as encoded similarly or identically, without PRED being involved. This shows that modification, as a function, unites ATTR and ADV. Moreover, the constructions used in these two modifier functions may be related, even when there are no specifically related lexemes in ATTR and ADV.

7.5. [ATTR PRED ADV] construction overlap

A constructional overlap of ATTR, PRED, and ADV may seem unintuitive. Not surprisingly, it is not clearly attested in any sample language. But two languages have tendencies towards overlaps of all three functions: Bora (Witotoan) and Nuu-chah-nulth (Wakashan). Why they are only tendencies and not clear overlaps as such will be discussed once examples have been examined.

Bora (Witotoan) was treated in section 7.2 among the languages with an overlap of the ATTR and PRED functions on the level of the construction. Just like the other languages in which such an overlap is attested, it is a total overlap, where the meanings of the two
functions cannot be distinguished. But the General Modifiers used in ATTR and PRED can be used also in ADV, as illustrated in (7.40) and (7.41).

(7.40) Bora (Witotoan) (Thiesen 1996: 50)\textsuperscript{11}

\begin{verbatim}Ímí cáraca.
good chicken
\end{verbatim}
‘the good chicken/the chicken is good’

(7.41) Bora (Witotoan) (Thiesen 1996: 50)

\begin{verbatim}Ímí cáraca majchó.
good chicken eat
\end{verbatim}
‘The chicken eats well.’

Accordingly, the constructions found in the three functions in Bora look very much the same, with the General Modifier preceding the item that it modifies (in ATTR and ADV) or is predicated of (in PRED). This becomes even clearer in the constructional-typological notation in (7.42). Note that the construction with the classifier found in Form 2 of ATTR is a way of disambiguating between ATTR and PRED.

(7.42) ATTR, PRED, and ADV in Bora

**ATTR**

Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION

Form 1: G.MOD N/S
Form 2: G.MOD-clf N
Example: (7.40), (7.3)

**PRED**

Function: PROPERTY PREDICATION

Form: G.MOD N/S
Example: (7.40)

**ADV**

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION

Form 1: G.MOD S V
Form 2: ADV V
Example: (7.41), (35)

Judging from example (7.40), it seems that example (7.41) could equally well be interpreted as ‘The good chicken eats’. But although the constructional pattern sketches a neat overlap, the reality of the overlap can be questioned. Perhaps an example such as ‘The chicken is good and eats’ (which does not appear as very natural) would be required to see exactly how accurate the overlap of all three functions in Bora is. In sum, more data would be required to determine to what extent this overlap holds.

\textsuperscript{11} This example is repeated from (7.2) in section 7.2.
In Nuu-chah-nulth (Wakashan), Stative Verbs are used in the \textit{attr}, \textit{pred}, and \textit{adv} functions. Note that just as in the case of Bora, Nuu-chah-nulth is one of the languages that have an overlap of \textit{attr} and \textit{pred}, as illustrated in (7.43) and (7.44). Grammars differ in whether they treat mood, person, and number markers as clitics or affixes.

(7.43) Nuu-chah-nulth (Wakashan) \hfill [\textit{attr pred adv}]
(Davidson 2002: 128; Nakayama 2001: 92)$^{12}$

\begin{itemize}
  \item[(a)] \textit{ʔiʔixʷʔi} \textit{qidiƛ xu} \textit{big.IND.3SG dog DEM}
  \textit{That is a big dog.}
  \item[(b)] \textit{ʔiʔaqʔiš} \textit{ʔiiq̕-y̕ak}
  \textit{bad-IND.3 telling-instrument}
  \textit{There is bad news.}
\end{itemize}

(7.44) Nuu-chah-nulth (Wakashan) \hfill [\textit{attr pred adv}]
(Davidson 2002: 128; Swadesh 1939: 446)$^{13}$

\begin{itemize}
  \item[(a)] \textit{kʷaʔaks}
  \textit{small.IND.1SG}
  \textit{I am small.}
  \item[(b)] \textit{ʔiʔh-ma} \textit{qoʔasʔi}
  \textit{large-3SG.IND man-DEF}
  \textit{The man is big.}
\end{itemize}

As discussed in section 6.4.4, the same Stative Verbs can be used in the \textit{adv} function.

(7.45) Nuu-chah-nulth (Wakashan) (Nakayama 2001: 113)$^{14}$ \hfill [\textit{attr pred adv}]

\begin{itemize}
  \item \textit{ʔiʔhʷ-aX̌at-quːs} \textit{ʔu-ʔaːluk-ʔat}
  \textit{greatly-TEL-SHIFT-COND.1SG it-looking.after-SHIFT}
  \textit{They looked after me very well.}
\end{itemize}

From the examples above, it cannot be concluded that the Stative Verb is used in the same construction as in \textit{attr} and \textit{pred}, since the Stative Verb also carries markers for telicity and perspective-shifting in \textit{adv}. Still, in carrying the same marking indicating mood, person, and number, Nuu-chah-nulth is at least a candidate for a language with a constructional overlap of all three functions, as captured in (7.46), where other encoding patterns attested in \textit{adv} are also included.

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$^{12}$ (7.43a) is repeated from (6.42) in section 6.4.4.
$^{13}$ (7.44b) is repeated from (6.43) in section 6.4.4.
$^{14}$ (7.45) is repeated from (6.44) in section 6.4.4.
(7.46) **Attr, Pred, and Adv in Nuu-chah-nulth**

(a) **Attr**

   Function: **Property modification within referring expression**
   Form:     ST.V-MOOD.PERS.NUM N/S (art)
   Example:  (7.43)

(b) **Pred**

   Function: **Property predication**
   Form:     ST.V-MOOD.PERS.NUM N/S
   Example:  (7.44)

(c) **Adv**

   Function: **Property modification within predicating expression**
   Form 1:   ST.V-TEL-SHIFT-MOOPER.NUM V
   Form 2:   V-SFXADV
   Form 3:   SVC
   Example:  (7.45), (8.30), (5.24)

As has been illustrated in this section, only Bora and Nuu-chah-nulth display near overlaps of all three functions on the level of the construction, and their patterns in doing so differ distinctly. However, the absence of clear overlaps of all functions is not unexpected.

### 7.6. Summary and conclusion

In this chapter, I have discussed encoding overlaps of **Attr**, **Pred**, and **Adv** on the construction level, by employing the constructional-typological approach. Languages where **Attr** and **Pred** overlaps are attested were first discussed as the second most common constructional overlap in the sample. The overlap of **Attr** and **Pred** is only attested as total: the meanings of the functions cannot be distinguished here. The [**Attr Pred**] overlap confirms the status of these two functions as commonly encoded in the same way, not only on the root and lexeme levels, but also on the construction level, although it is local in the latter. The second overlap described the overlap of **Pred** and **Adv**, which is the most common constructional overlap. This shows that despite what might be expected from a Eurocentric perspective, many languages display a close connection between **Pred** and **Adv** on the construction level, with **Attr** being encoded separately. In this way, **Pred** and **Adv** appear to be closely related conceptually. The overlap of the **Attr** and **Adv** functions, although only attested in a few languages, is highly important for the understanding of the two functions. In Tagalog, where no part of speech categories can be distinguished, the overlap of **Attr** and **Adv** is found in terms of the constructional schema alone. This shows that the shared function of modification may influence the structural encoding itself, without any specific effect on the lexeme level. The total overlap in Maltese illustrates that, given the right context, **Attr** and **Adv** are close enough to overlap entirely. Furthermore, it is not surprising that no language in the sample displays a clear constructional overlap of all three functions. Only two languages have a
tendency towards such an overlap. Constructional overlaps undeniably present a much more complex type of overlap than those on the lexeme level, since they include more complex encoding. The three functions in focus are different enough not to be identically encoded in their constructions.

In this chapter and the two that preceded it, the identity of adverbs and their connections to ATTR and PRED have been elucidated. Simple adverbs are found in a majority of sample languages. Different encoding overlaps are found at the root, lexeme, and construction levels. In the next three chapters, these results will be discussed in terms of their semantics and their implications for regarding adverbs as belonging to one part of speech category.
Part III.

Discussion
8. Semantic types and prototypicality

8.1. Introduction

In section 5.2, it was shown that simple adverbs are found in genealogically unrelated and geographically distant languages around the world. A number of unrelated languages that do not have simple adjectives, but that do have simple adverbs, were also discussed. Accordingly, adverbs appear to be no less basic than adjectives. In chapter 6, it was shown that many sample languages have an overlap on the lexeme level of ATTR, PRED, and ADV, in the form of a class that I termed *general modifiers*. In this chapter, I will turn to semantic types. Just like there are core and peripheral semantic types for adjectives following Dixon (1977) (cf. section 2.5.1), there are core and peripheral semantic types for adverbs and general modifiers (see also Hallonsten Halling 2017). I will examine such semantic types for adverbs and the way they are manifested in the languages of the sample. First, I will describe the semantic types found among simple adverbs in section 8.2, followed by those found among general modifiers in section 8.3. This is followed by a discussion of lexicalization tendencies in the languages of the sample, and the semantic types attested among them in section 8.4. Several languages of the sample have adverbial affixes (cf. section 5.3.5). The semantic types of these affixes will be treated in section 8.5. Finally, semantic types and meaning shift are discussed in section 8.8, and the chapter concludes in section 8.9. Concerning the semantic types of simple adverbs and general modifiers, I put forth the following hypotheses:

(8.1) (a) *There are several cross-linguistically recurring semantic types of adverbs, ranging from core to peripheral.*

(b) *SPEED is a semantic core type for adverbs.*

(c) *VALUE is a semantic core type for both adjectives and adverbs, and also for general modifiers.*

Hypothesis (8.1a) predicts that for languages that have adverbs, different semantic types ranging from core to peripheral can be discerned among them. Core types tend to be found among the simple adverbs of a language, regardless of how few these adverbs are. Other types are peripheral, meaning that they are found in larger adverb classes. These are also expected to recur across languages, although not to the same extent, since larger adverb classes are not as common as smaller ones. Hypothesis (8.1b) predicts that if a language has simple adverbs, then SPEED will be found among them. If a language does not have any simple adverbs, SPEED expressions used in ADV may nonetheless show lexicalization tendencies, as we shall see in section 8.4. This is another way in which SPEED is manifested as a core semantic type for adverbs, or in other words, an adverb
8. Semantic types and prototypicality

prototype. Finally, hypothesis (8.1c) predicts that if a language has a class of general modifiers, then VALUE tends to be found in this class, and that if a language has fairly large but separate adjective and adverb classes, VALUE tends to be found in either or both of them.

8.2. Simple adverbs

As shown in chapter 5, a majority of the sample languages have simple adverbs. Most of these languages (38/41) have adverbs denoting SPEED, e.g., fast and slowly. These languages are listed in table 8.1. The same languages are found in the map in figure 8.1. The number of SPEED adverbs, or of simple adverbs in general, varies from language to language. Some of the languages have larger adverb classes with several types of concepts, whereas others have just very few adverbs, or even just one.

<table>
<thead>
<tr>
<th>Table 8.1. Languages with SPEED adverbs</th>
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<tbody>
<tr>
<td>Acoli (Nilotic)</td>
</tr>
<tr>
<td>Ainu (isolate)</td>
</tr>
<tr>
<td>Alamblak (Sepik)</td>
</tr>
<tr>
<td>Bambara (Mande)</td>
</tr>
<tr>
<td>Bininj Gum-Wok (Gunwinyguan)</td>
</tr>
<tr>
<td>Bora (Witotoan)</td>
</tr>
<tr>
<td>Bukiyip (Nuclear Toricelli)</td>
</tr>
<tr>
<td>Cuicatec (Otomanguean)</td>
</tr>
<tr>
<td>Estonian (Uralic)</td>
</tr>
<tr>
<td>Ewe (Atlantic-Congo)</td>
</tr>
<tr>
<td>Goomiyandi (Bunaban)</td>
</tr>
<tr>
<td>Guarani (Tupian)</td>
</tr>
<tr>
<td>Imbabura Quechua (Quechuan)</td>
</tr>
<tr>
<td>Imonda (Border)</td>
</tr>
<tr>
<td>Jamul Tiipay (Cochimi-Yuman)</td>
</tr>
<tr>
<td>Kalaallisut (Eskimo-Aleut)</td>
</tr>
<tr>
<td>Kambera (Austronesian)</td>
</tr>
<tr>
<td>Kewa (Nuclear Trans New Guinea)</td>
</tr>
<tr>
<td>Kham (Sino-Tibetan)</td>
</tr>
</tbody>
</table>

Two examples of SPEED adverbs are given in (8.2–8.3).

(8.2) Lezgian (Nakh-Daghestanian) (Haspelmath 1993: 89)

Čimi č’aw. u-z weq’-er  **fad**  q’ura-da.  
hot time-DAT grass-PL **quickly** dry-FUT

‘In the hot time grass dries **quickly.**’
8.2. Simple adverbs

(8.3) Mam (Mayan) (England 1983: 190)

\[
\text{cheeb’}a \ b’iincha-n-kub’-t-a \ q-mees \\
\text{slowly} \quad \text{make-IMP-DIR-2SG.EMP-2SG} \ 1PL\text{-table}
\]

‘Make our table slowly!’

Out of the 41 languages with simple adverbs, at least eight languages have adverbs denoting VALUE. These are presented in table 8.2, and in the map in figure 8.2. Notably, seven of the eight languages with VALUE adverbs also have SPEED adverbs. Hdi (Afro-Asiatic) is the only exception that has VALUE but not SPEED among its adverbs. The languages with VALUE adverbs are remarkably few compared to the ones with SPEED adverbs. Based on the predictions of hypothesis (8.1c), which claims that VALUE is a semantic type for both adjectives and adverbs, as well as for general modifiers, this is not surprising. VALUE can occur either among adjectives, adverbs, or general modifiers, or in more than one of these classes, in cases where they are attested. It should also be noted that most of the languages displaying VALUE adverbs have relatively large classes of simple adverbs.

Table 8.2. Languages with VALUE adverbs

<table>
<thead>
<tr>
<th>Language 1</th>
<th>Language 2</th>
</tr>
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<tbody>
<tr>
<td>Acoli (Nilotic)</td>
<td>Hdi (Afro-Asiatic)</td>
</tr>
<tr>
<td>Bambara (Mande)</td>
<td>Kambera (Austronesian)</td>
</tr>
<tr>
<td>Bininj Gun-Wok (Gunwinyguan)</td>
<td>Maltese (Afro-Asiatic)</td>
</tr>
<tr>
<td>Bukiyp (Nuclear Toricelli)</td>
<td>Nishnaabemwin (Algic)</td>
</tr>
</tbody>
</table>

In (8.4–8.5), two examples from languages with VALUE adverbs are taken.

(8.4) Bambara (Mande) (Brauner 1974: 76)

\[
\text{Samory Touré sera ka kélèkè kojugu.} \\
\text{S.T. come COP fight exceptionally}
\]

‘Samory Touré could fight exceptionally (well).’
8. Semantic types and prototypicality

Figure 8.2. Languages with simple adverbs, with and without VALUE

(8.5) Maltese (Afro-Asiatic) (Borg & Azzopardi-Alexander 1997: 17)

\[ \text{Meta messu, tkellem sewwa u bis-sens} \]

\[
\text{when touched.3SG spoke.3SG.M well and with-the.sense}
\]

‘When it was his turn, he spoke well and sensibly.’

In the languages that have simple adverbs, two other semantic types are also recurring, though to a lesser extent than SPEED. The first one is NOISE, where concepts such as loudly, quietly, and indiscriminately can be found. The second type is CARE, with meanings such as carefully, with caution, and clumsily. Eight languages with simple adverbs display NOISE among these adverbs (one of them only marginally; see comments on example 8.6). All of these languages also have SPEED adverbs.

Table 8.3. Languages with NOISE adverbs

| Bininj Gun-Wok (Gunwinyguan) | Lahu (Sino-Tibetan) |
| Jamul Tiipay (Cochimi-Yuman) | Lakota (Siouan) |
| Kham (Sino-Tibetan)           | Nishnaabemwin (Algic) |
| Krongo (Kadugli-Krongo)       | Yankunytjatjara (Pama-Nyungan) |

Two NOISE examples are found in (8.6–8.7). The example from Krongo is somewhat marginal, since kídò ‘loudly’ is also a place Adverb meaning ‘up, upward’, and Reh (1985: 300) describes the NOISE meaning as secondary.

(8.6) Krongo (Kadugli-Krongo) (Reh 1985: 300)

\[ \text{náa tikàamù áfàrà kído.} \]

\[ \text{COP lion INF.scream loudly} \]

‘The lion roars loudly.’
8.2. Simple adverbs

(8.7) Kham (Sino-Tibetan) (Watters 2002: 118)\(^1\)

\[
\begin{align*}
koba:h & \quad p\ddot{a}\dot{\varepsilon}z\ddot{a} \\
\text{indiscriminate} & \quad \text{speak-CNT} \\
\end{align*}
\]

'He speaks indiscriminately.'

Figure 8.3. Languages with simple adverbs, with and without NOISE

Turning to CARE, this type is attested among the simple adverbs of the six languages in table 8.4 and the map in figure 8.4. The same languages also have simple SPEED adverbs.

Table 8.4. Languages with simple CARE adverbs

| Acoli (Nilotic) | Jamul Tiipay (Cochimi-Yuman) |
| Alamblak (Sepik) | Mian (Nuclear Trans New Guinea) |
| Gooniyandi (Bunaban) | Nishnaabemwin (Algic) |

In (8.8–8.9), examples of CARE adverbs are provided. The Adverb in (8.9) could also be assigned to SPEED. It is not uncommon for concepts such as carefully and slowly to be encoded by the same lexeme. This is also intuitively plausible, since situations of performing actions slowly and performing situations carefully often share important characteristics. The example in (8.9) is not a standard example in the sense that there is no overtly expressed verb that the Adverb modifies. Rather, the action that is to be performed slowly or carefully must be interpreted from context in the situation in question.

(8.8) Alamblak (Sepik) (Bruce 1984: 277)

\[
\begin{align*}
\text{nhai masat hingnakahr, nhai rhafarakahr, be } \text{nhофjё } \text{hingnaywr.} & \quad \text{ADV} \\
\text{no much not.work no not.be.idle just carefully he.works} \\
\end{align*}
\]

'No, he does not work vigorously, no, he is not idle, he just works carefully.'

\(^1\) This example is repeated from (1.3) in the introduction in chapter 1.
8. Semantic types and prototypicality

(8.9) Acoli (Nilotic) (Crazzolara 1955: 148)

\texttt{móòtmoòt} \quad \texttt{pee} \quad \texttt{ipòti!}

\textit{slowly/caution} not \textit{2SG.fall}

‘Slowly/caution that you may not fall!’

While \textsc{speed} is found among the simple adverbs of a fairly large number of languages, \textsc{value}, \textsc{noise}, and \textsc{care} are attested in much fewer languages. As noted, the languages in which the latter three types are found also have \textsc{speed} adverbs, with the exception of Hdi, which has \textsc{value} adverbs, but appears to lack \textsc{speed} adverbs. Both \textsc{noise} and \textsc{care} are found in languages with relatively many members in their simple adverb classes, just as in the case of \textsc{value}. Moreover, these semantic types occur among the simple adverbs of genealogically unrelated and geographically distant languages.

![Figure 8.4. Languages with simple adverbs, with and without \textsc{care}](image)

8.3. General modifiers

A third of the sample languages have what I call general modifiers (cf. section 6.4.4), i.e. property lexemes that are able to modify both within referring and predicating expressions. As discussed in chapter section 6.4.4, general modifiers are attested in the functions of \textsc{attr}, \textsc{pred}, and \textsc{adv} in the languages of the sample. There is only one marginal instance of a lexeme-level overlap of just \textsc{attr} and \textsc{adv} (see section 6.4.3). The languages with general modifiers differ in terms of whether this class is the only one attested in the functions of modification, or whether adjectives and/or adverbs can be found as well. The general modifier classes pattern with certain semantic types, as will be illustrated in the present section. When giving examples of general modifiers here, I primarily include \textsc{attr} and \textsc{adv}. This does not mean that these individual general modifiers are unable to occur in \textsc{pred}. Rather, examples of \textsc{attr} and \textsc{adv} are prioritized because I focus on general modifiers as covering the functions of attributive adjectives and adverbs. Here, their function of modification is parallel. At the end of the section, the semantic types attested among the general modifiers are summarized in a table.
Some languages have general modifiers as the only lexeme class in Attr and Adv. This is the case in Dutch (Indo-European). In Attr, all Nouns except singular neuter ones without a preceding article trigger the agreement \(-e\) on the General Modifier. In all other cases, General Modifiers take the same bare form. The agreement found in most cases of Attr thus stands out, and the three functions do not have quite identical encoding. But agreement is a type of behavioral potential according to Croft (2001: 91), expected to be attested for at least the most prototypical members of a category. Thus, I still consider this to be a class of General Modifiers, with behavioral potential in Attr specifically.

(8.10) Dutch (Indo-European) (Donaldson 1997: 87)

(a) \textit{het oud-\textit{-e} brood}  
\textit{Attr}  
\textit{stale-Attr}  
\textit{bread}  
\textit{the stale bread'}

(b) \textit{oud brood}  
\textit{Attr}  
\textit{stale}  
\textit{bread}  
\textit{‘stale bread’}

(8.11) Dutch (Indo-European) (Donaldson 1997: 108)\(^2\)

(a) \textit{Hij is \textit{snel}.}  
\textit{Pred}  
\textit{he}  
\textit{be.3SG}  
\textit{quick}  
\textit{‘He is quick.’}

(b) \textit{Hij \textit{rent} \textit{snel}.}  
\textit{Adv}  
\textit{he}  
\textit{run.3SG}  
\textit{quick}  
\textit{‘He runs quickly.’}

General modifiers also constitute the only lexeme class found in Attr and Adv in Pirahã.\(^3\)

(8.12) Pirahã (Everett 1986: 273)\(^4\)

(a) \textit{xaoó\textit{i xaibogi hâhi}}  
\textit{Attr}  
\textit{foreigner fast that}  
\textit{‘that fast foreigner / That is a fast foreigner.’}

(b) \textit{xaibogi áp-\textit{a-āti}}  
\textit{Adv}  
\textit{fast}  
\textit{go-REM-UNC}  
\textit{‘Go fast.’}

Although the General Modifiers in Pirahã can be used in Attr and Adv to the same extent, certain property notions can also be expressed through verbal suffixes. An example pair with a General Modifier in Attr and a verbal affix in Adv expressing the corresponding notion, compared to a General Modifier in both cases, is illustrated in (8.13).

---

\(^2\) These examples are repeated from (7.11) in section 7.3.1.

\(^3\) The \textit{speed} item \textit{xaibogi ‘fast’} can also undergo zero-conversion/functional shift to be used as a predicate on its own, as illustrated in (6.31) in section 6.4.4.

\(^4\) These examples are repeated from (6.28) in chapter 6.
8. Semantic types and prototypicality

(8.13) Pirahã (Everett 1986: 209)

(a) xogaí xogií koíhi hiaba
   field big small NEG
   ‘(a) big field, not (a) small (one)’

(b) hi si-baí-xi koíhi hiaba
   3 cry-INT-EMP small NEG
   ‘He cries a lot, not a little.’

According to Everett (1986), General Modifiers are more common in ATTR due to the availability of adverbial suffixes in ADV. Although this frequency effect must be limited on the basis of the meanings of the adverbial suffixes, which are primarily aspectual (e.g. perfective, continuative, etc.; see Everett 1986: 288–289), the semantic types that actually do occur productively in both functions can be expected to be fewer based on the availability of the suffixes. Another example illustrating this is provided in (8.14), which also shows the use of a General Modifier denoting VALUE in PRED and ADV (note that no example can be found in ATTR, even though baábi ‘bad’ can be used in ATTR too).

(8.14) Pirahã (Everett 1986: 204, 222)\(^5\)

(a) ti baábi xiigá
   1 bad be
   ‘I am sick.’

(b) hiopióxio xihiabaí baábi gíxai xihiabaí-baí
   other pay poor 2 pay-INT
   ‘Others pay poorly. You pay well.’

The semantic types of SPEED and VALUE are thus attested among the General Modifiers in Pirahã.

General modifiers are also attested in Cherokee (Iroquoian). They resemble Verbs in many ways, although they are not identical. It is unclear if there are also some items that could be placed in an adjective class, or whether the General Modifiers subsume all property items used for modification. Interestingly, SPEED does not appear among the General Modifiers (but among the Verbs), although VALUE and NOISE (e.g. stááya/stááyi ‘loud’) are attested here.

(8.15) Cherokee (Iroquoian) (Montgomery-Anderson 2008: 548)\(^6\)

(a) na osda aśgay ağına?i.
   the good man friend
   ‘The good man is my friend.’

(b) osda gawonisgoPi.
   good speaks
   ‘He speaks well.’

\(^5\) (8.14a) is repeated from (6.29b) in section 6.4.4.

\(^6\) These examples are repeated from (7.35) in section 7.4.
Other languages have general modifiers alongside other classes of adjectives and/or adverbs. Sango (Atlantic-Congo) is such an example, with Adjectives that have typical meanings such as color, illustrated in (8.16), and simple Adverbs denoting speed, as illustrated in (8.17).

(8.16) Sango (Atlantic-Congo) (Samarin 1967: 60)

\[ \text{lo ke } \text{bingbá } \text{yáma} \]
\[ \text{it be brown animal} \]
\[ 'It's a brownish animal.' \]

(8.17) Sango (Atlantic-Congo) (Samarin 1967: 80)

\[ \text{mbéti ní aké sí na i ge } \text{hí } \text{pèpe} \]
\[ \text{paper the one be arrive with us here quickly not} \]
\[ 'The letters don't reach us here quickly.' \]

Among the General Modifiers in Sango, value is found, as illustrated in (8.18).

(8.18) Sango (Atlantic-Congo) (Thornell 1997: 86)

(a) \[ \text{nzôni tambála ti à} \]
\[ \text{good journey of 1PL} \]
\[ 'our good journey' \]

(b) \[ \text{Lo hínga yángâ ti kódörö nzôni pèpe.} \]
\[ 3SG know language of village good not \]
\[ 'He does not know the ethnic language very well.' \]

Marathi (Indo-European) has General Modifiers, in addition to quite a large Adverb class. value is not found among the Adverbs, but among the General Modifiers. There are two types of General Modifiers: those with agreement for number, gender, and case, and those without. For those with agreement, this is found in ADV uses as well, as illustrated in example (8.19b). Note that the difference in how the General Modifier ‘good’/‘well’ is written and glossed is due to examples being taken from two different sources.


(a) \[ \text{tya-ca itk-a } \text{capl-a } \text{ghođa} \]
\[ \text{he-POSSESS-M.SG this.much-M.SG good-M.SG horse-M.SG} \]
\[ 'His such a good horse' \]

(b) \[ \text{ti haa bhaag } \text{tsaangLa vaatsel} \]
\[ \text{she this part.M.SG good.MSG will.read} \]
\[ 'She will read this part well.' \]

The second type of General Modifier that does not inflect contains, e.g., noise as in the case of niwant ‘quiet, quietly, leisurely’, but also e.g. sundor ‘beautifully’, modhur ‘in a
sweet manner', etc. (Dhongde & Wali 2009: 106). Unfortunately, no example in context could be found here.

Several languages in the sample have a relatively large adjective class, and a class of general modifiers in addition. Since many of these languages are described as having a subgroup among their adjectives that are used adverbially, it is often unclear exactly which ones these items are (cf. section 6.4.4). Conclusions are drawn here based only on attested examples, and not on whether the examples are the only ones in the language in question or whether there are more instances, except for cases where I state this explicitly.

Turkish (Turkic) has Adjectives, at least one Adverb (çabuk ‘quickly’, Hatice Zora p.c., which may be somewhat marginal; see section 5.2), and General Modifiers. The latter class includes SPEED and VALUE words. In (8.20), examples with VALUE are provided.

(8.20) Turkish (Turkic)(Göksel & Kerslake 2005: 49, 139)\(^7\)

(a) **güzel** bir köpek
beau\textit{tiful} ART dog
‘a beautiful dog’

(b) Özdemir o şarkı-yı **güzel** söyle-di
Ö, that song-ACC.SG **good** sing-PST
‘Özdemir sang that song well.’

In Mian (Nuclear Trans New Guinean), General Modifiers are found alongside fairly large classes of both Adjectives and Adverbs, and are described by Fedden (2011: 116–117) as a subclass of the Adjectives. A clitic article indicating number and gender is required on the last element of the NP, although it may be repeated attached to every element (2011: 203–204). In certain cases where a General Modifier is used, this clitic constitutes the only distinction between ATTR and ADV.

(8.21) Mian (Nuclear Trans New Guinean) (Fedden 2011: 114)

(a) ä̃ns=o **ayam=o** ngaan-b-o=be
song=N2 good=N2 sing.IPVF-IPVF-3SG.F.SBJ=DECL
‘She is singing a beautiful song/songs.’

(b) ä̃ns=o **ayam** ngaan-b-o=be
song=N2 good sing.IPVF-IPVF-3SG.F.SBJ=DECL
‘She is singing a song/songs beautifully.’

Since the attested Mian General Modifiers are fairly numerous, they are listed in table 8.5. This can be compared to the Mian Adverbs listed in table 5.2 in section 5.2.

\(^7\) (8.20b) is repeated from (1.2).
8.3. General modifiers

Table 8.5. Mian General Modifiers (Fedden 2011: 116–117)

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>afan</td>
<td>‘wrong’</td>
</tr>
<tr>
<td>afet</td>
<td>‘different’</td>
</tr>
<tr>
<td>ayam</td>
<td>‘good’</td>
</tr>
<tr>
<td>ayók</td>
<td>‘secretly’</td>
</tr>
<tr>
<td>báin</td>
<td>‘true’</td>
</tr>
<tr>
<td>beselîb</td>
<td>‘huge, very loud’</td>
</tr>
<tr>
<td>dam</td>
<td>‘true’</td>
</tr>
<tr>
<td>gaang</td>
<td>‘wise’</td>
</tr>
<tr>
<td>gwáab</td>
<td>‘small, soft’</td>
</tr>
<tr>
<td>kat</td>
<td>‘flat’</td>
</tr>
<tr>
<td>keim</td>
<td>‘in the open’</td>
</tr>
<tr>
<td>kweital</td>
<td>‘correct’</td>
</tr>
<tr>
<td>meleng</td>
<td>‘pleasant’</td>
</tr>
<tr>
<td>mikîk</td>
<td>‘new, firstly’</td>
</tr>
<tr>
<td>misiam</td>
<td>‘bad’</td>
</tr>
<tr>
<td>moton</td>
<td>‘true’</td>
</tr>
<tr>
<td>mubiang</td>
<td>‘last’</td>
</tr>
<tr>
<td>sūm</td>
<td>‘big, loud’</td>
</tr>
</tbody>
</table>

Among the examples in table 8.5, VALUE and NOISE items are found. Note that SPEED and CARE are absent. However, Mian has SPEED and CARE among its simple Adverbs (see tables 8.1, 8.4, and also table 5.2 in chapter 5).

In summary, there is considerable variation in terms of what role the class of general modifiers plays in individual languages. In some cases, it is the only class of lexemes attested that is devoted to modification in ATTR and ADV (Dutch, Pirahã, Cherokee). In others, it exists as a class alongside those of adjectives or adverbs (Marathi), or both (Sango, Turkish). Table 8.6 summarizes the languages with general modifiers, and indicates whether also adjectives and/or adverbs are attested. Semantic types are given both for general modifiers and other categories, where applicable. Note that for those languages that have adjectives, there may be other semantic types along the lines of Dixon (1982 [1977]). I focus only on the four semantic types that are posited for adverbs in this thesis. Recall also that the types included are only based on what is attested in the language description in question – whether absence of a type means that it does not exist or simply has not been found remains to be discovered.

<table>
<thead>
<tr>
<th>Language</th>
<th>Category</th>
<th>SPEED</th>
<th>VALUE</th>
<th>NOISE</th>
<th>CARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abau (Sepik)</td>
<td>G. Modifiers</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basque (isolate)</td>
<td>G. Modifiers</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Bora (Witotoan)</td>
<td>G. Modifiers</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cherokee (Iroquoian)</td>
<td>G. Modifiers</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Dutch (Indo-European)</td>
<td>G. Modifiers</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Ewe (Atlantic-Congo)</td>
<td>G. Modifiers</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hdi (Afro-Asiatic)</td>
<td>G. Modifiers</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 8.6. Languages with general modifiers and corresponding semantic classes

<table>
<thead>
<tr>
<th>Language</th>
<th>Category</th>
<th>SPEED</th>
<th>VALUE</th>
<th>NOISE</th>
<th>CARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hup (Nadahup)</td>
<td>G. Modifiers Adjectives</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kilivila (Austronesian)</td>
<td>G. Modifiers Adjectives</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lezgian (Nakh-Daghestanian)</td>
<td>G. Modifiers Adjectives</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Maltese (Afro-Asiatic)</td>
<td>G. Modifiers Adjectives</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mapudungun (Auracanian)</td>
<td>G. Modifiers Adjectives</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marathi (Indo-European)</td>
<td>G. Modifiers Adverbs</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Mian (Nuclear Trans New Guinean)</td>
<td>G. Modifiers Adverbs</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Pirahã</td>
<td>G. Modifiers Adjectives</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sahaptin (Sahaptian)</td>
<td>G. Modifiers Adjectives</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Sango (Atlantic-Congo)</td>
<td>G. Modifiers Adjectives</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkish (Turkic)</td>
<td>G. Modifiers Adverbs</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yagua (Peba-Yagua)</td>
<td>G. Modifiers Adjective</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yankunytjatjara (Pama-Nyungan)</td>
<td>G. Modifiers Adverb</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Semantic types and prototypicality
As illustrated in table 8.6, VALUE is found among the general modifiers of all languages except for Basque, Ewe, Hdi, and Sahaptin. This is in line with hypotheses (8.1c), according to which VALUE is a semantic type for both adjectives and adverbs, implying that VALUE should be found among general modifiers, which cover the functions of adjectives and adverbs. Moreover, in those languages that have adverbs as well as general modifiers, SPEED is found among the adverbs and not among the general modifiers, with the exceptions of Hdi, Koasati, and Sahaptin. Mapudungun and Turkish have SPEED in both classes. Mian has VALUE and NOISE among its General Modifiers, but SPEED and CARE among its simple Adverbs. In the next section, several sample languages will be described that lack a lexeme class of modifiers that can be used in ADV, but that show lexicalization tendencies in ADV for the four semantic types discussed.

Figure 8.5. Languages with simple general modifiers, with and without VALUE

8.4. Lexicalization tendencies

Apart from the languages with simple adverbs and general modifiers among which certain semantic types can be discerned, several languages in the sample show indications of lexicalization of adverbs for the semantic types SPEED, VALUE, NOISE, and CARE. In Georgian (Kartvelian), Adverbs are productively formed by attaching the “the Adverbial case” ending -ad/-d to Adjectives (Hewitt 1995: 65, cf. section 5.3.2). This is illustrated for lamaz-ad ‘beautifully’ from lamaz-i ‘beautiful’ in (8.22).

(8.22) Georgian (Kartvelian) (Hewitt 1995: 608)

megrel-i  sot’k’ilava  rom  ima-ze  /  ma-s-ze  upro
Mingrelian-NOM Sot’k’ilava(NOM) that-than / him-DAT-than more

lamaz-ad  mjger-i-s,  is  kartvel-i  momgeral-i
beautiful-ADV sing-PRS-he that Georgian-AGR singer-NOM

še-c’ux-eb-ul-i-a
PREV-upset-TS-PTCP-NOM-is
‘That Georgian singer whom the Mingrelian Sot’k’ilava sings more beautifully than is upset.’
8. Semantic types and prototypicality

However, a small number of Georgian Adverbs have lost the final consonant, so that the ending consists only of -a. This is the case with two SPEED Adverbs, namely čkar-a ‘quickly’ and nel-a ‘slowly’ (Hewitt 1995: 65). Aronson (1990: 75) treats this as an example of Adverb derivation (e.g. čkar-a ‘quickly’ from čkar-i ‘fast, rapid’), and not as the Adverbial case, the form of which is also found, i.e. čkar-ad. The use of only -a to form the Adverb in ADV, but not for the Adverbial case, which retains the entire -ad, indicates a lexicalization tendency for SPEED items in ADV.

Basque (isolate) has two patterns of interest in ADV. Adverbs are here derived with a few different suffixes (see examples in appendix B). For instance, -ki is attached to sendo ‘strong’ to form sendo-ki ‘strongly’ (Hualde & de Urbina 2003: 193). Certain Adverbs ending in -ki “have been lexicalized with a special meaning” (2003: 348). These are presented in table 8.7, with semantic types indicated in the rightmost column in cases where these apply.

<table>
<thead>
<tr>
<th>Adjective</th>
<th>Adverb</th>
<th>Semantic type</th>
</tr>
</thead>
<tbody>
<tr>
<td>polit(a) ‘pretty’</td>
<td>poliki ‘slowly’</td>
<td>SPEED</td>
</tr>
<tr>
<td>eder ‘beautiful’</td>
<td>ederki ‘very well’</td>
<td>VALUE</td>
</tr>
<tr>
<td>bizi ‘alive’</td>
<td>biziki ‘intensely’</td>
<td>VALUE</td>
</tr>
<tr>
<td>eme ‘female’</td>
<td>emeki ‘softly’</td>
<td>VALUE</td>
</tr>
</tbody>
</table>

Note that emeki ‘softly’ could perhaps belong to both NOISE and CARE, but that I have refrained from classifying it due to lack of examples. Another Adverb-deriving suffix in Basque is -to, which is nonproductive and occurs only in a small number of Adverbs, as illustrated in table 8.8.

<table>
<thead>
<tr>
<th>Adverb</th>
<th>Semantic type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ederto ‘very well’</td>
<td>VALUE</td>
</tr>
<tr>
<td>ondo ‘well’</td>
<td>VALUE</td>
</tr>
<tr>
<td>hobeto ‘better’</td>
<td>VALUE</td>
</tr>
<tr>
<td>polito ‘slowly’</td>
<td>SPEED</td>
</tr>
</tbody>
</table>

One example with ondo ‘well’ is provided in (8.23).

---

8 Two place Adverbs also lost the final -d: magl-a ‘on high, high up’ and dabl-a ‘low down’ (Hewitt 1995: 65).
8.4. Lexicalization tendencies

(8.23) Basque (isolate) (Hualde & de Urbina 2003: 251)

\[ \text{Orain } \text{ondo } \text{entzuten} \text{ dizut.} \]
\[ \text{now } \text{well} \text{ hear.IPV} \text{ AUX.PRS} \]
\[ '\text{Now I hear you well.'} \]

In the examples from Basque, the Adverbs that appear to be undergoing lexicalization are of the types SPEED and VALUE, apart from biziki ‘intensely’ and emeki ‘softly’.

In Kiowa (Kiowa-Tanoan), Adverbs generally are derived from Stative Verbs by the ending -\( l \) (after e) or -\( y \) (elsewhere) (Watkins 1984: 185), as illustrated in the example in (8.24).

(8.24) Kiowa (Kiowa-Tanoan) (Watkins 1984: 210)

\[ t'\text{á}:\text{gyà}-y \text{ m\text{ôn-}tò} \text{ gyà-\text{p}\text{h\text{átt}}} \]
\[ \text{careful-ADVZ hand-with 1SG.AGT;SG.OBJ-smooth.IPV} \]
\[ 'I was carefully smoothing it with my hands.' \]

Moreover, some Adverbs are derived with the suffix -\( \text{ób} \). However, the roots that the suffix -\( \text{ób} \) attaches to are not used synchronically, with the exception of \( \text{tô-\text{ób}} \) ‘quiet, silent’ from \( \text{tô-\text{b\text{è}}} \) ‘calm, quiet’ (Watkins 1984: 186). Watkins provides no explanation for the tonal differences of the suffix -\( \text{ób} \), as represented in table 8.9, apart from stating that Kiowa has an intricate tone rule system (1984: 30ff.).

Table 8.9. Kiowa -\( \text{ób} \) Adverbs (Watkins 1984: 186)

<table>
<thead>
<tr>
<th>Adverb</th>
<th>Semantic type</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{tó-\text{ób}} ) ‘quiet, silent’</td>
<td>NOISE</td>
</tr>
<tr>
<td>( \text{c'\text{ó-\text{ób}}} ) ‘firmly’</td>
<td></td>
</tr>
<tr>
<td>( \text{hé\text{ò-\text{ób}}} ) ‘quickly, in a short time’</td>
<td>SPEED</td>
</tr>
<tr>
<td>( \text{tâm-\text{ób}} ) ‘a reasonable degree’</td>
<td></td>
</tr>
<tr>
<td>( \text{kú-\text{ób}} ) ‘quiet, submissive’</td>
<td>NOISE</td>
</tr>
</tbody>
</table>

The Adverbs formed with -\( \text{ób} \) appear to be in the process of being lexicalized. The fact that the suffix is found both with roots that have no independent synchronic use and with one root that is used independently indicate different stages of this process occurring simultaneously.

Yimas (Lower Sepik-Ramu) has adverbial incorporation in ADV (cf. section 7.3.1). Foley (1991: 336–342) presents two types of adverbials: simple lexemes that only occur incorporated, and derived lexemes that occur both incorporated and independent. The first type is exemplified in (8.25).

(8.25) Yimas (Lower Sepik-Ramu) (Foley 1991: 342)

\[ \text{kacmpt} \text{ ya-kay-mamaŋ-arkat-} \text{ycut} \]
\[ \text{canoe.VIII.PL VIII.PL.OBJ-IPL.A-slowly-paddle-REMPST} \]
\[ '\text{We paddled the canoes slowly.'} \]
8. Semantic types and prototypicality

The second type is derived with -mpi from Adjectives and Verbs. These Adverbials can be used both incorporated and independently, although they are much more common incorporated, as in the example in (8.26).

(8.26) Yimas (Lower Sepik-Ramu) (Foley 1991: 344)

\[
\text{wurmpl pla-mpu-makcmpi-wuntampwi-k} \\
\text{flute.VII.DU VII.DU.OBJ-3PL.A-quietly-blow.on-IRR}
\]

‘They played the flutes quietly.’

In the second type, there is one exception which does not appear to be derived, and which occurs incorporated as well as independently, namely kaykaykay ‘quickly’ (1991: 343):

(8.27) Yimas (Lower Sepik-Ramu) (Foley 1991: 342)

(a) \text{ajka-kaykaykay-cu-impu-pu-n} \\
HORT.DU-quickly-out-go.by.water-away-IMP \\
‘Let us go outside quickly.’

(b) \text{kaykaykay ajka-tu-impu-pu-n} \\
quickly HORT.DU-out-go.by.water-away-IMP \\
‘Let us go outside quickly.’

In example (8.27a), kaykaykay- is used in its incorporated version, whereas it is found independently in (8.27b). The similarity to the Noun kay ‘canoe’ makes it likely that the Adverb is zero-derived and triplicated from this source. Still, it deviates from the pattern of derivation of other independently occurring Adverbials, and appears to be undergoing lexicalization towards becoming a simple adverb.

In Lahu (Sino-Tibetan), one type of Adverbial is formed from Verbs combined with qha ‘all, completely’, which is in itself defined as an Adverb (Matisoff 1973: 278, cf. section 5.3.6). Some of the Verbs in these Adverbials no longer occur as free Verb forms, as is the case in the example in (8.28).

(8.28) Lahu (Sino-Tibetan) (Matisoff 1973: 273)

\[
\text{qha-dë? na tā mē} \\
\text{ADVZ-be.as.it.should listen PART PERS} \\
\text{‘Listen well/carefully!’}
\]

The languages for which lexicalization tendencies in ADV are attested are summarized in table 8.10, where the semantic types found for the tendencies are also indicated. These languages are not numerous, which of course could be due to these patterns being rare. Another possible reason is that they are difficult to find, both in language descriptions and more generally. Be that as it may, the point here is the semantic types with which the tendencies pattern. More specifically, the languages with lexicalization tendencies for SPEED do not have simple SPEED adverbs (see table 8.1 in section 8.2). Similarly, the languages with lexicalization tendencies for VALUE and NOISE do not have simple

\footnote{(8.27a) is repeated from (7.14) in section 7.3.1.}
8.5. Incorporation and affixation

In the previous sections of this chapter, we have seen that certain semantic types (primarily \textit{speed}) tend to be found in simple adverb classes, and that the same semantic types are found among general modifiers, adverbial subgroups of adjectives, and in lexicalization tendencies in \textit{adv}. Adverbial incorporation was also touched upon in the case of Yimas. As illustrated in 5.3.5, some languages have affixes in \textit{adv}, or potentially incorporated elements, and not independent lexemes or constructions. Whether treated as incorporated items or affixes (cf. Dahl 2004: 209ff.), semantic types are attested for such elements used in \textit{adv} in a number of sample languages. It seems that the lexical items used in \textit{adv} in these languages are undergoing grammaticalization, or have been grammaticalized, in becoming affixes. One example from Abau, where a \textit{speed} prefix is attested, is provided in (8.29).

(8.29) Abau (Sepik) (Lock 2011: 72)
\begin{verbatim}
geyk ho-kwe ha-kwe enekwei kamon-aw saw-meio lowpway
\end{verbatim}
canoe GL.M-TOP 1SG-TOP time one.CLF-RSTR \textit{speed}-work completely
\begin{quote}
‘As for the canoe, I finished it quickly in only one day.’
\end{quote}

Another example is Nuu-chah-nulth (Wakashan), where \textit{care} is found. According to Nakayama (2001: 59), the lexical suffixes in Nuu-chah-nulth are numerous (over 400, although of very different types of meaning), but examples of property concepts are scarce in the description.

(8.30) Nuu-chah-nulth (Wakashan)(Nakayama 2001: 67)
\begin{verbatim}
nai'a-atah.
\end{verbatim}
hear-trying.to.catch
\begin{quote}
‘She listened carefully.’
\end{quote}

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|}
\hline
Languages & \textit{SPEED} & \textit{VALUE} & \textit{NOISE} & \textit{CARE} \\
\hline
Basque (isolate) & \checkmark & \checkmark & & \\
Georgian (Kartvelian) & \checkmark & & & \\
Kiowa (Kiowa-Tanoan) & \checkmark & & \checkmark & \checkmark \\
Lahu (Sino-Tibetan) & & \checkmark & & \\
Yimas (Lower Sepik-Ramu) & \checkmark & & & \\
\hline
\end{tabular}
\caption{Languages with lexicalization tendencies in \textit{adv}}
\end{table}
8. Semantic types and prototypicality

Cavineña (Tacanan) has what Guillaume (2008: 125) calls “aktionsart suffixes”, which “are very rich semantically and code notions that are not commonly found in the morphology of the verb in other languages, particularly European languages”. There are around 30 of these suffixes, ranging in meaning from specification of the time of day to interruption of action or direction of motion, etc. (2008: 125–126). Notions of SPEED are also attested.

(8.31) Cavineña (Tacanan) (Guillaume 2008: 363)

\[ Iji\text{-}wisha\text{-}kwe \ e\text{-}na! \]

\[
\text{drink-SPD-IMP.SG NPF-water} \\
\text{‘Drink your water quickly (and let’s go)!’}
\]

Note that a potential source for -\textit{wisha} as a SPEED suffix is the verb \textit{wisha} ‘shake’ (2008: 203). In table 8.11, the languages with adverbial affixation and the semantic classes attested here are listed. SPEED is clearly the most common type here. Ainu has both simple Adverbs and affixation of the SPEED type, but no other language has affixation coinciding with simple adverbs in terms of semantic type.

Table 8.11. Languages with adverbial affixes

<table>
<thead>
<tr>
<th>Language</th>
<th>SPEED</th>
<th>VALUE</th>
<th>NOISE</th>
<th>CARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abau (Sepik)</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ainu (isolate)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Alamblak (Sepik)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Cavineña (Tacanan)</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kalaallisut (Eskimo-Aleut)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuu-chah-nulth (Wakashan)</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Sahaptin (Sahaptian)</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urarina (isolate)</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.6. Summary of semantic types for adverbs

The most prominent result discussed in this chapter is the centrality of SPEED for adverbs. SPEED is by far the most common semantic type in the simple adverb classes, found in the great majority of sample languages with simple adverbs (38/41). However, SPEED is found in not even half of the general modifier classes (8/20). Here, VALUE is instead the prominent semantic type occurring in the majority of general modifier classes (16/20). This is expected, since the function of general modifiers covers those of adjectives and adverbs, and VALUE is a semantic prototype for both. Five languages that have lexicalization tendencies in ADV were also discussed, with SPEED attested in four patterns and VALUE in two. Finally, in seven out of eight languages with adverbial affixes, SPEED affixes are found. This semantic type is thus not only attested among simple adverbs in languages.
across the world, but is being lexicalized in others, and has also been grammaticalized in
a number of unrelated and geographically distant languages.

8.7. SPEED, TIME, and aspect

In Dixon’s (1982 [1977]) study on adjectives, SPEED is the only semantic type stated to
be found in the adverb classes of a few languages. As shown in the previous sections,
SPEED is also the most prominent semantic type for adverbs, although it is not the only
one. What, then, are the characteristics of SPEED that make it so central to adverbs? It
is intuitive that SPEED is essential to ACTION, the semantic prototype of verbs (cf. Croft
2001: 88). Actions can be performed quickly or slowly, among other types of manner.
However, both SPEED and ACTION are also intimately connected to TIME, as will be
discussed in the present section.

The connection between SPEED and TIME as semantic domains for adjectives has been
discussed in detail by Plungian & Rakhilina (2013). Traditionally, SPACE has been treated
as important for the understanding of SPEED, partly based on the definition of SPEED
within physics: \( \text{Velocity} = \text{Space/Time} \) (2013: 349). By this formula, SPEED can be
understood as “a kind of SPACE, namely the distance traveled by an object divided by the
duration of the interval” (2013: 349). But the linguist’s understanding of SPEED must
differ from the physicist’s, since the former is not based on distance: it concerns “the
relative duration of an event as compared to an average norm” according to Plungian &
Rakhilina (2013: 350). This also reveals an important distinction between two types of
SPEED meanings: SPEED that pertains to duration, e.g. \textit{eat quickly}, and SPEED that de-
scribes punctual events, yielding an “immediate reading”, e.g. \textit{answer quickly} (2013: 351).
In many languages, these two meanings are expressed by the same lexeme, but they can
also be lexicalized separately. In Russian, the example \textit{bystro} ‘quickly’ can be used in
both cases, whereas \textit{skoro} ‘soon’ primarily yields the immediate reading (2013: 352). The
two distinct meanings are evident also in the respective antonyms, where \textit{bystro} ‘quickly’
is paired with \textit{medlenno} ‘slowly’, whereas the immediate reading of \textit{bystro} instead has the
antonym \textit{dolgo ne} combined with imperfective, meaning ‘took a long time to’ (2013: 352).
This could be argued also for English in the pairs \textit{eat quickly} vs. \textit{eat slowly} and \textit{answer quickly} vs. \textit{take a long time to answer}.

Plungian & Rakhilina (2013) compare HIGH SPEED and LOW SPEED, outlining a rich
HIGH SPEED domain and a much more limited LOW SPEED domain, based on examples
from Russian and other Slavic languages. A parallel can be drawn to the frequent SPEED
examples in the present study, which often mean \textit{quickly/fast} and less often \textit{slowly}.
Discussing the sources for SPEED adjectives, Plungian & Rakhilina (2013) show that those
adjectives that denote HIGH SPEED frequently arise from expressions of falling and run-
nning, whose agents are quick (2013: 352). There is also a less dominant source in “terms
for perceptually salient physical properties, such as ‘light, flying’ ” (2013: 353). TIME is
further attested as the result of semantic shift of SPEED words, on the one hand, as in
the example \textit{živoj} ‘alive’ and \textit{bodryj} ‘vigorous’ shifting to \textit{živo}, \textit{bodro} ‘quickly’, and on
the other hand, as the source for other shifts, as in the case of \textit{naglo} ‘suddenly’ shifting
to \textit{naglyj} ‘insolent’. That this metaphorical change goes in both directions supports the
proposed close connection between \textsc{time} and \textsc{speed} yet further. Other more general semantic changes of \textsc{speed} reveal two main patterns. Firstly, intensifiers may come from \textsc{speed} words, as exemplified by Polish \textit{bardzo} ‘very’, which comes from a Slavic root meaning ‘swift, fast’, as found synchronically, e.g., in the Bulgarian \textit{bărz} and Serbian \textit{brz} (2013: 356). This is motivated by the association of \textsc{high speed} with compression, leading to intensification. Secondly, \textsc{speed} words have been found to develop into temporal or conditional connectors, which is illustrated by the Polish \textit{skoro} ‘if’. This is assumed to have arisen through the immediate meaning, which is still attested in Russian (see above), and with another stage found in the Serbian meaning ‘recently’, and yet other meaning shifts found in ‘almost’, ‘as soon as’, and finally ‘if’, as found in Slovak, Czech, and Polish (2013: 356).

Based on their findings from Russian and other Slavic languages, Plungian & Rakhilina (2013) conclude that \textsc{speed} does not rely directly on \textsc{space}, but rather on \textsc{time}, and that “since [\textsc{speed}] is sensitive to actionality, it is closer to aspect than to tense” (2013: 358). This last point is crucial for the purpose of this dissertation: although the focus here is primarily on property words, in which aspect must be considered to be rather peripheral, the centrality of \textsc{speed} for adverbs also makes aspect significant for adverbs.

8.8. Semantic types and semantic shift

Dixon (1982 [1977], 2004) lists several core and peripheral types of adjectives (and a set of types found in really large adjective classes as mentioned in section 2.5.1, added in the later work, see Dixon 2004: 5). The semantic types of adverbs presented in the present study are fewer. The only clear core semantic type for adverbs alone is that of \textsc{speed} (which is also found among Dixon’s peripheral types of adjectives). \textsc{value} is a type for both adjectives and adverbs and/or general modifiers. It is also one of Dixon’s core types of adjectives. \textsc{noise} and \textsc{care} are peripheral semantic types for adverbs. Both adjectives and adverbs (of the type examined here) denote properties and serve the function of modification. One may thus ask why the semantic types are so skewed in their distribution for these two classes. The answer can be found within the nature of the expressions that are being modified, i.e. in the difference between referring and predicating expressions, respectively. This can be observed already by examining the semantic types of property words that occur as adjectives and how or if they can be used as adverbs. As discussed in section 8.7, Plungian & Rakhilina (2013) show the tendency for \textsc{speed} words to either originate in \textsc{time} words or shift towards \textsc{time} meanings. If Dixon’s semantic types of adjectives are examined as instantiated in English, and these examples are compared to their respective potential adverb versions, then other types of semantic shift are revealed. Such shift can be argued to be at least partly inherent to the change of function from adjective to adverb. Table 8.12 illustrates English examples of property words used adjectivally and adverbiaally and the meaning shifts that goes with some property words, but not with others, when the function is changed.
8.8. Semantic types and semantic shift

Table 8.12. Semantic types and shifts from adjective to adverb usage

<table>
<thead>
<tr>
<th>ADJECTIVE</th>
<th>Examples</th>
<th>ADVERB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semantic type</td>
<td>Examples</td>
<td>Semantic type</td>
</tr>
<tr>
<td>DIMENSION</td>
<td><em>a great mountain</em></td>
<td>INTENSIFICATION</td>
</tr>
<tr>
<td>AGE</td>
<td><em>an old house</em></td>
<td>–</td>
</tr>
<tr>
<td>VALUE</td>
<td><em>a good book</em></td>
<td>VALUE</td>
</tr>
<tr>
<td>COLOR</td>
<td><em>a red flower</em></td>
<td>COLOR</td>
</tr>
<tr>
<td>PHYSICAL PROPERTY</td>
<td><em>a soft surface</em></td>
<td>NOISE</td>
</tr>
<tr>
<td>HUMAN PROPENSITY</td>
<td><em>an happy person</em></td>
<td>HUMAN PROPENSITY</td>
</tr>
<tr>
<td>SPEED</td>
<td><em>a fast car</em></td>
<td>SPEED</td>
</tr>
<tr>
<td></td>
<td><em>a slow train</em></td>
<td>CARE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>a quick answer</em></td>
<td>TIME</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOISE</td>
<td><em>loud music</em></td>
<td>NOISE</td>
</tr>
<tr>
<td>CARE</td>
<td><em>a careful person</em></td>
<td>CARE</td>
</tr>
</tbody>
</table>

A number of shifts of the kind illustrated for English in table 8.12 are attested in some of the sample languages. Some of them are identical to the English examples in terms of which adjective type shifts into which adverb type. Others are different, but the fact remains that when an adjective is used adverbially, the individual semantic types for adjectives shift to one of the semantic types proposed for adverbs in this dissertation. In Mapudungun, the meaning shift from DIMENSION to TIME is illustrated in the example pair in (8.32).

(8.32) Mapudungun (Auracanian) (Smeets 2008: 72)\(^{10}\)

(a) *pichi* *wentru nie-n* 
    small man have-1SG.IND
    ‘I have a small man’

(b) *pichi* *dungu-n* 
    small speak-1SG.IND
    ‘I spoke for a short while.’

Another example of a shift from DIMENSION, but towards NOISE is attested in Mian (Nuclear Trans New Guinean). Note that the clitic in (8.33a) always attaches to the last element of the NP, although it may attach to all NP elements.

\(^{10}\) (8.32a) and (8.32a) are repeated from (6.23b) and (6.25b) in section 6.4.3.
8. Semantic types and prototypicality

(8.33) Mian (Nuclear Trans New Guinean) (Fedden 2011: 116)

(a) tāl sūm=e
    dog big=SG.M
    ‘the big dog’

(b) mēn gwāab=o sūm me-b-o=be
    child little=SG.F big cry:IPFV-IPFV-3SG.F.SBJ=DECL
    ‘The little girl is crying loud.’

Ewe (Atlantic-Congo) displays a shift from age to time, or perhaps aspect in the case of the Adjective xóxó ‘old’, which can be used as an Adverb meaning ‘already’.

(8.34) Ewe (Atlantic-Congo) (Ameka 1991: 86)

(a) agbale xóxó lá ví
    book old DEF tear
    ‘The old book got torn.’

(b) agbale lá ví xóxó
    book DEF tear already
    ‘The book is torn already.’

Table 8.13. Speed/time adverbs

<table>
<thead>
<tr>
<th>Language</th>
<th>Adverb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ainu (isolate)</td>
<td>emkota ‘quickly, early’</td>
</tr>
<tr>
<td></td>
<td>(Refsing 1986: 254)</td>
</tr>
<tr>
<td>Bininj Gun-Wok (Gunwinyguan)</td>
<td>na-borlok ‘swiftly, suddenly, “one shot” ’</td>
</tr>
<tr>
<td></td>
<td>(Evans 2003: 596)</td>
</tr>
<tr>
<td>Ewe (Atlantic-Congo)</td>
<td>kábá ‘quickly, early’</td>
</tr>
<tr>
<td></td>
<td>(Ameka 1991: 43, 51)</td>
</tr>
<tr>
<td>Jamul Tiipay (Cochimi-Yuman)</td>
<td>lîye’yum / lîneyum ‘quickly, promptly’</td>
</tr>
<tr>
<td></td>
<td>(Miller 2001: 170)</td>
</tr>
<tr>
<td>Koyra Chiini (Songhay)</td>
<td>tamba/tambahamba ‘fast, quickly,</td>
</tr>
<tr>
<td></td>
<td>immediately, early’ (Heath 1999: 253)</td>
</tr>
<tr>
<td>Lahu (Sino-Tibetan)</td>
<td>hāʔ ‘quickly, fast, on the double, soon’</td>
</tr>
<tr>
<td></td>
<td>(Matisoff 1973: 2723)</td>
</tr>
<tr>
<td>Marathi (Indo-European)</td>
<td>lounkær ‘quickly, soon’</td>
</tr>
<tr>
<td></td>
<td>(Dhongde &amp; Wali 2009: 104)</td>
</tr>
<tr>
<td>Mian (Nuclear Trans New Guinean)</td>
<td>sanggwâu ‘quickly, suddenly’</td>
</tr>
<tr>
<td></td>
<td>(Fedden 2011: 121)</td>
</tr>
</tbody>
</table>
In the case of SPEED and how items denoting SPEED may shift, the clearest tendency in the languages of the sample is that adverbs denoting SPEED often also have TIME meanings. This is illustrated with examples in table 8.13. Along similar lines, there is the Sahaptin (Sahaptian) affix ká-, which means 'suddenly, all at once, quickly' (Jansen 2010: 218–219). Another tendency is for adverbs that denote LOW SPEED to also have meanings that can be interpreted as either PHYSICAL PROPERTY or NOISE, in examples with meanings such as 'slowly, gently, softly'. Languages where this is attested are presented in table 8.14.

Table 8.14.スピード/物理的性質/音の動詞

<table>
<thead>
<tr>
<th>Language</th>
<th>Adverb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bininj Gun-Wok (Gunwinyguan)</td>
<td>yeledj ‘slowly, gently, softly’ (Evans 2003: 596)</td>
</tr>
<tr>
<td>Jamul Tiipay (Cochimi-Yuman)</td>
<td>lyepaay ‘gently, slowly, softly’ (Miller 2001: 173)</td>
</tr>
<tr>
<td>Koyra Chiini (Songhay)</td>
<td>mooso/mooso-mooso ‘gently, slowly, delicately’ (Heath 1999: 253)</td>
</tr>
<tr>
<td>Lahu (Sino-Tibetan)</td>
<td>ayég ‘slowly; gradually; carefully; softly’ (Matisoff 1973: 275)</td>
</tr>
</tbody>
</table>

The examples in the last two tables do not pertain to a meaning shift as such. Rather, they serve to illustrate the affinity between SPEED and certain other semantic types. Most prominently, TIME meanings are found for adverbs that also denote HIGH SPEED. This can be connected to the point made by Plungian & Rakhilina (2013: 352ff.) about HIGH SPEED as a rich domain compared to that of LOW SPEED (cf. previous section).

Returning to the English examples in table 8.12, it seems that semantic shift may happen, but need not necessarily do so, when a property word occurring as an adjective is shifted to adverbial usage. In a sense, some type of meaning shift must occur as a consequence of the change of function; when an adjective is used as an adverb, a predicating expression, and not a referring expression, is being modified. But the extent to which this affects the semantic type in question varies. In the cases of SPEED and VALUE, which are able to remain the same in the two functions, it should be noted that such notions cannot be conceived of in terms of referents only. Such semantic types seem to have scope over both the functions of adjectives and of adverbs. To grasp the concept of SPEED, we rely on the action or motion that it describes. In a similar vein, VALUE, as a property of a referent, cannot be interpreted on its own, but needs some other quality to be interpreted. Conversely, COLOR, which never seems to be found among simple adverbs, can perhaps be conceived of as describing an action or event, as in the example gleam redly (cf. example 6.41) from Lahu in chapter 6. However, in such cases, the referent that has the property of the color red is as crucial for the interpretation as the action described by the predication. NOISE is another example of a type that does not shift, although it can be the goal of a shift coming from, e.g., PHYSICAL PROPERTY (soft/softly). When used as an adjective, loud must also be interpreted on the basis of an implicit action.

In conclusion, most property concepts are prone to be adjectives. When turned into
8. Semantic types and prototypicality

adverbs, property items tend to shift meaning. The exceptions are those property concepts that inherently describe actions or some other aspect of a situation that cannot be interpreted from the referent alone (i.e. SPEED and VALUE). Apart from SPEED, INTENSIFICATION, TIME, and ASPECT are potential core types of adverbs. These types are no longer properties, and consequently, they lie outside the scope of this dissertation. Still, the observed tendency for such types of adverbs shows that there is a clear connection between these different types, even when widening the perspective to concepts other than those denoting properties, or even manner. Thus, adverbs may not necessarily be as heterogeneous as previously assumed.

8.9. Conclusion

This chapter has discussed semantic types of adverbs, in the same vein as Dixon’s (1982 [1977]) semantic types of adjectives. At the beginning of the chapter, three hypothesis were put forth in (8.1), which all have been confirmed. The cross-linguistically recurrent semantic types of adverbs are SPEED, VALUE, NOISE, and CARE. Among these types, SPEED emerged as a clear core type for adverbs. SPEED is attested in the great majority of languages with simple adverbs. It is found in some classes of general modifiers, in lexicalization tendencies in ADV, and in adverbial affixation. Similarly, VALUE has been found as a core type for general modifiers, or a core or peripheral type for both adjectives and adverbs. NOISE and CARE were attested as peripheral types for adverbs, found among the simple adverbs of a smaller number of languages and in some general modifier classes. These semantic types for adverbs and general modifiers show stable cross-linguistic tendencies. SPEED was then discussed in connection to time and aspect. This was followed by a discussion of the semantic types of adjectives and adverbs, and why certain items tend to shift meaning when used adverbially, whereas others do not. Most property words occur as adjectives, in languages where adjectives are attested. When used adverbially, they tend to shift meaning towards various characteristics of the event that they describe. Accordingly, even though SPEED is a dominant core type for property-denoting adverbs, it appears that we must look for other potential core types outside the realm of property words.
9. Adverb as a part of speech

9.1. Introduction

In this chapter, I will discuss the potential part of speech status of adverbs and the implications of regarding adverb as a category in its own right. Problems surrounding the determination of adverb as a part of speech are described in section 9.2. Following this, I discuss various approaches to parts of speech in section 9.3, with a focus on the typological perspective taken in this dissertation. In section 9.4, I turn to the question of why adverbs differ from other parts of speech, once they are regarded as belonging to such a category. The chapter closes with a concluding discussion in section 9.5.

9.2. The problematic adverb

The determination of whether adverbs in general belong to one and the same part of speech category is complicated by several circumstances. First, it is unclear whether adverbs should be defined as a lexical or a functional category. As illustrated in this dissertation, many typical adverbs are property words (e.g. *quickly*), which are clearly lexical, whereas other adverbs have grammatical meaning such as aspect (e.g. *completely*). In certain cases, lexical and grammatical meanings are not very far apart. For instance, in *He answered quickly*, the adverb may mean either ‘quickly’ as a property of ‘being quick’, or it may mean ‘soon’, as a specification of time (cf. the discussion in chapter 8). Further complicating the matter is the fact that some items that are usually classified as adverbs appear to have neither lexical nor grammatical meaning, but are rather deictic, e.g. *there* or *today*. Another unusual characteristic of adverbs is the fact that they rarely inflect, with the exception of comparative and superlative constructions such as *run fast – faster – fastest*, which appear to primarily pertain to property-denoting adverbs, although there are exceptions to this too, e.g. *soon – sooner – soonest*. This deviates from the behavior of other traditional parts of speech: nouns, verbs, and adjectives often show extensive inflection. Another reason why adverbs tend to be questioned in discussions of parts of speech is the fact that they are less frequent compared to other categories, both within and across languages. If only adverbs denoting properties are considered as the basis for a potential adverb category, then the adverb category is very small in most languages where it occurs. Adverbs are also recurrently said to be rare cross-linguistically. For instance, Loeb-Diehl (2005: 9) calls languages with a lexical category of manner adverbs (which includes derived adverbs) “a definite minority among the languages of the world”. Finally, as discussed extensively in chapter 2, adverbs in general occur on different syntactic levels, making them far more diverse in this sense than other parts of speech.
9.3. Parts of speech in general

The comparative concepts for attributive adjectives, predicative adjectives, and adverbs introduced in section 4.2 rest on Croft’s typological approach to parts of speech. In chapter 3, I showed that Croft’s approach allows for an expansion that includes adverbs (cf. table 3.1 in section 3.2), although they are not overtly included in his original version (see table 2.2 in section 2.3.4). The present section will be devoted to an in-depth discussion of parts of speech generally, and Croft’s approach specifically.

Within the generative tradition, at least nouns and verbs are assumed to be universal categories. When Chomsky (1981: 48) introduced the features [+N] and [+V] for the determination of lexical categories, the scope of these features excluded adverbs. Nouns were defined as [+N][–V], verbs as [–N][+V], and adjectives as [+N][+V]. Outside of the realm of lexical categories, prepositions were defined as [–N][–V] (1981: 48). The option of defining also some types of adverbs as [–N][–V] has been proposed (Emonds 1985; Huddleston & Pullum 2002). However, this does not include adverbs denoting properties, but rather those that are close to prepositions. Another alternative is to treat adverbs as “a special class of adjectives” (Radford 1988: 138). Adverbs have received much attention in certain generative accounts, notably in the works of Cinque (1999; cf. section 2.2). However, adverbs appear to be dealt with in different ways, with no clear consensus on their category status.

Among functionalists, opinions diverge on whether nouns and verbs (and other categories) are universal or language-specific. The views also vary on what type of categories parts of speech are as such. As discussed in chapter 2, one prominent perspective bases parts of speech on discourse functions (also propositional act functions, discourse functions, Dixon 1982 [1977]; Hopper & Thompson 1984; Croft 1991, 2001, 2003). A different approach is that of Functional Grammar (Hengeveld 1992; Hengeveld & Rijkhoff 2005; Rijkhoff & van Lier 2013, cf. section 2.3.3), where universal functions are considered as the basis of parts of speech, although the latter cannot be identified in every language. The debate-provoking account of Mundari by Evans & Osada (2005) posits language-specific word classes, by both distributional and semantic criteria. From a categorial grammar perspective, Gil (2000, 2008) sees part of speech categories as purely syntactic categories. In contrast, Nau (2016) argues for parts of speech as entities not of language, but of linguistics.

Although typologists take different perspectives on parts of speech, there are two approaches that specifically aim to account for such categories in a way that is typologically valid. Such validity requires a definition of parts of speech that allows for comparison of these categories across languages. The two approaches are the discourse function-based approach most elaborated upon by Croft (1991, 2001, 2003) and the Functional Grammar approach by, among others, Hengeveld (1992), Hengeveld & Rijkhoff (2005), and Rijkhoff & van Lier (2013). These typologically oriented approaches, which were introduced in chapters 2 and 3, will be discussed accordingly in more detail here. The two approaches differ in important ways. According to Croft, parts of speech are prototypes, in the sense of Rosch (1978), that can be identified when certain semantic classes are used for specific discourse functions, with unmarked lexical items as a result. As illustrated in table 9.1 (repeated from table 2.2 in chapter 2), these prototypical parts of speech pattern with
the presence or absence of structural coding, which is the morphosyntactic marking that indicates the function that a lexical item is used in.

Table 9.1. Encoding of semantic classes and discourse functions (Croft 2001: 88)

<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
<th>Modification</th>
<th>Predication</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objects</strong></td>
<td>UNMARKED NOUNS</td>
<td>genitive, adjectivilizations, PPs on nouns</td>
<td>predicate nominals, copulas</td>
</tr>
<tr>
<td><strong>Properties</strong></td>
<td>deadjectival nouns</td>
<td>UNMARKED ADJECTIVES</td>
<td>predicate adjectives, copulas</td>
</tr>
<tr>
<td><strong>Actions</strong></td>
<td>action nominals, participles, relative clauses</td>
<td>UNMARKED VERBS</td>
<td></td>
</tr>
</tbody>
</table>

Parts of speech as defined by Croft are not to be confused with language-specific categories. Rather, parts of speech are cross-linguistic prototypes. There is a universal tendency captured in Croft’s structural coding criterion, which holds that a typologically marked item is always encoded by at least as many morphemes as a typologically unmarked item (2001: 90). This was illustrated in detail in section 2.3.4, with the English example red. In its prototypical function as a modifier in, e.g., the red rose, red is unmarked. When used in reference, a derivational morpheme must be added to red, as in, e.g., the red-ness of the rose. Some English object words used for modification have zero structural coding, such as kitchen table or apple basket. This shows that the object words kitchen and apple are encoded by the same amount of structural coding, namely zero, when used in their prototypical function of reference and the non-prototypical function of modification (cf. Croft 2001: 99). Another universal pattern proposed by Croft is that of behavioral potential. Behavioral potential is basically equivalent to the inflection that goes with a specific function. Croft’s criterion says that behavioral potential that is found on marked items (i.e. less prototypical combinations of semantic class and function) are always found on unmarked items (i.e. more prototypical combinations) (2001: 91). In English, this can be illustrated by how tense is found in relative clauses that are finite (action used in modification), just as tense is found in the prototypical combination of action and predication (although note that English is not a very good example in terms of behavioral potential as pointed out by Croft 2003: 188).

While the treatment of parts of speech within Functional Grammar and Croft’s universal tendencies do not clash, the two approaches differ in important ways. Within Functional Grammar, unmarked patterns across functions are seen as constituting flexible parts of speech. For example, in Tongan (Austronesian), there are lexical items that can be used in several functions (see also the in-depth discussion of Tongan by Broschart 1997). The
9. Adverb as a part of speech

Tongan lexical item *si‘i* can be used in predication to mean ‘be small’; in reference to mean ‘childhood’; as a modifier within a referring expression to mean ‘little child’; and as a modifier within a predicating expression as, e.g., ‘He studied a little’ (Hengeveld 1992: 66). Thus, Functional Grammar treats Tongan as a language with one flexible part of speech which subsumes the functions of verb, noun, adjective, and adverb. Other languages may have one class of verbs and one flexible class subsuming nouns, adjectives, and adverbs (e.g. Imbabura Quechuan) or different classes of nouns and verbs, in addition to one flexible class subsuming adjectives and adverbs (e.g. Dutch), i.e. what I define as general modifiers (cf. section 6.4.4). Languages that do not have flexible parts of speech are defined as having rigid parts of speech systems, and those among them that have all four major parts of speech are called specialized (e.g. English, Hengeveld 1992: 69).

As pointed out by Croft (2001: 65–75), the flexible part of speech approach appears to overlook one important fact, namely semantic shift. Semantic shift, in this context, refers to meaning shift rather than diachronic shift. It is the meaning shift that takes place when a lexeme is zero-converted to another function than the one with which it is usually associated. Semantic shift is similarly important in the discussion of zero conversion by e.g. Evans & Osada (2005). The Functional Grammar account allows certain lexemes to be used flexibly in more than one function, but does not explain why and how these items sometimes shift meaning and sometimes do not. Meaning shift over functions is unpredictable, as can be observed from the use of the Tongan *si‘i*. Some consistency can nonetheless be discerned: Croft identifies another universal tendency here, namely that when a lexeme shifts meaning with zero coding, the direction of meaning change goes toward the semantic class that is prototypically associated with the new function (2001: 73). For instance, when a property word is used in reference, the meaning shifts to an object-like meaning. On the other hand, the motivations for allowing semantic shift within the same flexible category differ. Hengeveld & Rijkhoff (2005) argue that flexible lexemes are monosemous, but semantically vague. When flexible lexemes are used in different contexts, they argue that subfields of their general meaning are evoked, explaining the perceived meaning shifts (Rijkhoff & van Lier 2013: 22–23). Don & van Lier (2013) argue that lexemes in flexible word classes have fixed meanings, but that use in specific morphosyntactic contexts leads to shift of meaning. The phenomenon of semantic shift is thus discussed by the proponents of Functional Grammar, but it seems that too little significance is attributed to its consequences. As argued in Croft’s criticism, when the same criteria are applied consistently, English could be regarded as a language with flexible word classes based on examples such as *The school was small* and *We schooled him into proper manners*, where flexibility between Nouns and Verbs appears to occur (2001: 69). Since Hengeveld (1992) does not treat English as a flexible language but a specialized one, it seems difficult to apply the criteria of flexibility consistently.

The approach to parts of speech following Croft (1991, 2001, 2003) does not have as its object to divide all items of an individual language into different categories. Rather, it aims at formulating a typologically applicable account of parts of speech, which is consistent in the criteria used in cross-linguistic comparison. Prototypical parts of speech are regarded as categories that can be compared across languages, and should not be confused with language-specific categories. Analyzing parts of speech as prototypical categories further offers a way in which both central and peripheral members can be
9.4. Adverb as a different part of speech

The results of this study, presented in chapters 5, 6, and 7, show that property words functioning as modifiers within predicating expressions in the form of simple adverbs can be discerned in a substantial number of unrelated languages spread out around the world. By ‘substantial number’, I mean more than what can be seen as exceptions, considering their geographical and genealogical dispersion. The languages that have simple adverbs are presented once more in table 9.2 (repeated from table 5.1 in chapter 6).

<table>
<thead>
<tr>
<th>Language</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoli (Nilotic)</td>
<td>Koyra Chiini (Songhay)</td>
</tr>
<tr>
<td>Ainu (isolate)</td>
<td>Krongo (Kadugli-Krongo)</td>
</tr>
<tr>
<td>Alamblak (Sepik)</td>
<td>Lahu (Sino-Tibetan)</td>
</tr>
<tr>
<td>Bambara (Mande)</td>
<td>Lakota (Siouan)</td>
</tr>
<tr>
<td>Bininj Gun-Wok (Gunwinyguan)</td>
<td>Lezgian (Nakh-Daghestanian)</td>
</tr>
<tr>
<td>Bora (Witotoan)</td>
<td>Ma’di (Central Sudanic)</td>
</tr>
<tr>
<td>Bukiyip (Nuclear Toricelli)</td>
<td>Maltese (Afro-Asiatic)</td>
</tr>
<tr>
<td>Cuicatec (Otomanguean)</td>
<td>Mam (Mayan)</td>
</tr>
<tr>
<td>Estonian (Uralic)</td>
<td>Mapudungun (Araucanian)</td>
</tr>
<tr>
<td>Ewe (Atlantic-Congo)</td>
<td>Marathi (Indo-European)</td>
</tr>
<tr>
<td>Gooniyandi (Bunaban)</td>
<td>Mian (Nuclear Trans New Guinea)</td>
</tr>
<tr>
<td>Guarani (Tupian)</td>
<td>Nishnaabemwin (Algic)</td>
</tr>
<tr>
<td>Hdi (Afro-Asiatic)</td>
<td>Paumari (Arawan)</td>
</tr>
<tr>
<td>Imbabura Quechua (Quechuan)</td>
<td>Sahaptin (Sahaptian)</td>
</tr>
<tr>
<td>Imonda (Border)</td>
<td>Sango (Atlantic-Congo)</td>
</tr>
<tr>
<td>Jamul Tiipay (Cochimi-Yuman)</td>
<td>Turkish (Turkic)</td>
</tr>
<tr>
<td>Kalaallisut (Eskimo-Aleut)</td>
<td>Waiwai (Cariban)</td>
</tr>
<tr>
<td>Kambera (Austronesian)</td>
<td>Warekena (Arawakan)</td>
</tr>
<tr>
<td>Kewa (Nuclear Trans New Guinea)</td>
<td>Yagua (Peba-Yagua)</td>
</tr>
<tr>
<td>Kham (Sino-Tibetan)</td>
<td>Yankunytjatjara (Pama-Nyungan)</td>
</tr>
<tr>
<td>Koasati (Muskogean)</td>
<td></td>
</tr>
</tbody>
</table>

Among simple adverbs in different languages, the semantic invariants are recurrent, with speed as the most common type for adverbs (cf. chapter 8). In chapter 6, it was also shown that a dozen of the sample languages that do have simple adverbs do not have any adjectives. Thus, there is no implicational universal by which the presence of adverbs in a language is dependent on the presence of adjectives (cf. Hengeveld 1992; Hengeveld et al. 2004; Hengeveld 2013). This establishes that adverbs are conceptually no less basic than
9. Adverb as a part of speech

adjectives, and that adjectives and adverbs are equally basic kinds of modifiers. This
is also reflected in languages that have a class of modifiers that covers the functions of
adjectives and adverbs. In chapter 6, the term general modifier was introduced in order
to capture such classes.

As discussed and illustrated in chapter 3, the approach to parts of speech proposed
by Croft (1991, 2001, 2003) can be expanded in order to include adverbs. In table 9.3,
I propose a yet more elaborate version of this expansion, which takes into account the
discussion of semantic types of property words from chapter 8. The overt structural coding
constructions of non-prototypical combinations of semantic class and pragmatic function
have been removed from this version solely for the purpose of enhanced clarity.

Table 9.3. Encoding of semantic classes and discourse functions; expanded version of Croft (2001: 88)

<table>
<thead>
<tr>
<th>Reference</th>
<th>Modification within</th>
<th>Predication</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>reference</td>
<td>predication</td>
</tr>
<tr>
<td>Objects</td>
<td>UNMARKED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOUNS</td>
<td></td>
</tr>
<tr>
<td>DIMENSION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COLOR</td>
<td>UNMARKED</td>
<td></td>
</tr>
<tr>
<td>PHYSICAL PROPERTY</td>
<td>ADJECTIVES</td>
<td></td>
</tr>
<tr>
<td>HUMAN PROPENSITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Properties</td>
<td>VALUE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOISE</td>
<td></td>
</tr>
<tr>
<td>CARE</td>
<td>UNMARKED</td>
<td></td>
</tr>
<tr>
<td>SPEED</td>
<td>ADVERBS</td>
<td></td>
</tr>
<tr>
<td>TIME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASPECT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actions</td>
<td>UNMARKED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VERBS</td>
<td></td>
</tr>
</tbody>
</table>

Simple adverbs, as attested in the languages in table 9.2, instantiate UNMARKED ADVERBS. Such adverbs consist of property words that, when used as modifiers within
predicating expressions, do not have any structural coding. If modification is an accessory function not only to reference, but also to predication, adverbs fill a region that would
otherwise be empty, or filled by other constructions. However, it would be strange for a
certain combination of semantic class and pragmatic function not to have any unmarked
instance, when all other combinations do. For property modification, it would mean that
the unmarked region would be located only in the upper left corner in which UNMARKED
ADJECTIVES are found in table 9.3. If this argument is pushed further, one interpretation is that this would go against the universal of unmarked combinations of semantic class and discourse function. At the very least, the skewed unmarkedness of property words only in modification within referring expressions would have to be explained. As unmarked property-denoting adverbs are consistently attested, they appear to have a natural place in the lower right corner of the domain of modification. The fact that unmarked adjectives appear to be much more common than unmarked adverbs is not a problem, but rather an interesting tendency that points to the characteristics of these two types of modifiers, which will be discussed in detail in section 9.4.1.

Table 9.4 presents an alternative version of table 9.3, based on languages with general modifiers (as attested in a third of the sample languages, see chapter 6).

Table 9.4. Encoding of semantic classes and discourse functions; expanded version of Croft (2001: 88)

<table>
<thead>
<tr>
<th>Reference</th>
<th>Modification within</th>
<th>Predication</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Objects</strong></td>
<td><strong>UNMARKED NOUNS</strong></td>
<td></td>
</tr>
<tr>
<td>dimension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>color</td>
<td></td>
<td></td>
</tr>
<tr>
<td>physical property</td>
<td></td>
<td></td>
</tr>
<tr>
<td>human propensity</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Properties</strong></td>
<td><strong>VALUE</strong></td>
<td></td>
</tr>
<tr>
<td>noise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>speed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aspect</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actions</strong></td>
<td><strong>UNMARKED VERBS</strong></td>
<td></td>
</tr>
</tbody>
</table>

In table 9.4, UNMARKED GENERAL MODIFIERS cover the regions of UNMARKED ADJECTIVES and UNMARKED ADVERBS combined. In order to represent languages that have both general modifiers and adjectives and/or adverbs, the table would have to be adjusted to make room for both. For a full account of parts of speech, a further possibility would be to include intensifiers, as modifiers of other modifiers, or within modifying expressions.

In tables 9.3 and 9.4, the specification of semantic types among property words in the left-most column illustrates the continuum from prototypically adjectival properties
9. Adverb as a part of speech

(DIMENSION, AGE, etc) to prototypically adverbial properties (SPEED). At the adverbial extreme of the continuum, property words tend to shift towards meanings that describe events, resulting in types that cannot be defined as properties, such as TIME and ASPECT. Here, we re-encounter the issue of adverb as a lexical versus functional category. While it is highly important to distinguish between these two types of categories from some perspectives (such as within the generative tradition, e.g. Chomsky 1981), certain uses of adverbs show that lexical and functional meaning cannot always be kept apart. Alternatively, certain adverbs can be argued to constitute a domain in which a shift from lexical to functional meaning is quite likely to take place (the reasons for this will be discussed below in section 9.4.1).

Based on the results of this dissertation, adverbs evidently have a place as a part of speech in the typological approach that defines parts of speech as prototypical categories. Instead of questioning the actual part of speech status of adverbs, other questions are warranted. Why are simple adverbs not that common cross-linguistically? And more specifically, when simple adverbs are found in a language, why do the members of this category tend to be so few? In sum, why are adverbs so remarkably different from other parts of speech? We turn to these questions in the next section.

9.4.1. Why are adverbs different?

Throughout this dissertation, it has been emphasized that adverbs, like adjectives, are modifiers. Modification as such was discussed in depth in chapter 3, where a vital point was the secondary or intermediate nature of modification (Croft 2001: 97). In this respect, modification differs from reference and predication, which are primary functions. In fact, Croft does not only treat modification as intermediate, but also properties, in that they share some of the features of actions and some of the features of objects:

Properties are relational (like actions) but stative and permanent (like objects...). Modification both helps to enrich reference...and to give a secondary assertion about the referent... (Croft 2001: 97)

However, the argumentation in this quote primarily builds on a focus on adjectives. This is also why Croft argues that “adjectives are less prominent as a typological prototype than nouns and verbs” due to the characteristics of properties and modification (2001: 97). But the quote is instructive about modification as such, in which adverbs are necessarily also included. Modification is a secondary function, because it must be used along with the primary functions of reference and predication, respectively. The function of modification per se is secondary in the same way for adjectives (modification within referring expression) and adverbs (modification within predicating expression). Properties, on the other hand, seem to differ in their semantic characteristics, depending on whether they are used as adjectives or adverbs. To clarify this, table 9.5 presents the way in which Croft defines the three major semantic classes (of which properties is one) that pattern with unmarked nouns, adjectives, and verbs.
Table 9.5. Semantic properties of prototypical parts of speech (Croft 2001: 87).

<table>
<thead>
<tr>
<th></th>
<th>Relationality</th>
<th>Stativity</th>
<th>Transitoriness</th>
<th>Gradability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objects</strong></td>
<td>nonrelational</td>
<td>state</td>
<td>permanent</td>
<td>nongradable</td>
</tr>
<tr>
<td><strong>Properties</strong></td>
<td>relational</td>
<td>state</td>
<td>permanent</td>
<td>gradable</td>
</tr>
<tr>
<td><strong>Actions</strong></td>
<td>relational</td>
<td>process</td>
<td>transitory</td>
<td>nongradable</td>
</tr>
</tbody>
</table>

Table 9.5 defines properties in adjectival uses only. In both adjective and adverb occurrences, properties are relational (like actions), meaning that they need another concept, i.e. that which the property describes, to be understood. Properties in the form of adjectives and adverbs are also both gradable. But when Croft argues that properties are also ‘stative and permanent (like objects)’, this seems to concern only properties in the form of adjectives. Notably, the parameters of *stativity* and *transitoriness* is an elaboration of Givón’s time stability scale (1979; 1984; 2001), employed as an explanatory model in many typological accounts of parts of speech (e.g. Croft 1991, 2001, 2003; Hengeveld 1992; Stassen 1997). On this scale, nouns are located at the most time-stable end, whereas verbs are found at the least time-stable end. Adjectives are in the middle of the scale, as illustrated in (9.1) (Givón 1984: 52ff.).

(9.1)  

<table>
<thead>
<tr>
<th>nouns</th>
<th>adjectives</th>
<th>verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>most time-stable</td>
<td>intermediate states</td>
</tr>
</tbody>
</table>
9. Adverb as a part of speech

Table 9.6. Semantic properties of prototypical parts of speech; expanded version of Croft (2001: 87).

<table>
<thead>
<tr>
<th></th>
<th>Relationality</th>
<th>Stativity</th>
<th>Transitoriness</th>
<th>Gradability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objects</strong></td>
<td>nonrelational</td>
<td>state</td>
<td>permanent</td>
<td>nongradable</td>
</tr>
<tr>
<td><strong>Properties of</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>objects</strong></td>
<td>relational</td>
<td>state</td>
<td>permanent</td>
<td>gradable</td>
</tr>
<tr>
<td><strong>actions</strong></td>
<td>relational</td>
<td>process</td>
<td>transitory</td>
<td>gradable</td>
</tr>
<tr>
<td><strong>Actions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>relational</td>
<td>process</td>
<td>transitory</td>
<td>nongradable</td>
</tr>
</tbody>
</table>

It should be noted that properties can also be transitory states, such as ‘to be happy’ (cf. Croft in prep.). In conclusion, properties differ semantically depending on what they are properties of: objects or actions.

Even though properties of objects and actions superficially appear to be relational in the same way, the semantic characteristic *relationality* found in table 9.5 and its amended version in 9.6 (cf. also the discussion of adjectives in Givón 2001: 53) is particularly illuminating when it comes to the difference between properties of objects and actions. The notion of relationality is employed by Langacker (1987: 214–216), who uses it to refer to whether a specific concept as such needs another concept to be understood. Objects, such as a house or a bird, can be conceived of without any other concept being involved. But properties, e.g. redness, cannot be conceived of without something having the property of being red. Nor can actions, such as walking, be conceived of without someone performing the walking. In the case of properties that modify within actions, yet another relational step is required. To conceive of the property of HIGH SPEED, as in, e.g., fast, two additional concepts are required: firstly, an action happening fast (e.g. walking), and secondly, someone performing the action (e.g. the walker). In this sense, properties that modify within predicating expressions are relational in a double sense.

As argued above, modification is a secondary function as such. However, just as in the case of properties of actions being even more relational, modification within predication is secondary in a double sense, as compared to modification within reference. This is due to the nature of reference and predication, respectively. Reference and predication are both primary propositional act functions. However, predication requires reference. Modification within a referent is only dependent on the referent as such. Modification within a predicate is not only dependent on the predicate, but also on its participants, consisting of referents. In this way, also modification within predicates is secondary in a double sense.

Approaching the issue from a different perspective, nouns, prototypically represented by objects used in reference, are very suitable for modification. Verbs, prototypically represented by actions used in predication, however, are not. The reason for this is not only that it is easy to ascribe properties to objects, which are as such easy to conceive of, and that it is not as easy to ascribe properties to actions in comparison. Rather, since actions are events or processes, they involve several dimensions that unavoidably affect the notions ascribed to actions. One of them is connected to relationality. For

1 It should be noted that many typical object words such as expressions of kin or body terms may nonetheless be relational.
many actions, more than one additional concept, or participant, is required. In syntactic
terms, it is the valency of the verb that has implications also for the modification of the
verb. In the modification of an event with several participants, or of a verb with several
arguments, the interpretation and applicability of the modifier will necessarily be more
or less affected. Another highly important characteristic of events is that they unfold
over time, as manifested by tense and aspect. It can thus be expected that this feature
of events also has influence over their modification. A parallel can be drawn to Croft
(2012: 28), who argues that “speakers do not encounter verbs outside of the constructions
that they occur in”, implying that, e.g., aspect and argument structure must always be
taken into account in the analysis of verbs. Likewise, the modification of verbs cannot be
treated in isolation from the characteristics of the verbs that are modified.

Recalling the discussion on semantic shift (in the synchronic sense of the term) in
section 9.3, it is possible to observe the effects of verbs being less suitable for modification.
Dixon’s (1982 [1977]) core types of adjectives describe properties very typical of objects,
e.g. DIMENSION and PHYSICAL PROPERTY. When the results of the present study were
analyzed in terms of semantic types, it became evident that property words that typically
pertain to objects tend to shift semantically when used as adverbs. The shift is then
towards some characteristic of the verb, e.g. from DIMENSION to TIME. Property types
that are inherently concerned with actions, such as SPEED, NOISE, and CARE, are much
fewer, and their meaning often remains the same across adjective and adverb uses. In
different uses of adverbs, such items may nonetheless shift from these clear property
meanings to other types that are more intimately connected to action, for instance, TIME
or ASPECT (e.g. answer quickly, where quickly means ‘soon’, cf. table 8.13 in section
8.8). As concluded in chapter 8, most property words are prone to be adjectives, i.e. their
prototypical use is as modifiers in referring expressions. Much fewer property words tend
to be adverbs, with a prototypical use as modifiers in predicating expressions. Predicating
expressions are more complex in their nature than referring expressions, due to valency,
tense, and aspect, which in turn make modification within predicating expressions much
more complex.

A closer comparison of the results in terms of overlap from chapters 6–7 renders further
support for this argumentation. All languages in the sample exhibit some kind of overlap
on the level of the root as well as the level of the lexeme. This shows that in many
languages, adjectives and adverbs are related in some way in their common function of
modification, and/or in the closely related function of property predication. The analysis
of the lexeme level shows that the functions of ATTR and PRED are encoded in the same
way in more than half of the languages of the sample. The second most common lexeme
level overlap is that of ATTR, PRED, and ADV, commonly in the form of general modifiers
(again, supporting the status of general modifiers as a category on a par with adjectives
and adverbs). On the construction level, the partial overlap of PRED and ADV is the largest
one. To this, the recurring pattern of a construction intermediate between PRED and ADV
can be added. Against the background of valency and aspect as important characteristics
of predication, this is not surprising. Such characteristics of predication can be expected
to influence the nature of modification which takes place within predication. On the level
of the construction, all characteristics of predication are accessible. The arguments are
part of the construction, as are tense and aspect. Any modifiers can then be related to all
9. Adverb as a part of speech

the important characteristics of the construction within which it occurs. On the level of the lexeme, this is not the case. Property modification within a referring expression does not necessarily involve much more than what can be induced from the modifying lexeme. Property modification within a predicating expression, on the other hand, involves many other factors, which can only be acknowledged on the level of the construction. This is also why it can be expected that the encoding overlaps found on the lexeme level cluster around ATTR, as a function that is accessible on this level. Conversely, the overlaps attested on the level of the construction more commonly exclude ATTR, in favor of encoding PRED and ADV as two closely related constructions. The level of the construction, which has a larger scope, encodes meanings connected to the larger context that are crucial parts of events. Languages that encode PRED and ADV in the same type of construction can be argued to do so because of construal in the sense of Croft & Cruse (2004: 40ff.). In other words, the experiences that are expressed linguistically as PRED and ADV are conceptualized or construed as two closely related experiences.

9.4.2. Inflection and derivation

As touched upon above, adverbs display a number of peculiarities connected to inflection and derivation. Cross-linguistically, adverbs rarely display any inflection. A few cases are nonetheless attested among the languages of the sample. In Yankunytjatjara (Pama-Nyungan), Active Adjectives (which I place among adverbs) show inflectional agreement for case according to the actor.

(9.2) Yankunytjatjara (Pama-Nyungan)² (Goddard 1985: 30)

\[
\text{wati-ngku wala-ngku kati-nyi}
\]
man-ERG quickly-ERG take-PRS

‘The man is bringing it quickly/slowly.’

Outside the sample of the present study, Corbett (2006: 44) finds agreement on “items which according to their syntactic behaviour and according to their semantics are adverbs” in a number of geographically distant languages. Archi (Nakh-Daghestanian) is one such case. A particularly interesting example pair can be found in (9.3), where a TIME adverb takes agreement markers.


(a) \[\text{buwa-mu ~ b-ez \quad di\tilde{a}<b>u \quad \tilde{x}x^w\text{alli} \quad a<b>u}\]
mother(II)-ERG III-1SG.DAT early<III> bread(III)[ABS] made<III>

‘Mother made bread for me early.’

(b) \[\text{di\tilde{a}-mu \quad ez \quad di\tilde{a}<t'>u \quad nok\tilde{t}'} \quad a<\sigma>w\]
Father(1)-ERG IV-1SG.DAT early<IV> house(IV)[ABS] made<IV>

‘Father made a house for me early.’

² (9.2) is repeated from (6.22) in section 6.4.1.
In (9.3a), *dita-b-u* ‘early’ has an infix 

\[ \text{bill} \text{b} \text{u} \]

that indicates gender III singular, in this way agreeing with *\( \text{all} \text{i} \) ‘bread’. In (9.3b), the same adverb instead takes the infix 

\[ \text{t} \text{b} \]

which marks gender IV singular, agreeing with *nok\( \text{t} \) ‘house’. As accounted for in the comprehensive volume on Archi edited by Bond et al. (2016), gender is marked on fairly few lexical items, even though those that it does occur on are unusual targets for gender. It could thus be the case that since few lexemes indicate gender, it is generously distributed across different parts of speech (Bernhard Wälchli, p.c.). The fact that gender is marked on adverbs such as the one in (9.3) then does not necessarily say something about adverbs as such, but rather about the complex gender system of Archi.

The most commonly encountered inflection on adverbs is probably that of comparative and superlative constructions. In languages that have adjectives that can be compared inflectionally, the same strategy is sometimes employed for adverbs. In Swedish, *fort* ‘quickly’ – *fortare* ‘more quickly’ – *fortast* ‘most quickly’ has the same inflectional comparative and superlative forms as *snabb* ‘quick’ – *snabbare* ‘quicker’ – *snabbast* ‘quickest’. This can be argued to hold in English as well, in the case of *run quickly* – *run quicker* – *run quickest*. In Lithuanian (Indo-European, not represented in my sample), where Adverbs are derived from Adjectives, Adverbs inflect similarly although not identically to Adjectives, in the comparative and superlative constructions. This is illustrated in table 9.7 (note that the exemplified Adjectives are in the nominative here).

<table>
<thead>
<tr>
<th>Positive</th>
<th>Comparative</th>
<th>Superlative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjective M</td>
<td>ger( \text{u} )</td>
<td>ger-( \text{u} \text{n} )( \text{u} )</td>
</tr>
<tr>
<td>F</td>
<td>ger( \text{i} )</td>
<td>ger-( \text{u} \text{n} )( \text{u} )</td>
</tr>
<tr>
<td>Adverb</td>
<td>ger-( \text{u} \text{a} )</td>
<td>ger-( \text{i} \text{a} )</td>
</tr>
</tbody>
</table>

Lithuanian Adverbs have their own comparative, i.e. *-ia\( \text{u} \). The superlative ending could, on the one hand, be a complex formation of the adjective superlative *-id\( \text{u} \)\( \text{s} \) and the adverbial suffix *-ia\( \text{i} \), as pointed out by Ambrazas (2006: 386). On the other hand, Mathiassen (1996: 173) does not separate this ending into two suffixes (which is why they are not separated in table 9.7). Accordingly, although the comparison of adverbs can be related or in some instances even be identical to the comparison of adjectives, it is not necessarily always the case, as illustrated by Lithuanian, at least in part.

Another distinctive feature of adverbs is their apparent inability to act as the basis of derivation. The opposite direction of derivation, where adverbs are derived from other categories, occurs productively in many languages. Kewa (Nuclear Trans New Guinea) has an extensive adverb-deriving pattern, in addition to a small closed Adverb class. The adverbializing enclitic *=rupa* may be attached to “any stem which is not already an adverb” (Franklin 1971: 34). The clitic may in fact even attach to a whole clause. Several examples are provided in (9.4), where the source for the derivation is indicated in the right margin. As illustrated in (9.4e), it appears that *=rupa* can also attach at least to
9. Adverb as a part of speech

certain simple Adverbs, in spite of Franklin’s claim (1971: 34).

(9.4) Kewa (Nuclear Trans New Guinea) (Franklin 1971: 34, 82, 69)

(a) \( \text{nī } \bar{\text{dá}}=\text{rupa} \) \( \text{píralua} \) I \( \text{man}=\text{ADVZ} \) I.will.sit

‘I will sit like a man.’

(b) \( \text{nī } \bar{\text{ét}}\text{aa } \text{wárí-ni}=\text{rupa} \) \( \text{lágíaa} \) I food \( \text{prepare-ADJVZ-ADVZ} \) he.told

‘He told me how food is prepared.’

(c) \( \text{nī } \bar{\text{móg}}\text{opara}=\text{rupa} \) \( \text{méáwa} \) I that.over.there=\text{ADVZ} I.got.it

‘I got (the one) similar to that (thing) over there.’

(d) \( \text{[amá } \text{lá-wa}=\text{rupa} \) \( \text{toa} \) \( \text{[mother say-I.did]=ADVZ say.I.will} \)

‘I will tell it like I told mother.’

(e) \( \text{ába}=\text{rupa} \) \( \text{pá-lua} \) before=\text{ADVZ} \( \text{go-I.will} \)

‘I will go like I did before.’

Apart from the example from Kewa in (9.4e), which is not attested with any property-denoting Adverb as far as I can tell from the language description, derivation from adverb to another part of speech has not been observed in the languages of the sample. Although it may of course exist, I am not aware of such a case. One reason why adverbs are unlikely to serve as a basis for derivation is the complexity of conceiving of concepts denoted by adverbs. If there are other derivational patterns at hand, it would be an unnecessarily complicated process to start from adverbs and thereby add another conceptual step.

Adverb inflection and derivation have so far been discussed as separate matters. However, the issue of whether adverbs formed from adjectives should be classified as inflection or derivation has been a recurrent grounds for debate (e.g. Geuder 2000). The English \text{-ly} ending is a classical example in such discussions (Zwicky 1995). It is not surprising that this ending is often used as a textbook example for testing inflectional and derivational criteria (cf. e.g. Haspelmath 2002: 110, where this is literally the case). In Croft’s approach to parts of speech, derivational morphemes are defined as structural coding, which indicates a change of function (2001: 90). Recalling the nominalizing ending \text{-ness} added to \text{red} to form \text{redness}, this indicates that the function is changed from property modification (or adjective) to property reference (or noun). If the same criterion is applied to the presumed derivation of Adverbs in English by the use of \text{-ly}, it is evident that the function is not changed in the same way. First of all, \text{happy} and its derived adverb \text{happily} are both used in the function of modification. But within modification, an important change does take place in terms of what is being modified, or what the type of modification in question is an accessory function to: reference or predication. In this sense, adjectives and adverbs are closer as categories due to their shared general function. If derivation is function-changing in its essence, the fact that adjectives and adverbs actually occur
within the same function, albeit in different domains of it, must influence how derivation from one to the other is viewed. In other words, the fact that the potential derivation from adjective to adverb appears as less derivation-like than that between other categories is actually not that surprising, since it is also less of a function-changing process. A change does take place, which might be enough to accept -ly and other similar markers as derivational morphemes. However, such a change does not appear to be equal to other types of derivation, where the entire function is changed, e.g. from modification to reference (as in the case of red-ness). Against this background, it is not at all surprising that one larger category may cover both sub-domains of modification in the form of general modifiers. General modifiers have also been attested as constituting a stable category for many languages in the sample, either covering the functions of adjectives and adverbs entirely (e.g. Dutch), or alongside adjectives (e.g. Kilivila), adverbs (e.g. Hdi), or both (e.g. Sango).

In conclusion, there are various issues concerning inflection and derivation in connection to adverbs. Adverbs across languages do not usually inflect, although this is attested in a number of languages. Agreement is found in Yankunytjatjara in the sample of the present study, and in a number of languages such as Archi, but also Tsakhur and Lak (Nakh-Daghestanian), Kala Lagaw Ya (Pama-Nyungan), Bhitrauti, and Gujarati (Indo-European), all discussed by Corbett (2006: 44-46). There are also cases of comparative and superlative inflection being shared by or related for adjectives and some adverbs, as illustrated by Swedish and Lithuanian. Adverbs rarely occur as the base for derivation, with Kewa as a marginal exception in the sample. One reason for this could be the conceptual complexity that adverbs imply. Finally, the debated status of the English -ly ending as derivational or inflectional serves as a case in point for illustrating the nature of the modification function. When an adverb is formed from an adjective, its function changes in terms of what is being modified, but the resulting item remains a modifier.

9.4.3. Conclusion

As a prototypical category, adverbs cannot be defined as either lexical or functional. The semantic types attested among property words are closely related to other types that are less semantic and more grammatical in their meaning. Such a relation bridges the distinction between lexical and functional, for instance, in the case of SPEED and TIME. Nor can the adverb category be determined by the structural coding or behavioral potential of grammatical categories. It may thus come as a surprise that a typological approach that emphasizes the universal tendencies of structural coding and behavioral potential can be used as basis for determining adverb as a part of speech. The characteristics of no structural coding (i.e. derivational morphemes) and very little behavioral potential (agreement, comparative and superlative constructions) for UNMARKED ADVERBS deviates from the characteristics of other unmarked parts of speech. However, UNMARKED ADVERBS are still attested as simple property lexemes used as modifiers within predicating expressions. This follows the tendency for unmarked items to appear in the prototypical combination of semantic class and pragmatic function. The semantics of these adverbs also follow strong tendencies. In this way, adverbs emerge as a clear prototype category, in spite of its lack of structural coding and rarely attested behavioral potential.
One objection to adverb as a part of speech may still be the relatively few simple property lexemes that occur in this function in many languages. A solid argument against so-called ‘splitting’ approaches (cf. Croft 2001: 78) to parts of speech is that single-member categories are not desirable. From such a perspective, languages with a single simple adverb denoting SPEED, such as Estonian ruttu ‘quickly’, are dubious candidates for having an adverb category. But such conclusions are drawn about individual languages, whose categories are necessarily language-specific, or even construction-specific. From a cross-linguistic perspective, the fact that Estonian has one simple SPEED lexeme used as a modifier within predicating expressions (or alternatively, is on its way to lexicalize such an item) falls into the unmarkedness pattern of the prototypical adverb category. In a cross-linguistic prototype category, languages with few simple adverbs must be considered just as well as languages with many. A parallel can be drawn to Dixon (1982 [1977], 2004), who refers to languages with very few adjectives. Against the background of adjective as a generally acknowledged part of speech, only four or five items seem perfectly acceptable as constituting an adjective class in certain languages.

Just as Croft’s map of parts of speech can be amended to include adverbs, so can Givón’s (1984: 52ff.) time-stability scale presented in (9.1) be expanded to include adverbs as they are defined in this thesis.

(9.5) NOUNS - - - - - - - ADJECTIVES - - ADVERBS - - - - - - - VERBS

<table>
<thead>
<tr>
<th>most time-stable</th>
<th>intermediate states</th>
<th>rapid change</th>
</tr>
</thead>
</table>

Alternatively, general modifiers may occupy the middle region of intermediate states in (9.5). Adverbs then, are less time-stable than adjectives, but more so than the verbs that they modify. General modifiers can be expected to show different degrees of time stability reflecting this state of affairs. Both Givón’s time-stability scale and Croft’s table of parts of speech elucidate the intermediateness of adjectives and adverbs. Against the results of overlapping encoding presented in chapters 6 and 7, adjectives, adverbs, and general modifiers can be expected to display different kinds of overlaps to various extents, since they are intermediate by nature.

9.5. Summary and conclusion

This chapter set out to consider the issues that surround the determination of adverb as a part of speech category in general. Different approaches to parts of speech were then discussed, with a particular focus on typological accounts. The approach described in greatest detail was that of prototypical categories based on discourse functions (Croft 1991, 2001, 2003), which is also the basis for my discussion of adverb as a part of speech. Based on the results of the present study, adverbs were established as constituting a cross-linguistically prototypical part of speech. The nature of such a category, and the peculiarities that follow from it, were examined in depth. In conclusion, adverbs constitute a divergent category in being less frequent, displaying less inflection, and not acting as a

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3 As discussed in chapter 5, it is in fact doubtful whether even ruttu is really a simple adverb, since it could also be treated as a case form of the Noun rutt ‘haste’ cf. Wiedemann (1973).
base for derivation. These divergences are not inexplicable, but are rather characteristic of the category, and they elucidate its nature. The small number of semantic types of adverbs are restricted by the fact that not many properties can be ascribed to events without taking into account the complexity of events in terms of participants, tense, and aspect. This is also why property words used as adverbs often shift meaning towards particular characteristics of events. Even with all its peculiarities, adverb is attested as a prototypical part of speech, in its unmarked occurrences and semantic types cross-linguistically.
10. Concluding discussion

10.1. Summary and evaluation

The aim of this dissertation was to carry out a typological study of adverbs, in order to examine their encoding across languages. The encoding of adverbs was also compared to that of attributive and predicative adjectives, respectively, in order to see to what extent the encoding of these three functions overlaps. A worldwide sample consisting of 60 languages was used. The analysis was carried out at three different levels: the root, the lexeme, and the construction. Beside capturing the levels of encoding as such for each language, this analysis allowed us to compare the types of encoding overlaps in an articulated manner. For the adverbial function specifically, I examined to what extent simple adverbs can be found in the sample languages, and more specifically, whether they can be found in languages that lack simple adjectives. For the languages that have simple adverbs, I looked at the semantics of these adverbs in order to find out whether it varies or is constant cross-linguistically (cf. the research questions formulated in chapter 1).

In the sections that follow, the results will be summarized and evaluated, based on the adverbial function (section 10.1.1), overlaps at the root and lexeme levels (section 10.1.2), overlaps at the construction level (10.1.3), and semantic types and semantic shift (section 10.1.4). Implications of these findings will then be discussed in section 10.1.5, where two implicational universals will also be established. Prospects for future research are treated in section 10.2, and the thesis is concluded in section 10.3.

10.1.1. Adverbs and adverbial function

Encoding specific to the adverbial function was discussed in chapter 5. The main finding was that a clear majority of the sample languages have simple adverbs (41/60). The number of adverbs in individual languages varies remarkably. Some languages have only one or a few adverbs (e.g. Estonian and Krongo), while other languages have a much larger adverb class (e.g. Mian and Waiwai). There are further recurrent semantic trends across languages. For instance, speed concepts are found as simple adverbs in the great majority of languages that have simple adverbs. This is extensively discussed in chapter 8. Another important finding was that a considerable number of sample languages have simple adverbs even if they do not have simple adjectives (12/60). This finding demonstrates that it is not necessary for a language to have adjectives in order for it to have adverbs, a result that runs counter to the implicational hierarchy proposed by Hengeveld (1992; Hengeveld et al. 2004; Hengeveld 2013, repeated from 2.14 in chapter 2).
10. Concluding discussion

(10.1) Hengeveld’s parts of speech hierarchy (1992: 68)\(^1\)

\[\text{Verb} > \text{Noun} > \text{Adjective} > \text{Adverb}\]

As discussed in section 2.4, Hengeveld (2013: 35) explicitly states that a language that does not have adjectives will not have manner adverbs either. As discussed in section 5.2, several of my sample languages are also used in Hengeveld’s (1992) sample, and have thus been classified differently. In some cases, the reasons that Hengeveld’s classification differs from mine are obvious. For instance, Dutch is analyzed as having a flexible class labeled “A/Adv” by Hengeveld (1992: 69) and as having a General Modifier class here. In other cases, the different classifications are less straightforward, potentially based on whether derived adverbs are also taken into account, or whether a very small number of adverbs in a given language is regarded as an exception. I have focused on simple adjectives and adverbs. I have also regarded any number of simple adverbs as enough grounds to conclude that a language has simple adverbs. My results then show that adverbs are conceptually no less basic than adjectives, since a language may have property words in the form of simple adverbs (i.e. property words that have the prototypical function of modifying within predicating expressions) but lack property words in the form of simple adjectives (i.e. property words that have the prototypical function of modifying within referring expressions). Although the languages that have simple adverbs but lack simple adjectives are far from numerous, they are too many to be dismissed as exceptions. These findings are highly important for the understanding of adverb as a category in its own right.

10.1.2. The root and lexeme levels

In chapter 6, the analysis of encoding was performed by examining individual roots and lexemes in \textsc{attr}, \textsc{pred}, and \textsc{adv}.\(^2\) On the root level, a great majority of languages (50/60) show an overlap of all three functions. In over a third of the languages (23/60), a root overlap of \textsc{attr} and \textsc{pred} is attested, and only five languages have a root level overlap of \textsc{pred} and \textsc{adv}. These results illustrate that it is very common for languages to have some encoding that is related in the three functions in focus. It is further more common for \textsc{attr} and \textsc{pred} to have related encoding, than it is for \textsc{pred} and \textsc{adv}, although the latter pattern is also attested.

At the lexeme level, any overlap presupposes at least the same overlap at the root level. For instance, a lexeme overlap of \textsc{attr} and \textsc{pred} presupposes that the same root is also attested in these two functions. The results of examining encoding overlaps on the lexeme level showed that almost two thirds of the sample languages have \textsc{attr} and \textsc{pred} encoded identically (37/60). In this overlap, three different types of encoding were attested: adjectives, adjectives verging on nouns, and stative verbs. These results strengthen the view that adjectives are often not just modifiers in referring expressions, but are also commonly used in predication. Whether attested as a class of adjectives, as items that cannot really be distinguished from nouns, or as stative verbs, it is common

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\(^1\) This is the simplest version of the hierarchy – more elaborated versions can be found in, e.g., Hengeveld (2013: 36–37).

\(^2\) The word form level was also discussed and exemplified, but did not prove to apply to many languages in the sample.
The root level analysis illustrates that the encoding of ATTR, PRED, and ADV is commonly related, regardless of what other encoding may also be attested in the three functions. The lexeme level analysis strengthens the view of adjectives as commonly used in ATTR and PRED. It also calls for the term general modifier for the lexeme class that encompasses all three functions. Finally, it illustrates the fact that in certain languages, adverbs can be used in PRED as well as ADV. But the fact remains that adverbs are used in constructions that are often more complex than constructions where adjectives are used. This is why a more complex level of analysis is also needed.

10.1.3. The construction level

In order to examine adverbs in the context of the constructions in which they occur and compare them to attributive and predicative adjectives in the same condition, the constructional-typological approach (Koch 2012) was introduced in chapter 4. Constructions allow us a broader comparison, with more encoding to take into account. The results, presented in chapter 7, fall out quite differently from those of the root and lexeme levels, since more complex encoding implies more variation, making overlaps less likely. An overlap at the construction level tends to imply the same overlap, or a larger one, also at the lexeme and root levels, although this is not always the case (see discussion of [ATTR ADV] overlaps below). The most common construction-level overlap is the partial overlap of PRED and ADV, attested in almost a fourth of the sample languages (13/60). Partial overlaps here mean that the constructions used in PRED and ADV structurally only differ in terms of what kind of verb that is required. In PRED, the verb slot is restricted to a copula or some other verb with fairly little lexical meaning, or alternatively, a few different such verbs. In ADV, the verb slot can be filled with any of a rather large
10. Concluding discussion

number of verbs. In addition to the partial overlap of PRED and ADV, nine languages have a construction that is intermediate between PRED and ADV, which also illustrates the affinity of these two functions. While such constructions do not instantiate typical examples of neither PRED nor ADV, they illustrate the fact that less typical instances of these two functions may blur the distinction between them. Partial overlaps of PRED and ADV show that property predication and property modification within predicating expressions can be quite closely related. Constructions that are intermediate between PRED and ADV show that the two functions cannot be distinguished in certain peripheral instances. While such affinity may be observed also without explicit analysis on the construction level, the constructional-typological approach is a tool that both simplifies and clarifies the comparison.

The second most common constructional overlap is that of ATTR and PRED. In this overlap, identical encoding is found for ATTR and PRED. The pattern is attested in a dozen of the sample languages (12/60). This overlap reconfirms the tendency of ATTR and PRED as being the two functions in which adjectives are often attested, and as conceptually close. However, overlaps of ATTR and PRED must necessarily be regarded as local or occasional. The overlap does not remain when this type of construction is expanded.

The overlap of ATTR and ADV on the construction level is only attested in a few sample languages. But the fact that two languages show clear overlaps here is important for understanding modification as a function. Tagalog illustrates that ATTR and ADV do the same type of work as modifiers in the form of identical constructions. The examples from Tagalog also show that lexemes are not necessarily involved in overlapping encoding, since there is no class of lexemes associated with ATTR and ADV, but any suitable lexeme can be inserted. Maltese has a total overlap of ATTR and ADV attested in specific examples. Even though these examples are few, they illustrate that ATTR and ADV cannot really be distinguished in certain contexts. The results from Tagalog and Maltese show, in very different ways, that ATTR and ADV are instances of the same general function of modification, and that this is reflected in their encoding in specific languages.

Since classifications based on constructions are common in typological research, one might question the need for an approach which is based or inspired by a specific theoretical framework. Still, here I have employed the constructional-typological approach. In chapter 4, this choice of approach was based on the mere acknowledgement of constructions as being able to carry meaning. It is a method that clearly defines and motivates the scope of comparison, and provides an appropriate notation for doing so. As such, the constructional-typological approach is able to fill a need for a straightforward method, admittedly not as the only option, but as a clear and transparent one. For the purpose of the present study, the constructional analyses provide several insights into the nature of adverbs and how they are affected by the constructions in which they occur. These insights could only be glimpsed at the root and lexeme levels.

10.1.4. Semantic types and prototypicality

As with adjectives (cf. Dixon 1982 [1977], 2004), there are semantic types among adverbs, as discussed in chapter 8. The clearest core type for adverbs is SPEED, attested in 38 out of 41 languages with adverbs. VALUE, NOISE, and CARE are further peripheral semantic
types for adverbs, and they are found among the simple adverbs of far fewer languages. However, these languages are geographically distant and genealogically unrelated. For general modifiers, VALUE is a core semantic type, followed by SPEED, NOISE and CARE as increasingly more peripheral types. The same core and peripheral semantic types are attested in different languages where adverbs are in the process of becoming lexicalized. Moreover, there are languages that have neither adverbs nor lexicalization tendencies of this kind, but that have adverbial affixes. The same semantic types are again encountered among these adverbial affixes, with SPEED as the most common type, and VALUE and CARE as less common types. Thus, just as there are prototypically adjectival concepts (i.e. property words that are unmarked when used as adjectives), there are prototypically adverbial concepts such as SPEED (i.e. property words that are unmarked when used as adverbs). Furthermore, there are less prototypical concepts such as NOISE and CARE, that are still predominantly adverbial. Concepts such as VALUE appear to be as likely to be found as adjectives and adverbs, and are commonly attested among general modifiers (cf. tables 9.3 and 9.4 in section 9.4).

The discussion of semantic types of adverbs in comparison to semantic types of adjectives showed important implications in terms of semantic shift (in the non-diachronic sense of the term, cf. section 9.3). First, there are a number of cases where no semantic shift usually takes place. This applies to certain semantic types that are core to adjectives, and have a limited adverbial use. This is the case, e.g., with COLOR, which has a limited use in ADV (e.g. gleam redly), although this naturally varies across languages. This absence of shift also applies to some types that are peripheral to adjectives, such as HUMAN PROPENSITY (a happy person vs. laugh happily). There are also semantic types that are core to adverbs, but which can be used adjectivally too, i.e. SPEED as in (run fast vs. a fast car). Yet another type is attested both among adjectives and adverbs, and is core to general modifiers, i.e. VALUE. This semantic type has a self-evident constant meaning across uses (a good book vs. dance well). Second, a number of semantic types that are either core or peripheral to adjectives tend to shift semantically when used as adverbs. These shifts are either towards a property that is prototypically adverbial, or towards a type which is not a property at all, but rather describes some aspect of an action. In this way, items that are originally DIMENSION words such as great may be used in the sense of INTENSIFICATION (e.g. doubt greatly). In fact, even semantic types that are core to adverbs may shift in their adverb uses towards a less property-like meaning. SPEED words such as quickly may in this way shift towards a TIME meaning, e.g. answer quickly meaning ‘answer soon’ (cf. Plungian & Rakhilina 2013). These semantic shift give further insights to the nature of adverbs. Property words have a wider usage as adjectives, i.e. modifiers within referring expressions. As modifiers within predicated expressions, they are much more limited, and only a small number of semantic types of property words pertain to events specifically. Many property words thus tend to shift meaning when they are used as adverbs, and the shift is then towards some characteristic of events. Events are complex, and it is only natural that there are many different characteristics that a modifier may target. In this way, some of the heterogeneous semantics of adverbs can be explained.
10.1.5. Implicational universals

Simple lexemes that denote properties and that are used as modifiers within predicating expressions constitute a coherent cross-linguistic class. This class is labeled *adverb*, and constitutes a typological part of speech, as established in chapter 9. Since many property words in this function tend to shift meaning to other characteristics of events, there is good reason to extend the notion of the adverb class to items that do not denote properties, with a quite natural heterogeneity as a result. As a typological part of speech, adverbs fill a subregion of modification which is otherwise left unexplained. Potentially, intensifiers as modifiers of modifiers fit here, too. Alternatively, general modifiers may fill the entire region of modification, or share it with adjectives and/or adverbs, as attested in a number of languages. Without adverbs and general modifiers as potential classes within the function of modification, adjectives appear as the only or primary modifier class, resulting in a skewed picture of modification.

The identification of semantic types of adverbs and general modifiers, which is one of the main findings of this thesis, motivate strong implicational universal tendencies. I propose two such implicational universals. The first one concerns *speed* as a core semantic type for adverbs (where *adverbs* refer to simple lexemes that denote properties and occur as modifiers within predicating expressions).

(10.2) *If a language has adverbs, then the semantic type SPEED will occur among them.*

The great majority of simple adverbs in the sample languages have *speed* attested among them. There is a small number of exceptions, but these do not affect the typological tendency. Thus, it is the general tendency that is captured.

The second implicational universal concerns *value* and general modifiers (defined as simple lexemes that denote properties and that occur as modifiers within referring expressions as well as within predicating expressions).

(10.3) *If a language has general modifiers, then the semantic type VALUE will occur among them.*

The tendency in (10.3) holds both for languages with general modifiers as the only class with a modifying function, and for languages that have a smaller class of general modifiers besides having adjectives and/or adverbs.

Even though the identity of adverbs as a part of speech can be established, adverbs differ from other categories in a number of ways. They often constitute a small class within a specific language, and they are not as common across languages as adjectives are. Moreover, adverbs are seldom inflected. But these peculiarities can be attributed to the fact that events, which prototypically involve actions used as predicates, are difficult to modify. In comparison, objects and participants are very easy to modify. Few property concepts pertain to events specifically, whereas many property words apply to objects and participants. As discussed in chapter 9, modification within predicating expressions is secondary in a double sense as compared to modification within referring expressions. The small number of property concepts that pertain to events and the secondary nature of modification within predicating expressions characterize the difficult matter of using property concepts as modifiers within predicating expressions, yielding few property-denoting
adverbs. Events are complex, in that they include a varying number of participants and unfold over time. Modifiers that add meaning to events will inherit part of this complexity. In the present study, this complexity is manifested by the overlaps of PRED and ADV found at the construction level. The whole event in which the adverb occurs must be analyzed for a full understanding of the function of this part of speech.

10.2. Prospects for future research

This dissertation has been primarily concerned with property words functioning adverbially, and has only touched upon meaning shifts of property words. The importance of considering various characteristics of events has been emphasized throughout. Such characteristics also imply a vast area in which more large-scale typological research is needed, namely that of other types of adverbs, for instance, those denoting time and aspect. Much clarification is needed here to understand if and how different types of adverbs are related, and how such types differ across languages. Diachronic perspectives would provide further insights.

Another area of interest concerns ideophonic adverbs. Ideophones were attested in ADV in several languages of the sample (cf. section 5.3.4), but their scope is often wider than being attested in ADV. It remains unclear to what extent ideophones can be used not only as modifiers but also as predicates, but they are good candidates for overlap of PRED and ADV. Likewise, their potential status as a part of speech remains to be examined (but see Dingemanse 2018).

An area that has been discussed in detail in this dissertation is the relation between modification and secondary predication (see chapter 3). Here, the relation between other types of adverbs, such as sentence adverbs, and secondary predication needs to be elucidated. Focus on a different adverb type could also provide further basis for determining whether all adverbs belong together as some sort of class or not.

In this thesis, we have seen classes of adjectives that are used attributively and often also predicatively, as well as classes of adverbs that are used adverbially and sometimes also predicatively. Another potential area of research is the predicative function as such, and to what extent lexeme classes limited to use in this function can be attested across languages. For instance, English has a number of predicative-only Adjectives, often with an initial a such as alone, aware, alert, but also ill and glad. It would be interesting to see to what extent such classes can be found cross-linguistically.

Finally, the present study has pursued a qualitative analysis of modifier phenomena in an average-sized sample. One natural elaboration may be to perform a quantitative analysis based on a large-scale sample. However, although this could provide more stable numbers, larger samples will not yield more fine-grained analyses of the nature of overlaps.

10.3. Concluding remarks

Against the background of the generally elusive adverb category, the focus of this dissertation was restricted to property words that are modifiers within predicating expressions. Such adverbs are more or less equivalent to what is often termed manner adverbs (cf.
10. Concluding discussion

chapter 1). Adverbs were defined as performing the function of modification, which gave
the study a somewhat wider scope. In order to examine adverbs in their role as modifiers,
they were compared to another type of modifier, namely attributive adjectives. The other
function that property words are typically used in, namely predication, offered further
comparative ground. Based on the analysis of encoding in ADV as well as the compar-
isons described, the identity of adverbs could be established. Simple adverbs are found in
unrelated and geographically distant languages. The semantics of these simple adverbs
shows clear tendencies of the core type SPEED as well as the peripheral types VALUE,
NOISE, and CARE. Taken together, these findings support the conclusion that adverb can
be considered a typological part of speech.

Property concepts are generally more likely to be instantiated as adjectives, since prop-
erties primarily pertain to objects. Much fewer properties are inherently concerned with
actions (e.g. SPEED). Consequently, fewer property words occur as adverbs. Some lan-
guages have a modifier class that covers the functions of adjectives and adverbs, which
here has been labeled general modifiers. Some properties (i.e. VALUE) apply equally to
objects and actions, and they tend to be found among general modifiers. Apart from
establishing the role of adverbs, the results thus also shed light on the internal structure
of modification as a function, in identifying a third lexeme class that may be instantiated
here.

The results from the constructional analysis illustrate that adverbs involve whole pred-
ications, without being predicates themselves. Different functions, particularly property
predication and property modification within predicating expressions, may be encoded
very similarly, in certain cases identically. Such encoding overlaps imply that the two
functions can be conceptualized together. In this way, the complexity of events becomes
highlighted. This complexity appears to be inherited in part by the modifiers of events.
Adverbs cannot be considered only on the levels of roots and lexemes in isolation. Since
adverbs are modifiers that are found within predicating expressions, they must also be
examined in the context of these predicating expressions, i.e. on the level of the construc-
tion.

As a cross-linguistically prototypical part of speech, adverbs constitute a smaller cate-
gory than other parts of speech. The characteristics of adverbs also differ from those of
other categories in several ways. These differences are only natural, since adverbs ascribe
a very limited set of properties to something that is very complex to modify in the first
place. The smaller size of adverb classes and their different behavior do not contradict the
clear tendency of SPEED words to be found as simple adverbs. With a core part of adverbs
clarified in this way, it should be possible to address the many remaining questions that
concern adverbs and adverbial modification.
Appendices
A. Constructional-typological notation

The list below contains the abbreviations used in the constructional-typological notation in addition to the conventional glossing in List of Abbreviations (see pp. xi-xii). Note that large capitals denote parts of speech, grammatical relations, and construction types, whereas small capitals denote grammatical categories (e.g. gnd ‘gender’) and elements. For details on the constructional-typological approach, see section 4.3.

/ between two abbreviations or two sequences of forms: ‘either or’ (e.g. N/V ‘either noun or verb’, or N G.MOD / G.MOD N ‘either of the two sequences is acceptable’)

/ between example numbers: the two examples are the same

( ) the element within parenthesis is optional or not always attested

[ ] indicate noun phrase boundaries in examples, but also surround overlapping functions

ADJ adjective
ADV adverb
ACT active (adjective)
AFX affix
ANIM animacy
ARC archaic
CAS case
GND gender
ILL illocutionary force marker
LNK linker
G.MOD general modifier
MOO mood
N nominal head modified in ATTR
NUM number
PER person
PFX prefix
PROP property
SFX suffix
ST.V stative verb
S subject in PRED and ADV
SUB subordinate
SUBSET indicates a subset of the category mark to which it is attached
SVC serial verb construction
TNS tense
V verb modified in ADV
B. List of examples

In this appendix, languages are listed alphabetically. Each language section contains examples of ATTR, PRED, and ADV when such examples have not been given in the main text. Each section ends with a table with constructional-typological notation for the language in question. The listing is structured according to the following principles:

- Each numbered example contains one type of construction. When (a) and (b) examples are included, these are variants of the same encoding.
- The function (ATTR, PRED, or ADV) of each example is indicated in the heading. In cases where two functions cannot be distinguished, this is indicated with a slash (e.g. ATTR/PRED).
- The tables with constructional-typological notation summarize the examples from each language. For each constructional form, example numbers are indicated with an arrow (⇒) in the rightmost column. These examples are found both in this appendix and in the main text.
- Footnotes are used wherever further explanation is required. They serve a specific purpose here, not to be confused with how they function in the main text.
- In the last part of each table the overlaps in the language in question are listed. This listing follows the following principles:
  - [PRED ADV] overlaps are always partial
  - PRED/ADV denotes constructions in between the two functions
  - ATTR=PRED means that the two functions are identically encoded (on all levels).

Constructional-typological abbreviations are found in appendix A. Conventional glossing abbreviations are also used following the List of Abbreviations (see pp. xi-xii). For details of the constructional-typological approach and its notation, see section 4.3.

Abau (Sepik)

(1) ATTR (Lock 2011: 72)

\[ Han-\text{o} \quad [\text{aiai-yok} \quad \text{they} \quad \text{mo-kwe}] \quad \text{pan} \quad \text{po} \quad \text{nak-lonhiy} \]

1SG-GEN food/plant-shoot excellent PL-TOP grass PFV ACC-hide swakuwmay.
cover
‘My outstanding plant shoots have been covered over by grass.’
B. List of examples

(2) **PRED** (Lock 2011: 191)

\[
\text{enkin ko-kwe aio s-o irowp ho-kwe yaprue.}
\]

\[
\text{MAN GL.F-TOP father 3SG.M-GEN arm GL.M-TOP good}
\]

‘At this time, father’s arm is alright.’

(3) **ATTR, ADV**\(^3\) (Lock 2011: 74)

\[
[aiai \text{yaprue so-mo-kwe}] \text{yaprue nuw-lie}
\]

\[
\text{food good DDEM-PL-TOP good INT-go.up}
\]

‘That good food really comes up well.’

(4) **ADV** (Lock 2011: 141)

\[
\text{Hror-kwe nyo so-m-e nak-me ihey hain.}
\]

\[
1DU-TOP lad DDEM-PL-OBJ ACC-speak excellent SBJ<OBJ}
\]

‘The two of us spoke well (=greetings) to those boys and left.’

---

**ATTR, PRED, and ADV in Abau**

<table>
<thead>
<tr>
<th>Function</th>
<th>Form</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ATTR</strong></td>
<td>N G.MOD TOP</td>
<td>(1), (3)</td>
</tr>
<tr>
<td><strong>PRED</strong></td>
<td>S G.MOD</td>
<td>(2)</td>
</tr>
<tr>
<td><strong>ADV</strong></td>
<td>S G.MOD V / S V G.MOD</td>
<td>(3), (4)</td>
</tr>
<tr>
<td></td>
<td>S SPD-V</td>
<td>(8.29)</td>
</tr>
</tbody>
</table>

**Level Overlaps**

<table>
<thead>
<tr>
<th>Root:</th>
<th>Lexeme:</th>
<th>Construction:</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ATTR PRED ADV]</td>
<td>[ATTR PRED ADV]</td>
<td>–</td>
</tr>
</tbody>
</table>

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**Abkhaz (Northwest Caucasian)**

(5) **ATTR** (Hewitt 1979: 222–223)

(a) \(la \text{bzöya-k}’\)

\[
\text{dog be.good-one/-INDF}
\]

‘a good dog’

(b) \(a\text{-la(-ka)} \text{bzöya-k}’a\)

\[
\text{ART-dog(-PL) be.good-PL}
\]

‘good dogs’

\(^3\) This example contains one instance of **ATTR** and one of **ADV**.
(6) **PRED** (Hewitt 1979: 224)

\[
\text{art } la \ (\emptyset-)bz\text{òya}-(k^2 o)-w+p'
\]

these dog (they-)\textbf{be}.good-(PL)-ST.PRS

‘These dogs are good.’

(7) **ADV** (Hewitt 1979: 253)

\[
\text{lara } yo-ps\text{ja}-n\ddag/s-o-ps\text{ja}-n\ddag \quad \text{à-s}'a \quad (\emptyset-)l-h^o a-yt'
\]

she it-be.\textbf{beautiful}.ADV/she-be.\textbf{beautiful}.ADV ART-song (it-)she-say-FIN

‘She sings beautifully.’

(8) **PRED/ADV** (Hewitt 1979: 46)

\[
(\text{yarà}) \ bz\text{òya} \ da-q'o-w+p'
\]

\[
(\text{he}) \ \textbf{be}.good \ 3SG-be-ST.PRS
\]

‘He is well.’

**ATTR, PRED, and ADV in Abkhaz**

<table>
<thead>
<tr>
<th>Level</th>
<th>Overlaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Root:</td>
<td>[ATTR, PRED, ADV]</td>
</tr>
<tr>
<td>Lexeme:</td>
<td>[ATTR, PRED, ADV]</td>
</tr>
<tr>
<td>Construction:</td>
<td>PRED/ADV</td>
</tr>
</tbody>
</table>

**Acoli (Nilotic)**

(9) **ATTR** (Crazzolara 1955: 52)

\[
gi\text{tëenò } m\text{à-becò}
\]

child.PL REL-nice.PL

‘nice children’

(10) **PRED** (Crazzolara 1955: 56)

\[
(a) \ aan \ a-bëèr
\]

1SG 1SG-good
### B. List of examples

'I am good/nice.'

(b) \( \text{en} \ bēdr \)

3SG good

'He/she/it is good/nice.'

(11) **PRED** (Crazzolara 1955: 102–103)

\( O\text{-bēd} \ mā-bēdr \)

3SG-be REL-good

'He/she/it is good/nice.'

(12) **ADV** (Crazzolara 1955: 140)

\( kōt \ tūn \ ḏpōdōdū \ mà-rāc \)

rain today has_surprised.me REL-bad

'The rain caught me badly today.'

(13) **ADV** (Crazzolara 1955: 148)

\( ōc̓y̓ō \ āpoor \)

3SG.painted.it conveniently

'He painted it conveniently.'

### ATTR, PRED, and ADV in Acoli

<table>
<thead>
<tr>
<th>ATTR</th>
<th>Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form:</td>
<td>N ( mā_{\text{REL-ADJ}.\text{NUM}} ) ( \Rightarrow ) (9)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRED</th>
<th>Function: PROPERTY PREDICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form 1:</td>
<td>( S \pernumadj ) ( \Rightarrow ) (10)</td>
</tr>
<tr>
<td>Form 2:</td>
<td>( (S) \pernumadj-bēdū \text{‘to be’}/dōkō \text{‘to become’} mā_{\text{REL-ADJ}} ) ( \Rightarrow ) (11)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADV</th>
<th>Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form 1:</td>
<td>( (S) \text{V } mā_{\text{REL-ADJ}} ) ( \Rightarrow ) (12)</td>
</tr>
<tr>
<td>Form 2:</td>
<td>( \text{V ADV} ) ( \Rightarrow ) (13), (8.9)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level Overlaps</th>
<th>Root: [ATTR PRED ADV]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexeme:</td>
<td>( _5 )</td>
</tr>
<tr>
<td>Construction:</td>
<td>[PRED ADV], PRED/ADV</td>
</tr>
</tbody>
</table>

---

4 Not all Adjectives have distinct singular and plural forms (Crazzolara 1955: 51–52).

5 Acoli has not been classified as having any lexeme overlap, although it probably has one of all three functions, since it is unclear which lexemes occur in all three functions, which are inflected for number, and if the \( ma- \) prefix marks a relative clause in the above cases.
### Ainu (isolate)

(14) ATTR (Refsing 1986: 142; Tamura 2000: 238)

\[ \text{pirka} \quad \text{cep} \]
\[ \text{be.fine} \quad \text{fish} \]

’a fine fish’

(15) PRED (Refsing 1986: 142, Tamura 2000: 238)

\[ \text{cep} \quad \text{pirka} \]
\[ \text{fish} \quad \text{be.fine} \]

‘the fish is fine’

(16) ADV (Shibatani 1990: 19)

\[ \text{Tunas-no} \quad \text{pirka!} \]
\[ \text{be.quick-ADVZ} \quad \text{be.good} \]

‘Get well quickly!’

(17) ADV (Refsing 1986: 254)

\[ \text{Itak} \quad \text{an} \quad \text{ciki,} \quad \text{pirka} \quad \text{nu} \quad \text{yan!} \]

\[ \text{imp} \]

‘I shall speak, so listen well!’

(18) ADV (Refsing 1986: 252)\(^6\)

\[ \text{Emkota} \quad \text{ku} \quad \text{hopuni} \quad \text{hine,} \quad \text{ku} \quad \text{wakkata} \quad \text{kusu} \quad \text{pet} \quad \text{otta} \quad \text{ku} \quad \text{oman.} \]

\[ \text{early} \quad \text{I} \quad \text{rise} \quad \text{and} \quad \text{I} \quad \text{draw.water} \quad \text{in.order.to} \quad \text{river} \quad \text{to} \quad \text{I} \quad \text{go} \]

‘I got up early and went to the river in order to draw water.’

---

#### ATTR, PRED, and ADV in Ainu

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<td>ST.V N</td>
<td>(14)</td>
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<td>PRED</td>
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<td>S ST.V</td>
<td>(15)</td>
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\(^6\) *Emkota* also has the meaning ‘quickly’ (Refsing 1986: 135).
B. List of examples

ADV
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: ST.V-noADV V ⇒ (16), (5.12a)
Form 2: ST.V7 V ⇒ (17)
Form 3: ADV S V ⇒ (18)
Form 4: ST.V-/ADV-V ⇒ (5.22a)
Form 5: S pfxadvl-V ⇒ (5.22b)

Level Overlaps
Root: [ATTR PRED ADV]
Lexeme: [ATTR PRED ADV]
Construction: –

Alamblak (Sepik)

(19) ADV (Bruce 1984: 277, 205)

\textit{bumbri-t-nanë} \textit{pailatr} \textit{fakrekutambërt}
hurry-3SG.F-RELR pilot switched.he.it
‘The pilot switched over in a hurry.’

(20) ADV (Bruce 1984: 162)

\textit{tandhi-ak-ni-difrën-më-t-m}
cook-get-go-\textit{anxiously}-REMPST-3SG.F-3PL
‘She cooked, got them (and) went anxiously.’

\textit{ATTR, PRED, and ADV in Alamblak}

\textbf{ATTR}
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form: DEM ADJ N=PER.NUM.GEN / DEM N ADJ=PER.NUM.GEN
⇒ (6.2)

\textbf{PRED}
Function: PROPERTY PREDICATION
Form: S ADJ-ecop=PER.NUM.GEN ⇒ (6.3)

\footnote{At least some Stative Verbs are used without the -no suffix in ADV. Shibatani (1990: 80) states that -no is used in “colloquial language”, whereas Stative Verbs generally are used in ADV without the suffix. No is also found as a conjunction (Refsing 1986: 134, Tamura 2000: 148), as illustrated in (5.12b). Loeb-Diehl (2005: 36–37) states that -no in ADV is in the process of being grammaticalized.}
ADV
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: ADV V ⇒ (8.8)
Form 2: ADV=PER.NUM.GEN-RELR S V ⇒ (19)
Form 3: V-SFX_{ADV} ⇒ (20)

Level Overlaps
Root: [ATTR PRED]
Lexeme: [ATTR PRED]
Construction: –

Bambara (Mande)

(21) ATTR (Brauner 1974: 39-40)
   (a) se jan-u
       legs long-PL
       ‘long legs’
   (b) watiri telima
       car fast
       ‘a fast car’

(22) PRED (Brauner 1974: 40–41)
    A se-u ka jan.
    his leg-PL COP long
    ‘His legs are long.’

(23) ADV (Brauner 1974: 76)
    O bëe kêra jònajònà ani konyuma.
    that all made fast and very.beautifully
    ‘It was all very fast and very beautifully made.’

ATTR, PRED, and ADV in Bambara

ATTR
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form 1: N ADJ(-PL) ⇒ (21)

PRED
Function: PROPERTY PREDICATION
Form: S ka_{COP} ADJ ⇒ (22)

8 Alamblak Adverbs occur either independently or as “the nucleus of a general setting phrase” (Bruce 1984: 87), see next line.
B. List of examples

**ADV**

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<td>[ATTR PRED]</td>
</tr>
<tr>
<td>Construction:</td>
<td>–</td>
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</table>

**Basque (isolate)**

(24) **ATTR** (Hualde & de Urbina 2003: 137, 79)

(a) etxe zuri txiki polit baz
    house white little pretty a
    ‘a pretty little white house’

(b) Eñeldi on-á emon dau mariñeruak.
    weather good-DEF.SG give AUX sailor.ERG
    ‘The sailor has predicted good weather.’

(25) **PRED** (Hualde & de Urbina 2003: 142, 435)

Hau on-a da.
this good-DEF.SG is
‘This is good.’

(26) **ADV** (Hualde & de Urbina 2003: 787)

... hain ozen-ki mintzatzen den Arestik...
so loud-ADV speak.IPFV AUX.COMP Aresti.ERG
‘...Aresti who speaks so loudly...’

(27) **ADV** (Hualde & de Urbina 2003: 194)

Poz-ik egingo nuke.
happiness-ADV do.FUT AUX.POT
‘I would do it gladly.’

(28) **ADV** (Hualde & de Urbina 2003: 194)

(a) Garbi ikusten dut.
    clear see.IPFV AUX
    ‘I see it clear(ly).’

(b) Arin-arin egin dute.
    fast-fast do have
    ‘They have done it very fast.’
ATR, PRED, and ADV in Basque

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<td>Form 1:</td>
<td>S ADJ/G.MOD(-DEF.NUM) izan\textsubscript{COP} ➔ (25)</td>
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<tr>
<td>Form 2:</td>
<td>X-(r)\textsubscript{ADV} egon\textsubscript{COP} ➔ (7.21)</td>
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<td>Form 1:</td>
<td>ADJ-ki\textsubscript{ADV} V S ➔ (26)</td>
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<tr>
<td>Form 2:</td>
<td>ADJ-to\textsubscript{ADV} V ➔ (8.23)</td>
</tr>
<tr>
<td>Form 3:</td>
<td>X-(r)\textsubscript{ADV} egon\textsubscript{COP}/V ➔ (27), (7.21)</td>
</tr>
<tr>
<td>Form 4:</td>
<td>G.MOD (REDUP) V ➔ (28)</td>
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<td>Root: [ATTR PRED ADV]</td>
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<td>Lexeme: [ATTR PRED ADV]</td>
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<tr>
<td>Construction: [PRED ADV], PRED/ADV</td>
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Bininj Gun-Wok (Gunwinyguan)

(29) ATTR (Evans 2003: 126)

(a) daluk ngal-\textsubscript{mak}  
woman F-good  
‘pretty woman’

(b) man-me man-\textsubscript{mak}  
III-food III-good  
‘good food’

(30) PRED (Evans 2003: 126-127)

Nga-\textsubscript{mok}.  
1-sore  
‘I’m sore.’

(31) PRED (Evans 2003: 126-127)

Nga-rrenge-\textsubscript{mok}.  
1-foot-sore  
‘My foot is sore.’

(32) ATTR=PRED (Evans 2003: 127)

Yi-geb-\textsubscript{gimuk}.  
2-nose-big  
‘You have a big nose. / Your nose is big.’
B. List of examples

(33) ADV (Evans 2003: 596-597)

Gorre   arri-ngani  an-djarradjarrah,  an-baloh.
quickly  I.AUG-get-PST.IPV  III-stringybark  III-hasty
“We got the stringybark quickly, and made a hasty job of it.”

(34) ADV (Evans 2003: 130)

• man-mungu ‘accidentally’ from na-mungu ‘person who is ignorant or innocent’
• man-barlok ‘suddenly, unexpectedly’, unclear source

ATTR, PRED, and ADV in Bininj Gun-Wok

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<td>N/S-ADJ ⇒ (32)</td>
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<td>Form 1:</td>
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<td>Form 2:</td>
<td>N/S-ADJ ⇒ (31), (32)</td>
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<th>ADV</th>
<th>Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION</th>
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<tbody>
<tr>
<td>Form 1:</td>
<td>ADV V ⇒ (33)</td>
</tr>
<tr>
<td>Form 2:</td>
<td>III-ADJ V ⇒ (34)</td>
</tr>
</tbody>
</table>

Level Overlaps
Root: [ATTR PRED ADV]
Lexeme: [ATTR PRED]
Construction: [ATTR PRED]

Bora (Witotoan)

(35) ADV (Thiesen 1996: 71)

iicuí  tsaíbe.
quickly come
“He came quickly.’

ATTR, PRED, and ADV in Bora

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<th>Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION</th>
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<td>Form 2:</td>
<td>G.MOD-CLF N ⇒ (7.3)</td>
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</table>
PRED
Function: PROPERTY PREDICATION
Form: G.MOD N/S \Rightarrow (7.2)/(7.40)

ADV
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: G.MOD S V \Rightarrow (7.41)
Form 2: ADV V \Rightarrow (35)

Level Overlaps
Root: [ATTR PRED ADV]
Lexeme: [ATTR PRED ADV]
Construction: [ATTR PRED]

Bukiyip (Nuclear Toricelli)

(36) ATTR (Conrad & Wogiga 1991: 37)
Yopu-kwi élmatok
\textit{good}：ADJ.IV.SG  woman
‘good woman’

(37) PRED (Conrad & Wogiga 1991: 37)
Ouku-dak élmatok yopu-k.
DEM.IV.SG-this man \textit{good}：IV.SG
‘This woman is healthy.’

(38) ADV (Conrad & Wogiga 1991: 41)
Awou w-a-gamu w-a-dúkemech.
3PL.F 3PL.F.SBJ-REAL-well 3PL.F.SBJ-REAL-understand
‘The women understand well.’

(39) ADV (Conrad & Wogiga 1991: 51)
Deke m-u-nek \textit{usinabél}.
FUT 1PL.SBJ-IRR-do quickly
‘We will do it quickly.’

ATTR, PRED, and ADV in Bukiyip

ATTR
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form: ADJ-ADJ.NCL.NUM N \Rightarrow (36)

PRED
Function: PROPERTY PREDICATION
Form: S ADJ-ADJ.NCL.NUM \Rightarrow (37)
B. List of examples

**ADV**
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: S PER.NUM.MOO-ADVL$^9$ V ⇒ (38)
Form 2: V ADV ⇒ (39)

**Level Overlaps**
Root: [ATTR PRED]
Lexeme: [ATTR PRED]
Construction: –

Cavineña (Tacanan)

(40) ATTR (Guillaume 2008: 471)

\[Peady\ ka\ ne\ ku\ \text{ebard}=tu-ja=tu\ \text{iji-kware}.\]

one mug big = 3SG-DAT = 3SG drink-REMPST

‘He drunk himself one big mug.’

(41) PRED (Guillaume 2008: 359)

Pureama = ekwana ju-kware...
happy = 1PL be-REMPST

‘We were happy...’

ATTR, PRED, and ADV in Cavineña

**ATTR**
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form 1: N ADJ\text{ATTR}(=\text{PER.NUM.CAS}) ⇒ (40)
Form 2: N ADJ\text{PRED1}-da$^{10}$=ke/ADJ\text{PRED1}-da jw\text{-COP}=ke ⇒ (6.10)

**PRED**
Function: PROPERTY PREDICATION
Form 1: ADJ\text{PRED1}-da jw\text{-COP} S ⇒ (6.11)
Form 2: ADJ\text{PRED2}(=\text{PER.NUM}) jw\text{-COP} ⇒ (41)

**ADV**
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: ADJ\text{PRED1.SUBSET}-da(=\text{FOC})(=\text{PER.NUM}) V ⇒ (3.9c), (6.12)
Form 2: V-wisha$^{\text{spd}}$ ⇒ (8.31)

$^9$ These adverbial forms inflect like Verbs (person, number, and mood) but are unable to head VP:s (Conrad & Wogiga 1991: 40).
$^{10}$ This is an empty suffix found on one type of Predicative Adjectives (Guillaume 2008: 357), see PRED.
Cherokee (Iroquoian)

(42) **ATTR** (Lindsey & Scancarelli 1985: 211)

```
Uw-otú   ake:hya
3sg-pretty  woman
'pretty woman'
```

(43) **PRED** (Lindsey & Scancarelli 1985: 548, 209)

```na tawooli  wunii-yóóʔi
that  mushroom  3.pl-bad
'Those mushrooms are bad.'
```

(44) **PRED** (Lindsey & Scancarelli 1985: 209)

```
Uw-otú   ke:-sv:ʔi.
3sg-prety  is-pst
'She was pretty.'
```

(45) **ADV** (Montgomery-Anderson 2008: 548)

```
uu-yóóʔi  anii-ataa-ahnthhéeha  ADV
3b-bad  3.pl-mid-know
'They feel bad for him.'
```

**ATTR, PRED, and ADV in Cherokee**

**ATTR**

- **Function:** PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
- **Form 1:** PER.NUM-G.MOD N ⇒ (42)
- **Form 2:** G.MOD_{SUBSET} N ⇒ (7.35a)/(8.15a)

**PRED**

- **Function:** PROPERTY PREDICATION
- **Form 1:** (S) PER.NUM-G.MOD ⇒ (7.36), (43)
- **Form 2:** PER.NUM-G.MOD COP-TNS ⇒ (44)
B. List of examples

ADV
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: 3-11 G.MOD\textsubscript{SUBSET} V \Rightarrow (45)
Form 2: G.MOD\textsubscript{SUBSET} V \Rightarrow (7.35b)/(8.15b)

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<td>[ATTR PRED ADV]</td>
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<tr>
<td>Construction:</td>
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Cuicatec (Otomanguean)

(46) ATTR (Bradley 1991: 442-443)

(a) ámá ítī chi lhín.sg
one animal comp little
‘an animal that is small’ or ‘a small animal’

(b) lyóon ntôte
lion old
‘lion [that is] old’ or ‘old lion’

(47) PRED (Bradley 1991: 425-426)

dítī tāvī ú
strong int I
‘I am very strong.’

(48) ADV (Bradley 1991: 437)

(ítī lhín mī) nú tāvī chítā (ti)
(animal little that) quickly int compl.grow (it.aml)
‘(The little animal) grew very quickly.’

(49) ADV (Bradley 1991: 437)

yēnó tāvī kunähán (ti)
happy int pot.go.home (it.aml)
‘(They) went home very happily.’

11 In ADV, some General Modifiers carry “a dummy third person prefix” (Montgomery-Anderson 2008: 548).
ATTR, PRED, and ADV in Cuicatec

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<tr>
<td>ADV</td>
<td>Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION</td>
<td>Form 1: (S) ADV V (S) ⇒ (48) Form 2: ST.V V (S) ⇒ (49)</td>
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</table>

**Level Overlaps**

**Root:** [ATTR PRED ADV]

**Lexeme:** [ATTR PRED ADV]

**Construction:** –

---

**Dutch (Indo-European)**

(50) ATTR (Donaldson 1997: 87)

\[\textit{stout}-\textit{e} \quad \textit{kinderen}\]

\[\textit{naughty-ATTR} \quad \text{child.PL}\]

‘naughty children’

---

ATTR, PRED, and ADV in Dutch

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<th>ATTR</th>
<th>Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION</th>
<th>Form: (ART) G.MOD(-e(_{AGR})) N ⇒ (50), (8.10)</th>
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<tr>
<td>PRED</td>
<td>Function: PROPERTY PREDICATION</td>
<td>Form: S zijn(_{AGP}) G.MOD ⇒ (7.11a)/(8.11a)</td>
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<tr>
<td>ADV</td>
<td>Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION</td>
<td>Form: S V G.MOD ⇒ (7.11b)/(8.11b)</td>
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**Level Overlaps**

**Root:** [ATTR PRED ADV]

**Lexeme:** [ATTR PRED ADV]

**Construction:** [PRED ADV]

---

\(^{12}\) I follow Bradley (1991: 425) in classifying these items as Stative Verbs, although they could also be classified as General Modifiers.

\(^{13}\) Only some Stative Verbs have singular and plural forms (Bradley 1991: 463).
B. List of examples

Estonian (Uralic)

(51) ATTR (Metslang 2001: 448)

\[ Päike \text{ sulatas } \text{ suure } \text{ jääpurika } \text{ ära.} \]
\[ \text{sun \ melt.3SGPST big.GEN icicle.GEN P.PART} \]
‘The sun melted the big icicle.’

(52) PRED (Viitso 1998: 143)

\[ Lapse-d \text{ on } väike-sed. \]
\[ \text{child-PL be.3SG.PRS small-PL.NOM} \]
‘The children are small.’

(53) ADV (Viitso 1998: 144)

\[ Meil \text{ lähe-b } \text{ hästi.} \]
\[ \text{PR.PL go-3SG well.ADV} \]
‘We are doing well.’

---

**ATTR, PRED, and ADV in Estonian**

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<td>( \implies (51) )</td>
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<tr>
<td>PRED</td>
<td>Function: PROPERTY PREDICATION</td>
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<tr>
<td>Form: S olla_V ADJ-num.cas</td>
<td>( \implies (52), (7.26a) )</td>
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<tr>
<td>ADV</td>
<td>Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION</td>
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<tr>
<td>Form 1: S olla_V/V ADJ-ADV</td>
<td>( \implies (7.26b), (53) )</td>
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<td>Form 2: S V ADJ-ABL</td>
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<td>( \implies (5.4) )</td>
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**Level Overlaps**

| Root: [ATTR PRED ADV] |
| Lexeme: [ATTR PRED] |
| Construction: – |

Ewe (Atlantic-Congo)

(54) ATTR (Ameka 1991: 77)

\[ awu \text{ yi } \text{ lá} \]
\[ \text{garment white DEF} \]
‘the white dress’
(55) **ATTR** (Ameka 1991: 91)

*agbale* *yéye* lá
book new DEF
‘the *new* book’

(56) **PRED** (Yvonne Agbetsoamedo, p.c.)

*awu-a* le *ńí*
dress-DEF be.PRS white
‘The the dress is white.’

(57) **PRED** (Ameka 1991: 91)

*agbalë* lá *yéye* nútō
book DEF new very.much
‘The book is *very new*.’

(58) **PRED** (Ameka 1991: 75)

*agbalë* lá le *yéye*
book DEF be.PRS new
‘The book is *new*.’

(59) **ADV** (Ameka 1991: 43)

*Kofi* dzó *kábá*
K. leave quickly
‘Kofi left quickly’

(60) **ADV** (Ameka 1991: 75)

*devi* lá háyá *nyuié*
child DEF recover good
‘The child recovered *well*.’

**ATTR, PRED, and ADV in Ewe**

**ATTR**

Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION

Form 1: N ADJ₁[^14] ART ⇒ (54)
Form 2: N ADJ₂ ART ⇒ (55), (8.34a), (6.37a)
Form 3: N G.MOD ART ⇒ (6.36a)

[^14]: ‘ADJ₁’ are simple Adjectives of which there are only a handful, whereas ‘ADJ₂’ (see Form 2) here is used for all other types of Ewe Adjectives, such as ideophonic and derived ones.
B. List of examples

**PRED**
Function: PROPERTY PREDICATION
Form 1: \( S \text{ lev ADJ}_1 \Rightarrow (56) \)
Form 2: \( S \text{ ST.V} \Rightarrow (57), (6.37b) \)
Form 3: \( S \text{ lev ADJ}_2(-i) \Rightarrow (58), (6.37c) \)
Form 4: \( S \text{ G.MOD} \Rightarrow (6.36b) \)

**ADV**
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: \( S \text{ V ADV} \Rightarrow (59) \)
Form 2: \( S \text{ lev ADJ}_2(-i) \Rightarrow (6.37c) \)
Form 3: \( S \text{ V ADJ}_2(-i) \Rightarrow (60) \)
Form 4: \( S \text{ V G.MOD} \Rightarrow (6.36c) \)

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<tr>
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<tbody>
<tr>
<td>Root:</td>
<td>[ATTR PRED], [ATTR PRED ADV]</td>
</tr>
<tr>
<td>Lexeme:</td>
<td>[ATTR PRED ADV]</td>
</tr>
<tr>
<td>Construction:</td>
<td>[PRED ADV], PRED/ADV</td>
</tr>
</tbody>
</table>

**Georgian (Kartvelian)**

(61) ATTR (Hewitt 1995: 45, 536)

(a) \( \text{mc’vane} \text{ čit’-i} \)
   green bird-NOM
   ‘the/a green bird’

(b) \( \text{lamaz-i} \text{ čit’-i} \)
   beautiful-NOM bird-NOM
   ‘the/a beautiful bird’

(62) PRED (Hewitt 1995: 50)

\( \text{Did-n-i} \text{ v-a’r-t} \)
big-PL-NOM 1-be-PL
‘We are big.’

(63) PRED (Hewitt 1995: 50)

\( \text{Kal-i maqal-i=a} \)
woman-NOM tall-NOM=COP.3SG.PRS
‘The woman is tall.’
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<tbody>
<tr>
<td>Root:</td>
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</tr>
<tr>
<td>Lexeme:</td>
<td>[ATTR PRED]</td>
</tr>
<tr>
<td>Construction:</td>
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</tbody>
</table>

Gooniyandi (Bunaban)

(64) ADV (McGregor 1990: 154, 354)

(a) **barnbadda** wardji
slowly he.went
‘He walked slowly.’

(b) **galjini-ngga** wajgaddi joordoo
quick-ERG it.throws.it dust
‘(Going) quickly (the car) throws up dust.’

(65) ADV (McGregor 1990: 151)

**mayaadaya-adda** galjini giddagiddayi
hard-ADV fast he.ran
‘He ran very quickly.’

---

15 Adjectives are very similar to Nouns in Georgian, see e.g. Cherchi (1999: 8–9).

16 There is no example with context for Form 2, but this concerns a few Adverbs where the final $d$ is lost, such as čkar-a ‘quickly’ and nel-a ‘slowly’ (Hewitt 1995: 65).
B. List of examples

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<tr>
<td>Form 1: N/S NPROP ⇒ (6.15a), (6.16), (7.6)</td>
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<td>Form 2: NPROP N ⇒ (6.15b)/(7.7)</td>
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<tr>
<td><strong>PRED</strong></td>
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<td>Function: PROPERTY PREDICATION</td>
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<tr>
<td>Form: N/S NPROP(=CLI) ⇒ (6.16), (7.5)</td>
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<tr>
<td><strong>ADV</strong></td>
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<tr>
<td>Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION</td>
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<tr>
<td>Form 1: ADV(-CAS) V ⇒ (64)</td>
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<tr>
<td>Form 2: X-wa/-waddaADVZ17 V ⇒ (65)</td>
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<tr>
<td><strong>Level Overlaps</strong></td>
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<tr>
<td>Root: [ATTR PRED]</td>
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<tr>
<td>Lexeme: [ATTR PRED]</td>
</tr>
<tr>
<td>Construction: [ATTR PRED]</td>
</tr>
</tbody>
</table>

**Guaraní (Tupian)**

(66) ATTR (Gregores & Suárez 1967: 148)

\textit{kí̱se} \textit{piahú} \\
knife new \\
‘a new knife’

(67) PRED (Gregores & Suárez 1967: 172, 107)

\textit{sé-rakú} \\
1-warm \\
‘I am warm.’

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<th>ATTR, PRED, and ADV in Guaraní</th>
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<td>Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION</td>
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<tr>
<td>Form: N ST.V ⇒ (66), (5.7a)</td>
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<td><strong>PRED</strong></td>
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<tr>
<td>Function: PROPERTY PREDICATION</td>
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<tr>
<td>Form: PER-ST.V (S) ⇒ (67), (5.7b)</td>
</tr>
</tbody>
</table>

17 The two suffixes form Adverbials from Nouns, Verbs, and Adverbs (McGregor 1990: 246), here denoted as ‘X’.
**ADV**

**Function:** PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION

**Form:** S ADV V \( \Rightarrow (5.8) \)

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<td>Lexeme:</td>
<td>[ATTR PRED]</td>
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<tr>
<td>Construction:</td>
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</tbody>
</table>

**Hdi (Afro-Asiatic)**

(68) **ATTR** (Frajzyngier & Shay 2002: 71)

\[ xwá kwítik \]

work little

‘small work’

(69) **ATTR** (Frajzyngier & Shay 2002: 74-75)

\[ gù-á ngrá \]

goat-GEN black

‘a black goat’

(70) **PRED** (Frajzyngier & Shay 2002: 347)

\[ kítíkw mbítsá \]

small Mbitsa

‘Mbitsa is small.’

(71) **PRED** (Frajzyngier & Shay 2002: 349)

\[ kà ñghlíj yà lgùt yá \]

PREP white COP cloth DEM

‘that cloth is white’ (for a cloth indicated by a hand gesture, ‘middle distance’)

(72) **ADV** (Frajzyngier & Shay 2002: 122)

\[ tà xànáy tsá mìndí yá tá xàní dáglá \]

IPFV sleep DEF man DEM OBJ sleep large

‘that man sleeps a lot’

(73) **ADV** (Frajzyngier & Shay 2002: 232-233)

\[ mbádí kà mbízà kà dà-tà mbúúlùk \]

then COMP bean.dish SEQ cook-REF very.well

‘Then the bean dish cooked very well.’
B. List of examples

### ATTR, PRED, and ADV in Hdi

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<th>Overlaps</th>
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<tr>
<td><strong>Lexeme:</strong></td>
<td>[ATTR PRED ADV]</td>
</tr>
<tr>
<td><strong>Construction:</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

#### Hup (Nadahup)

(74) ADV (Epps 2008: 448)

\[ póg=\mathbf{y}i? \quad \text{wêd!} \]

\[ \text{big-TEL} \quad \text{eat.IMP} \]

‘Eat a lot!’ (commonly said upon invitation to share someone’s meal)

### ATTR, PRED, and ADV in Hup

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<tr>
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<th>Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION</th>
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<td>Form 1:</td>
<td>N ADJ \text{ } \Rightarrow (6.32)</td>
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<tr>
<td>Form 2:</td>
<td>N G.MOD \text{ } \Rightarrow (6.34a)</td>
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<tr>
<th>PRED</th>
<th>Function: PROPERTY PREDICATION</th>
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<tbody>
<tr>
<td>Form 1:</td>
<td>S ADJ(-ASP)/G.MOD(-ASP) \text{ } \Rightarrow (6.35)</td>
</tr>
</tbody>
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\[ G.\text{MOD}_2 \text{ are color words with a clear nominal origin. In ATTR, the head Noun takes a genitive ending -á (Form 2), or the color word is preceded by the preposition kà ‘like’ (Form 3) (Frajzyngier & Shay 2002: 74) } \]
ADV
Function: property modification within predicating expression
Form: G.MOD $\rightarrow$ (74), (6.33), (6.34b)

Level Overlaps
Root: [ATTR PRED], [ATTR PRED ADV]
Lexeme: [ATTR PRED], [ATTR PRED ADV]
Construction: –

Imbabura Quechua (Quechuan)

(75) ATTR (Cole 1985: 73)

\( \text{jatun} \quad \text{ruma} \)
big \quad man
‘a big man’

(76) ADV (Cole 1985: 71)

\( \text{Juzi} \quad \text{napash} \quad \text{chay} \quad \text{ruwana-ta} \quad \text{rura-rka} \)
José \quad quickly \quad that \quad poncho-ACC \quad make-PST.3
‘José made that poncho quickly.’

(77) ADV (Cole 1985: 186)

\( \text{wagli-ta} \quad \text{tushu-n} \)
damage-ACC/ADV \quad dance-3
‘He dances incorrectly.’

(78) ADV (Cole 1985: 186)

\( \text{pay-ka} \quad \text{jari} \quad \text{jari} \quad \text{trabaja-rka} \)
he-TOP \quad male \quad REDUP \quad work-PST.3
‘He worked hard.’

ATTR, PRED, and ADV in Imbabura Quechua

ATTR
Function: property modification within referring expression
Form: N/ADJ N \quad \Rightarrow (75), (6.8a)

PRED
Function: property predication
Form: (S) N/ADJ-\(\text{mi}_{\text{VAL}}\) (\(\text{ka-}\text{cop}\))\(\text{19}\) \quad \Rightarrow (6.8b–c)

\(\text{19}\) The Copula \(\text{ka-}\) is obligatory except in present tense and third person (1985: 67).
B. List of examples

**ADV**

**Function:** PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION

**Form 1:** S ADV V ⇒ (76)

**Form 2:** S N/ADJ-ta<sub>ACC/ADV</sub> V ⇒ (77), (6.8d)

**Form 3:** S N REDUP V ⇒ (78)

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<tr>
<td>Root:</td>
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<tr>
<td>Lexeme:</td>
<td>[ATTR PRED]</td>
</tr>
<tr>
<td>Construction:</td>
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**Imonda (Border)**

(79) ATTR (Seiler 1985: 32)

```
ti   kuii(-l)
 tree tall(-NMLZ)
 ‘tall tree’
```

(80) PRED (Seiler 1985: 154-155)

```
ehe  kuii-l   (lõh-f)
 3   tall-NMLZ (stand-PRS)
 ‘he is tall’
```

(81) ADV (Seiler 1985: 29)

```
tit-nam     e-tagla-ual-fna.
 ignorant=ADV DU-go.round-DU-PROG
 ‘they (two) went around in ignorance’
```

(82) ADV (Seiler 1985: 78)

```
pueta     sum   uai-eg-ula-f
 secretly behind ACC-follow-INT-PRS
 ‘she followed them secretely with him’
```

(83) ATTR (Seiler 1985: 33)

```
ti    kubui
 tree  INT
 ‘a big tree’
```

(84) ADV (Seiler 1985: 34)

```
ka   uagl-kubui   fe-fna
 1   go-INT      do-PROG
 ‘I was going a long way’
```
ATTR, PRED, and ADV in Imonda

**ATTR**

Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form 1: N/S ADJ(-\text{l}_{\text{NMLZ}}) \Rightarrow (79)
Form 2: N \text{kubui}/\text{pete} \Rightarrow (83)

**PRED**

Function: PROPERTY PREDICATION
Form: N/S ADJ(-\text{l}_{\text{NMLZ}} \text{(COP)} \Rightarrow (80), (7.24a), (7.25a)

**ADV**

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: (S) ADJ=\text{nam}_{\text{ADV}} V \Rightarrow (81), (5.10), (7.24b), (7.25b),
Form 2: \text{ADV} V \Rightarrow (82)
Form 2: V=\text{kubui}_{\text{INT}} \Rightarrow (84)

**Level Overlaps**

Root: [ATTR ADV], [ATTR PRED ADV]
Lexeme: [ATTR PRED]
Construction: [ATTR PRED]

**Jamsay (Dogon)**

(85) ATTR (Heath 2008: 225-226)

(a) má ùrò dàyà pírú bé
1SG.POSS house small white PL
’my small white houses’

(b) ùrò ējù núyò tā:n kù\text{n}
house good DEM three DEF
‘these/those three nice houses’

(86) PRED (Heath 2008: 432)

\text{tēy}^n=\text{wɔ}\cdot n
small=be-1SG.SBJ
‘I am small.’

(87) ADV (Heath 2008: 320)

\text{yōō gōō} pàyā\cdot w
negligently tie.PFV-2SG.SBJ
‘You tied it carelessly (e.g. too loosely).’

(88) ADV (Heath 2008: 530)

\text{ʒgō\cdot rʒ}" kò dā:\cdot=\text{kọ} dëné-\text{w}^n dēy
be.fast SBJ reach=be want.IPFV-2SG.SBJ if
‘if you want it (wall under construction) to reach (its endpoint) quickly’
B. List of examples

<table>
<thead>
<tr>
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<th>PRED</th>
<th>ADV</th>
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<tbody>
<tr>
<td><strong>Function:</strong></td>
<td>PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION</td>
<td>PROPERTY PREDICATION</td>
</tr>
<tr>
<td><strong>Form:</strong></td>
<td>N ADJ (NUM) (ART) ⇒ (85)</td>
<td>ADJ=k(k)/=w(\omega)(\omega)cop ⇒ (86)</td>
</tr>
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</table>

**Level Overlaps**

<table>
<thead>
<tr>
<th>Root:</th>
<th>ATTR PRED, PRED ADV</th>
<th>Lezeme:</th>
<th>ATTR PRED, PRED ADV</th>
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<tbody>
<tr>
<td><strong>Construction:</strong></td>
<td>PRED ADV</td>
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</table>

**Jamul Tiipay (Cochimi-Yuman)**

(89) ATTR (Miller 2001: 207-208)

\[ /xa kw-a'pin/ lly-aatuk \]
[water SBJ.REL-be.warm] in-pour

‘She poured in warm water (lit. water which was warm).’

(90) PRED (Miller 2001: 151, 138)

\[ ngip-ch we-lich \]
that.one-SBJ 3-be.bad

‘That one is bad.’

(91) ADV (Miller 2001: 170)

\[ spir k-apni \]
hard IMP-pull

‘Pull hard!’

(92) ADV (Miller 2001: 173)

\[ armewil me-taanawa me-spir m-aar \]
car 2-drive 2-go.fast 2-do.much

‘You are driving the car too fast.’

\(^{20}\) Form 2 is a type of verb chaining which often involves motion Verbs (2008: 528).
ATTR
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form: N kw-\text{sbj.rel}\text{ST.V} ⇒ (89), (5.5a)/(6.17)

PRED
Function: PROPERTY PREDICATION
Form: (S) per\text{-ST.V} ⇒ (90); (5.5b)/(6.18)

ADV
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: (S) ADV\textsuperscript{21} V ⇒ (91), (5.6)
Form 2: (S) (per-)V V/AUX ⇒ (92)

Level Overlaps
Root: [ATTR PRED], [ATTR PRED ADV]
Lexeme: [ATTR PRED], [ATTR PRED ADV]
Construction: –

Kalaallisut (Eskimo-Aleut)

(93) ATTR (Fortescue 1984: 302)
\[ \text{illuqarvik } \text{miki-su-u-suq} \]
town \text{small-PTCP-be-PTCP}
‘a small town’

(94) PRED (Fortescue 1984: 30)
\[ \text{uuma una qulingilua-nik } \text{ukiu-qa-lir-suq} \text{ angi-ngaa-rami} \]
my! that nine-INS year-have-begin-PTCP \text{be.big-very-SG.CAUS}
‘My, she is big for a child of nine!’

(95) ATTR (Fortescue 1984: 117)
\[ \text{kivvaq arnaq kalaaliq } \text{utuqqaq} \text{ uqalluris-suq} \]
servant woman Greenlander \text{old} \text{ speak.well-PTCP}
‘a well-spoken old Greenlandic female servant’

(96) PRED (Fortescue 1984: 304)
\[ \text{utuqqa-a-vallaar-put} \]
\text{be.old-be-too-3PL.IND}
‘They are too old.’

(97) ADV (Fortescue 1984: 55)
\[ \text{utuqqa-a-vallaar-put} \]
\text{be.old-be-too-3PL.IND}
‘They are too old.’

\[ \text{Three of the Adverbs (spir \text{‘hard, fast, loudly’}, lyepaay \text{‘gently, slowly, softly’, and xiipuk \text{‘first’}) \text{‘are formally identical to intransitive verb stems’, i.e. \text{‘to be strong; to do hard or loudly; to go fast’, \text{‘to do gently or softly; go slowly’, \text{‘to be first’}; as such they may inflect for person and can be the main Verb in an auxiliary construction (Miller 2001: 173), as illustrated in (92). (92a) appears to be an SVC.} } } \]
B. List of examples

irnir-lunga isir-punγa
do.hurriedly-1SG.CONTEM go.in-1SG.IND
‘I entered quickly/in a hurry.’

(98) ADV (Fortescue 1984: 100)

ukiq siulliq nuannir-su-mik iniγarvi-nngua-mi najugaqar-pugut
year first be.happy-PTCP-INS flat-little-LOC live-1PL.IND
‘The first year we lived happily in a little flat.’

(99) ADV (1984: 324, 326–327)

• lirtur ‘quickly/for a moment’ – indirlutupugut ‘we finished quickly’
• lluar ‘well’ – sanalluarpaa ‘he made it well’

(100) ADV (Fortescue 1984: 121)

pi-lirturtumik irruiluuni=lu majuar-puq
quickly wash.up-4SG.CONTEM=and go.up-3SG.IND
‘Quickly, as soon as he’d washed up, he went up.’

(101) ADV (Fortescue 1984: 97)

tassanngaanaq niri-saar-puq
suddenly eat.stop-3SG.IND
‘He suddenly stopped eating.’

(102) ADV (Fortescue 1984: 103)

asuli tikit-tuq
in.vain come-PTCP
‘having come in vain’

ATTR, PRED, and ADV in Kalaallisut

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<th>Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION</th>
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<td>N ST.V-suPTCP-u-bePTCP-suqPTCP ⇒ (93)</td>
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<tr>
<td>Form 2:</td>
<td>N ST.V-u-VBLZ-suqPTCP ⇒ (95)</td>
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<table>
<thead>
<tr>
<th>PRED</th>
<th>Function: PROPERTY PREDICATION</th>
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<tbody>
<tr>
<td>Form 1:</td>
<td>ST.V ⇒ (94)</td>
</tr>
<tr>
<td>Form 2:</td>
<td>N-u/-aVBLZ ⇒ (96)</td>
</tr>
</tbody>
</table>
ADV
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: $V_{\text{SUB}} V$ \(\Rightarrow (97)\)
Form 2: $V$-PTCP-INS $V$ \(\Rightarrow (98)\)
Form 3: AFF-$\text{ADV}L V$ \(\Rightarrow (99)\)
Form 4: $pi$-$\text{AFF}L^22 V$ \(\Rightarrow (100)\)
Form 5: ADV $V$ \(\Rightarrow (101)\)
Form 6: PART$^{23} V$ \(\Rightarrow (102)\)

Level Overlaps
Root: [ATTR PRED], [ATTR PRED ADV]
Lexeme: [ATTR PRED], [ATTR PRED ADV]
Construction: –

Kambera (Austronesian)

(103) ATTR (Klamer 1998: 117)

\begin{quote}
Pàu \textit{rara}
mango \textit{be.red/ripe}
‘a ripe mango’
\end{quote}

(104) PRED (Klamer 1998: 118)

\begin{quote}
(a) Na-\textit{mbana na tau Java}
3SG.NOM \textit{be.hot/angry} ART person Java
‘The stranger is angry.’

(b) Kudu \textit{ai lulu-nanya-ka}
small very-3SG.CNT-PFV
‘It’s very small.’
\end{quote}

(105) ADV (Klamer 1998: 118)

\begin{quote}
Eha! Jàka-ambeningga — ina-nggu, jàka nda lú abeli
EXC if-be.angry mother-1SG.GEN if NEG quickly return
jia hi wa-nda, aì?
EXIST CNJ say/do.1PL.GEN TAG
‘Hey! If my mother gets angry with me, when I don’t return quickly, then we’re in trouble (idiomatic expression), don’t you think?’
\end{quote}

\textsuperscript{22} The adverbial affixes often combine with the “empty” stem $pi$- (Fortescue 1984: 324–327).
\textsuperscript{23} There is a small number of “non-inflected ‘particles’ ” in ADV (Fortescue 1984: 98).
B. List of examples

(106) ADV (Klamer 1998: 118)

*Mbana* *laku mànuy=ya*

very(good.at) go always=3SG.ACC

“He is very good at walking.”

---

### ATT, PRED, and ADV in Kambera

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<tr>
<th>Function</th>
<th>Form:</th>
<th>(103)</th>
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<td>N ST.V</td>
<td>⇒</td>
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<tr>
<td>PRED</td>
<td>ST.V (S)</td>
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</tr>
<tr>
<td>ADV</td>
<td>ADV V</td>
<td>⇒</td>
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| Form 2: | ST.V SUBSET | (106) |

#### Level Overlaps

**Root:** [ATTR PRED], [ATTR PRED ADV]

**Lexeme:** [ATTR PRED], [ATTR PRED ADV]

**Construction:** –

---

**Kewa (Nuclear Trans New Guinea)**

(107) ATTR (Franklin 1971: 87)

*rúdu áá*

*short* man

‘short man’

(108) PRED (Franklin 1971: 67)

*naaki adaa ta*

boy *big* say.he.does

‘The boy is big.’

(109) ATTR=PRED (Franklin 1971: 76)

*adaalu oná*

tall woman

‘The woman is tall’ or ‘It is a tall woman’

---

24 Some Stative Verbs can be used in their bare form in ADV (Klamer 1998: 118).
(110) ADV (Franklin 1971: 116)

\[\text{pare káárá áípápúlú pea áá-re pawá-si pójéma} \]
\[\text{but car quickly make.it.does man-TOP slowly-DIM travel.we.do} \]
\[\text{‘A car goes quickly but a man travels slowly’} \]

(111) ADV (Franklin 1971: 78)

\[\text{mátaa épé=rupa tí áá pú-a} \]
\[\text{dance good=ADVZ hit.ADJVZ man go-he.did} \]
\[\text{‘The man who dances well went.’} \]

(112) PRED (Franklin 1971: 75)

\[\text{go áá-re irilai=rupa} \]
\[\text{that man-TOP dog=ADVZ} \]
\[\text{‘That man acts like a dog.’} \]

ATTR, PRED, and ADV in Kewa

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<td>Form 2:</td>
<td>(S) X=rupa V ⇒ (111), (9.4)</td>
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Level Overlaps

Root: [ATTR PRED ADV]

Lexeme: [ATTR PRED]

Construction: [ATTR PRED]

Kham (Sino-Tibetan)

(113) ATTR (Watters 2002: 421)

\[\text{a: nikəðiní zo gehppa gəhltə bado le, syā:do le.} \]
\[\text{ah very EMP big slumber go be sleep be} \]
\[\text{‘Aah, he has gone into a very deep slumber, he is sleeping.’} \]
B. List of examples

(114) PREP (Watters 2002: 118)

\[gyo:h-zya\]
big-CNT
'It is big.'

(115) ADV (Watters 2002: 118)

\[cā:do ba-ke\]
quickly go-PFV
'He went quickly.'

(116) ADV (Watters 2002: 147)

\[gohra-lai gyahp gehp cep-ke-o\]
horse-OBJ EXPR EXPR mount-PFV-3SG
'He mounted the horse \textit{in a single, swift jump}.'

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<tr>
<td>[ATTR PRED]</td>
<td>[ATTR PRED]</td>
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</table>

**Kilivila (Austronesian)**

(117) ATTR (Senft 1986: 85)

\[tau to-kabitam\]
man CLF.M-clever
'clever man'
(118) PRED (Senft 1986: 87)

Yokwa  to-pe’ula  taga  m-to-na  sena  pe’ula.

you  CLF.M-strong  but  this-CLF.M-this  very  strong

‘You are a strong man, but he is stronger than you.’

ATTR, PRED, and ADV in Kilivila

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<td>Form 1: S CLF-ADJ₁₂⁷</td>
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<td>Form: V G.MOD</td>
<td>⇒ (6.26b)</td>
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Kiowa (Kiowa-Tanoan)

(119) ATTR (Watkins 1984: 99)

(a) ṭbáñi:-kyóy

boy-tall.SG

‘(one) tall boy’

(b) ṭbáñi:-kińi:

boy-tall.DU/PL

‘(two) tall boys’

---

25 This type of Adjective takes classifiers optionally (Senft 1986: 87).
26 No example with context is attested.
27 There is no example of this, but Adjectives of this type can be used in PRED.
28 No example with context attested.
29 It could be hypothesized that Kilivila has an [ATTR PRED] overlap, but there are not enough examples for this overlap to be clearly established.
B. List of examples

(c) ṭhàli:-kí:ní:-gò
boy-tall.DU/PL-INV
‘(several) tall boys’

(120) ATTR (Watkins 1984: 230)

pjá:dò è-ét-gò dé-hóz-gyà
table.INV 3.INV-big-NMLZ.INV 1SGAGT;INV.OBJ-get-PFV
‘I bought a big table/a table that is big.’

(121) PRED (Watkins 1980: 127)

óy-gò è-kí:ní:
that-INVP.1-INV
‘They are tall.’

ATTR, PRED, and ADV in Kiowa

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<tr>
<td>Form 2:</td>
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Koasati (Muskogean)

(122) ATTR (Kimball 1991: 480)

ɛ:sa-k hátka
house-SBJ one.which.is.white
‘a white house.’

---

_{30} Stative Verbs can be used in compounds with Nouns (Watkins 1984: 99).
_{31} Stative Verbs can also be used nominalized in relative clauses (Watkins 1984: 230).
(123) PRED (Kimball 1991: 480)
\[ čsa-k \quad hátk-Vhco-V \]
house-SBJ be.white-HAB-PHR
‘The house is white.’

(124) ADV (Kimball 1991: 494)
\[ ca-co:-libátlin \quad polá:ki \quad limítka-lin \quad am-filánhk-ok \quad óm. \]
1SG.SBJ-LOC-burn quickly swallow-1SG.SBJ 1SG.SBJ-diverge-FOC be
‘My mouth was burning, and I swallowed quickly, and it has just gone down the wrong way.’

(125) ADV (Kimball 1991: 488)
\[ ca-conoská-k \quad pálk-á:ho:si-n \quad bókl \]
1SG.POSS-heart-SBJ be.fast-INT-SW beat
‘My heart is beating very fast.’

(126) ADV (Kimball 1991: 490)
\[ wayóhka-k \quad ho-páli-ki-palámmi-n \]
fly.PL-SS DIST be.fast-INT-SW
‘They all fly very fast.’

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<td>[ATTR PRED ADV]</td>
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<td><strong>Construction</strong></td>
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B. List of examples

Koyra Chiini (Songhay)

(127) **ATTR** (Heath 1999: 73)

\[
\text{har beer (konno, čirey, futu-nte) di}
\]
\[
\text{man big (hot-ADJ, red, bad-PTCP) DEF}
\]

‘the big (hot, red, bad) man.’

(128) **PRED** (Heath 1999: 73)

\[
ni beer (koron, čirey, futu)
\]
\[
3SG big (hot, red, bad)
\]

‘You (SG) were big (hot, red, bad).’

(129) **ADV** (Heath 1999: 253)

\[
wo dam mooso
\]
\[
2PL.IMP do slowly
\]

‘You (pl) do it slowly (gently)!’

(130) **ADV** (Heath 1999: 253)\(^\text{32}\)

\[
wo tamba
\]
\[
2PL.IMP do-fast
\]

‘You (pl) do it quickly!’

---

**ATTR, PRED, and ADV in Koyra Chiini**

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<td>N ST.V-ø_{ADJ} ⇒ (127)</td>
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<td>N ST.V-nte_{PTCP} ⇒ (127)</td>
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**PRED**

Function: Property Predication

Form: N/S ST.V ⇒ (128)

**ADV**

Function: Property Modification within Predicating Expression

Form 1: S V ADV-(REDUP) ⇒ (129), (5.3)

Form 2: S (V) ST.V ⇒ (130)

---

**Level Overlaps**

**Root:** [ATTR PRED ADV]

**Lexeme:** [ATTR PRED ADV]

**Construction:** [ATTR PRED]

---

\(^{32}\) *Tamba* can also be used as a Verb meaning ‘hurry, do fast, go fast’, and may then modify another Verb either in a separate clause or in an SVC (Heath 1999: 253).
Krongo (Kadugli-Krongo)

(131) ATTR (Reh 1985: 251)

\[ \text{mòtò} \ m-\text{àdéélá} \]
work \ CONS.F-be.good.IPVF \ `good work’

(132) PRED (Reh 1985: 251)

\[ \text{m-àdéélá} \ \text{mòtò}. \]
F-be.good.IPVF \ work \ `The work is good.’

(133) ADV (Reh 1985: 301)\textsuperscript{33}

\[ \text{m-àaŋ} \ \text{ittóŋ} \ \text{ádiyà} \ \text{á-màľiŋ} \ \text{m-úudà} \ \text{kà-bàràkōorà} \]
F-COP \ small.rabbit \ come.INF \ INS-theft \ GEN-meat \ POSS-jackal
\`
And the rabbit comes to steal the jackal’s meat. \textit{lit. And the rabbit comes for the theft of jackal’s meat.)’

(134) ADV (Reh 1985: 302)

\[ \text{n-óocó-óní} \ \text{àʔàŋ} \ \text{y-ásàŋ} \ \text{kí-tùlùnkwaaná} \]
1/2-IPVF-laugh-DTR \ I \ CON-IPVF.NEG.have \ LOC-joy
\`
I laugh without joy.’

---

**ATTR, PRED, and ADV in Krongo**

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<td>Form 2:</td>
<td>V S INS-N</td>
<td>⇒ (133)</td>
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<td>Form 3:</td>
<td>V S ADV\textsubscript{2}\textsuperscript{34}</td>
<td>⇒ (8.6)</td>
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<td>Form 4:</td>
<td>SVC</td>
<td>⇒ (134)</td>
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\textsuperscript{33} Ámàľiŋ is also attested as a lexicalized Adverb meaning ‘secretly’ (Reh 1985: 301).

\textsuperscript{34} ADV\textsubscript{2} are originally place Adverbs that have secondary manner meanings: kídò ‘loudly’ from ‘up, upward and kùbù ‘quietly, softly’ from ‘down, downward’ (1985: 300).
B. List of examples

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Lahu (Sino-Tibetan)

(135) ATTR=PRED (Matisoff 1973: 547)

ŋâ? dât ve
birds good NMLZ/REL
‘pretty birds’ / ‘Birds are pretty.’

(136) ADV (Matisoff 1973: 273)

hâ? qay-?
quickly go-IMP
‘Hurry up and go!’

ATTR, PRED, and ADV in Lahu

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<td>Form 2: N/S ST.V ve_{NMLZ/REL} \Rightarrow (135)</td>
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<td>Form 3: S ST.V ¢<em>{PART} ve</em>{NMLZ/REL} N \Rightarrow (6.39)</td>
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<tr>
<td>Form 2: S ST.V ¢<em>{PART} V</em>{SUBSET} ve_{PART} \Rightarrow (6.40)/(7.19)</td>
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<td>Form 2: qha-ADV V \Rightarrow (5.25), (8.28)</td>
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<td>Form 3: S ST.V ¢<em>{PART} V</em>{SUBSET} ve_{PART} \Rightarrow (6.40)</td>
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<td>[ATTR PRED ADV]</td>
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<td>Construction:</td>
<td>[ATTR PRED], PRED/ADV</td>
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</table>
Lakota (Siouan)

(137) ATTR (Ingham 2003: 83–84)

\[ ziŋtkala \ t'ajka \ waj̱ yajke \]
bird be.large one sit

‘a large bird sat’

(138) ADV (Ingham 2003: 30)

\[ e'apa-la \ k'u̯ he \ taj̱yaŋ yuhapi-la \]
beaver-DIM TOP that well look.3PL-DIM

‘They looked after that little beaver well.’

ATTR, PRED, and ADV in Lakota

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<td>PROPERTY PREDICATION</td>
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<td>Form:</td>
<td>N ST.V (waj̱INDF,SG/eyaINDF,PL) (ki/k'u̯TOP) ⇒ (137)</td>
<td>S ST.V-ya/-yela heV ⇒ (4.8)/(7.16)</td>
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<td>Function:</td>
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<td>PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION</td>
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<td>Form 1:</td>
<td>S ST.V-ya/-yela heV ⇒ (4.8)/(7.16)</td>
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<td>Form 2:</td>
<td>S ST.V-ya/-yela V35 ⇒ (7.17)</td>
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<td>Form 3:</td>
<td>ADV V ⇒ (138)</td>
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Lezgian (Nakh-Daghestanian)

(139) ATTR (Haspelmath 1993: 143)

\[ Alat-aj \ jis.u-z \ Dilber.a \ q'we \ predmet.d-aj \ pis \ ķimet-ar \]
pass-AOP year-DAT Dilber(ERG) two subject-INEL bad grade-PL
\[ ĵaču-na-j. \]
take-AOR-PST

‘The year before, Dilber had gotten bad grades in two subjects.’

Note that several other derivational suffixes than those in form 1 and 2 are also found in this function (Boas & Deloria 1941: 137).
B. List of examples

(140) **PRED** (Haspelmath 1993: 312)

\[
\begin{array}{l}
\text{Rusš šad ja.} \\
girl \text{ glad COP} \\
\text{‘The girl is glad.’}
\end{array}
\]

(141) **ADV** (Haspelmath 1993: 115)

\[
\begin{array}{l}
\text{Rağ.ini gzaf pis čra-zwa.} \\
sun(\text{ERG)} \text{ much bad burn-IPFV} \\
\text{‘The sun is burning very badly.’}
\end{array}
\]

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<td>S ADJ ja\text{COP}</td>
<td>⇒ (140)</td>
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<td>Form 2:</td>
<td>S ADJ-dakaz/-diz/-z\text{ADV} ama\text{COP} ‘be still in’</td>
<td>⇒ (7.23)</td>
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<tr>
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<td>⇒ (7.23)</td>
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<tr>
<td>Form 3:</td>
<td>S G.MOD V</td>
<td>⇒ (141)</td>
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<td>Construction:</td>
<td>[PRED ADV], PRED/ADV</td>
</tr>
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**Ma’di (Central Sudanic)**

(142) **ATTR** (Blackings & Fabb 2003: 106)

\[
\begin{array}{l}
\text{spí ní bárá l553 rī ṭī} \\
\text{Opi PR child good DEF FOC} \\
\text{‘Opi is a good child.’}
\end{array}
\]

\[\text{36 It is unclear whether this example instantiates an Adjective or a General Modifier.}\]
(143) PRED (Blackings & Fabb 2003: 106)

\[ ñpí \ nì \ lësë \]
Opi PR good
‘Opi is good/fine.’

(144) ADV (Blackings & Fabb 2003: 125)

\[ ñpí \ pì \ ë-tfì \ ìtí \ pì \ pélërè \]
Opi PR.PL 3-thrash Ito PR.PL clean(SG)
‘Opi and his companions thrashed Ito and his companions thoroughly.’

(145) ADV (Blackings & Fabb 2003: 126)\(^{37}\)

\[ tfë tfë \ rì \ ñpí \ ë-mù \ nì \]
slowly DEF Opi 3-go FOC
‘The one who went slowly is Opi.’

(146) ADV (Blackings & Fabb 2003: 126)

\[ ëmù \ èzë \]
go early
‘He came early/a long time ago.’

(147) ADV (Blackings & Fabb 2003: 127)

\[ k-ùndë \ èbì ëbì \]
3-look lion lion
‘It looks like a lion.’

(148) ADV (Blackings & Fabb 2003: 505)

\[ ë-rì \ fiù \]
3-sit comfortably
‘She sat comfortably.’ (in a relaxed manner)

---

**ATTR, PRED, and ADV in Ma’di**

**ATTR**
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form: \[ N \ N/ADJ.NUM \]
\[ \Rightarrow (142) \]

**PRED**
Function: PROPERTY PREDICATION
Form: \[ S \ \text{PRO} \ N/ADJ.NUM \]
\[ \Rightarrow (143) \]

---

\(^{37}\) *tfë tfë* instantiates a reduplicated Noun, which combined with the definite article forms an Adverbial (Blackings & Fabb 2003: 126).

\(^{38}\) All property words except color words have singular and plural forms in **ATTR** and **PRED** indicated by tone (Blackings & Fabb 2003: 106).
B. List of examples

ADV

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION

Form 1: S V N/ADJ$_{sg}^{39}$ ⇒ (144)
Form 2: N REDUP r$_{i}$DEF V ⇒ (145), (5.18a)
Form 3: V N/ADJ-REDUP ⇒ (146)
Form 4: V N-REDUP ⇒ (147), (5.18b)
Form 5: V ADV$_{ideo}$ ⇒ (148)

Level Overlaps
Root: [ATTR PRED ADV]
Lexeme: [ATTR PRED]
Construction: –

Maltese (Afro-Asiatic)

(149) ATTR=PRED (Aquilina 1965: 39)

Il-ktieb $gdid$
ART-book new.SG.M
‘the new book/the book is new’

(150) ATTR (Borg & Azzopardi-Alexander 1997: 112)

Ghandi karozza $gdida$
at.1SG car new.SG.F
‘I have a new car.’

(151) PRED (Borg & Azzopardi-Alexander 1997: 58)

Il-kampanja sabiha wisq
ART-country beautiful.SG.F too.much
‘The countryside is really beautiful.’

(152) ADV (Borg & Azzopardi-Alexander 1997: 58)

Il-tfal marru tajjeb
ART-children went.3PL good
‘The children enjoyed themselves.’

(153) ADV (Borg & Azzopardi-Alexander 1997: 81)

Jahdem hafna u bl-addočć
work.3SG.M much and with-the.carelessness
‘He works a lot and carelessly.’

39 In ADV, some Adjectives can be used in the singular (Blackings & Fabb 2003: 125). A general modifier analysis could also be an option, though has not been done here.
ATTR, PRED, and ADV in Maltese

ATTR
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form 1: N/S ADJ.NUM.GND ⇒ (149), (150)
Form 2: N G.MOD.NUM.GND ⇒ (7.39)

PRED
Function: PROPERTY PREDICATION
Form 1: N/S ADJ.NUM.GND ⇒ (149), (151)

ADV
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: S V G.MOD(.NUM.GND) ⇒ (152), (7.39)
Form 2: V ADV ⇒ (8.5)
Form 3: V bi/bla_{prep}-N ⇒ (153)

Level Overlaps
Root: [ATTR PRED], [ATTR PRED ADV]
Lexeme: [ATTR PRED], [ATTR PRED ADV]
Construction: [ATTR PRED], [ATTR ADV]

Mam (Mayan)

(154) ATTR (England 1983: 146)
nuch b’ix sib’ tx’yaan
small and gray dog
‘small and gray dog’

(155) ADV (England 1983: 190-191)
qapa chiix t-ku7-tz jb’aal
if suddenly 3SG.ERG-go down-DIR rain
‘Maybe suddenly it will rain.’

ATTR, PRED, and ADV in Mam

ATTR
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form 1: ADJ N ⇒ (154)
Form 2: DEM NUM N ADJ^{40} ⇒ (6.14a)

PRED
Function: PROPERTY PREDICATION
Form: (S) ADJ-PER.NUM.CAS ⇒ (6.14b)

^{40} The Adjective precedes the NP head, unless there is a demonstrative, number, etc which takes this position: then the Adjective follows the NP head. A few Adjectives can occur anywhere (England 1983: 145, 135).
### B. List of examples

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#### Mapudungun (Auracanian)

(156) ADV (Smeets 2008: 297)

*müchay* kĩnu-y  
soon  
let.be-IND-3

‘She did [it] quickly.’

(157) ADV (Smeets 2008: 312)

*angkü-nten*  
get.dry-NMLZ

‘dries quickly’

(158) ADV (Smeets 2008: 307)

*yi-yi-kĩnu-fi-n*  
*eat-eat-SFR-PRPS-EDO-IND.1SG*

‘I ate it quickly.’

---

### ATTR, PRED, and ADV in Mapudungun

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<td>S ADJ-PER.MOO ⇒ (6.24)</td>
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---

41 Mapudungun appears to have both Adjectives and General Modifiers, although they are not clearly separable in the attested examples.
**ADV**

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION

Form 1: ADV V $\Rightarrow$ (156)

Form 2: G.MOD V $\Rightarrow$ (6.25)

Form 3: V-(ü)nten\(^{42}_{NMLZ} \Rightarrow (157)

Form 4: V-REDUP $\Rightarrow$ (158)

---

**Marathi (Indo-European)**

(159) ATTR (Dhongde & Wali 2009: 57)

Mi ek unkə maṇus pahi-l-a.
I a tall man.M.SG see-PFV-M.SG
‘I saw a tall man.’

(160) ATTR (Dhongde & Wali 2009: 57)

Mi ek wed-i mulgi pahy-l-i.
I a crazy-F.SG girl-F.SG saw-PFV-F.SG
‘I saw a crazy girl.’

(161) PRED (Dhongde & Wali 2009: 57)

Madhav unkə ahe.
Madhav tall be-PRS
‘Madhav is tall.’

(162) PRED (Dhongde & Wali 2009: 57)

Mina wed-i ahe.
Mina.(F) crazy-FSG be-PRS
‘Mina is crazy.’

(163) ADV (Dhongde & Wali 2009: 236)

Lili həlʊ həlʊ aŋi mənd swər-at bol-t-e.
Lili slowly slowly and dim voice-POST speak-IPFV-3FSG
‘Lili speaks slowly and in a low voice.’

(164) ADV (Dhongde & Wali 2009: 106)

lili sarkh-i has-ot rahte
Lili.F.SG continuous-F.SG laugh-IPFV V2.IPFV.FSG
‘Lili laughs continuously.’

---

\(^{42}\) The suffix -(ü)nten is a nominalizer according to Smeets (2008: 312), but it also “indicates that the event denoted by the verb [to which it attaches] can be realized quickly and easily”.

---

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B. List of examples

ATTR, PRED, and ADV in Marathi

**ATTR**

Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION

Form 1: G.MOD₁ N \( \Rightarrow (159) \)

Form 2: G.MOD₂\-NUM.GND.CAS N \( \Rightarrow (160), (8.19a)^{43} \)

**PRED**

Function: PROPERTY PREDICATION

Form 1: S G.MOD₁ ahe\_cop \( \Rightarrow (161) \)

Form 2: G.MOD₂\-NUM.GND.CAS ahe\_cop \( \Rightarrow (162)^{44} \)

**ADV**

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION

Form 1: S ADV V \( \Rightarrow (163) \)

Form 2: S G.MOD₁ V^{45} \( \Rightarrow (8.19b); (164) \)

Form 3: S G.MOD₂\-NUM.GND.CAS V \( \Rightarrow (8.19b); (164) \)

**Level Overlaps**

*Root:* [ATTR PRED], [ATTR PRED ADV]

*Lexeme:* [ATTR PRED], [ATTR PRED ADV]

*Construction:* –

**Mian (Nuclear Trans New Guinean)**

(165) **ATTR** (Fedden 2011: 213)

\[
\text{kofi} \quad \text{dót} \quad \text{klâ} \quad \text{kok}=e
\]

coffee very really sour=SG.N1

‘some really very sour coffee’

(166) **PRED** (Fedden 2011: 114)

\[
\text{kofi}=e \quad \text{kok}=o=\text{be}
\]

coffe=SGN1 sour=PRD=DECL

‘This coffee is sour.’

(167) **PRED** (Fedden 2011: 114)

\[
\text{Mosbi} \quad \text{ō}=\text{le} \quad \text{sûm} \quad \text{eka} \quad \text{Bânimo} \quad \text{ō}=\text{ta} \quad \text{gwáab}=o=\text{be}
\]

PN N2=TOP big and PN N2-EMPH small=PRD=DECL

‘Port Moresby is bigger than Vanimo.’ (lit. ‘Port Moresby is big and Vanimo is small.’)

---

^{43} It is unclear whether Marathi has both Adjectives and General Modifiers, or only the latter, but both are included here. (8.19a) illustrates a General Modifier inflected for number and gender.

^{44} General Modifiers are also expected to be used in PRED, but are not included due to lack of examples.

^{45} Form 2 is not exemplified due to lack of examples.
éil-dikin ngaan-b-e=be
3SG.M pig-like call.out.IPFW-IPFV-3SG.M.SBJ=DECL
‘He is calling out like a pig.’
B. List of examples

ATTR, PRED, and ADV in Nama

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<tr>
<td>Lexeme</td>
<td>[ATTR PRED]</td>
</tr>
<tr>
<td>Construction</td>
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Nishnaabemwin (Algic)

(171) ATTR (Valentine 2001: 592)

\[
\text{Gchi-dikmeg ngii-debnaa.} \\
\text{big-white.fish 1SG-caught.G.AN} \\
\text{‘I caught a big whitefish.’}
\]

(172) PRED (Valentine 2001: 902, 904)

(a) \[\text{Enwek gnwaabiigad.} \]
\[
\text{assuredly stringlike.G.AN.INAN.is.long} \\
\text{‘The string(like object) is long.’}
\]

(b) \[\text{mBill gnoozi.} \]
\[
\text{Bill is.tall} \\
\text{‘Bill is tall’}
\]

(173) ADV (Valentine 2001: 143)

\[
\text{Egaaj dash gii-nhishin gye niw wmitgwaabiin} \\
\text{slowly and 3SG.PROX-adjusted.self.while.lying also that.those bow} \\
\text{gii-daapnaad.} \\
\text{3SG.PROX-took.up} \\
\text{‘Slowly he adjusted himself as he lay and picked up his bow.’}
\]

(174) ADV (Valentine 2001: 164)

\[
\text{Wiinge-agwejmaawaad go idiig.} \\
\text{carefully-questioned it.seems} \\
\text{‘They questioned her very carefully.’}
\]
(175) ADV (Valentine 2001: 752)

- *biimbatoo* ‘run awkwardly’ - *biim* ‘twisted, winding’
- *zhebtoo* ‘run backwards’ - *ahze* ‘backwards’
- *gzhiikaabtoo* ‘run quickly’ - *gizhiikaa* ‘quickly’
- *chaawsebtoo* ‘run lame’ - *chaawse* ‘lame’
- *bejbtoo* ‘run slowly’ - *bej* ‘slowly’
- *aabjibtoo* ‘run constantly’ - *aabji* ‘constantly’

**ATTR, PRED, and ADV in Nishnaabemwin**

**ATTR**
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form: ST.V-N  ⇒ (171)

**PRED**
Function: PROPERTY PREDICATION
Form: (S) ST.V(.PER.ANIM)  ⇒ (172)

**ADV**
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: ADV V  ⇒ (173)
Form 2: PREV-V  ⇒ (174)
Form 3: V_{ROOT,SPECIFIED}{46}  ⇒ (175)

**Level Overlaps**

<table>
<thead>
<tr>
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<tr>
<td>[ATTR PRED]</td>
<td>[ATTR PRED]</td>
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**Nuu-chah-nulth (Wakashan)**

(176) PRED (Davidson 2002: 126)

- *kʷaʔakʷʷʷʷʷ*  
  small.IND.3SG
  ‘He is small.’

**ATTR, PRED, and ADV in Nuu-chah-nulth**

**ATTR**
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form: ST.V-MOO.PER.NUM N/S (ART)  ⇒ (6.42), (7.43)

**PRED**
Function: PROPERTY PREDICATION
Form: ST.V-MOO.PER.NUM N/S  ⇒ (6.43), (7.44)

**ADV**

{46} “Root specification of manner” is encoded within the Verb itself, as illustrated in (175) (2001: 752)
B. List of examples

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: ST.V-TEL-SHIFT-MOO.PER.NUM V ⇒ (6.44)/(7.45)
Form 2: V-SFXADVL ⇒ (8.30)
Form 3: SVC\(^{47}\) ⇒ (5.24)

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<td>[ATTR PRED ADV]</td>
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<tr>
<td>Construction:</td>
<td>[ATTR PRED]</td>
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Paumarí (Arawan)

(177) ATTR (Chapman & Derbyshire 1991: 259)

\[
gora \text{ karaho } hida
\]
house large DEM.F
‘It is a big house.’

(178) ATTR (Chapman & Derbyshire 1991: 260)

\[
o-nofi-ki \text{ oni } makari \text{ nadara-ki}
\]
1SG-want-NONTHEME DEM.F cloth red-DESC
‘I want the red cloth.’

(179) PRED (Chapman & Derbyshire 1991: 187)

\[
\text{karaho-ki } ida \text{ gorā}
\]
big-DESC DEM.F house
‘The house is big.’

(180) ADV (Chapman & Derbyshire 1991: 252)

\[
vajaforī-a \text{ o-ka-si-’i-hi}
\text{slowly-OBL away-MOT-up-ASP-THEME}
\]
‘Slowly I climbed up (the tree).’

(181) ADV (Chapman & Derbyshire 1991: 320)

\[
o-hado-ha-joraki-’iana-hi
\]
1SG-knife-action-quickly-again-THEME
‘I cut again quickly.’

\(^{47}\) The notation for the serial verb construction is simplified and only labeled ‘SVC’.
ATTR, PRED, and ADV in Paumarí

**ATTR**
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form 1: N ADJ(ART) ⇒ (177)
Form 2: N (N.CLASS-)ST.V-ki DESC ⇒ (178)

**PRED**
Function: PROPERTY PREDICATION
Form: ADJ/ST.V-ki DESC S ⇒ (179)

**ADV**
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: ADV(-obl) V ⇒ (180)
Form 2: V-ST.V/ADJ ⇒ (181)

**Level Overlaps**

**Root:** [ATTR PRED], [ATTR PRED ADV]
**Lexeme:** [ATTR PRED]
**Construction:** –

Pirahã

(182) ATTR (Everett 1986: 303)

boitóhoi báíhiigí
boat slow
‘(a) slow boat’

(183) ADV (Everett 1986: 303)

boitóhoi báithiigí xab-óp-ai
boat slow turn-go-ATEL
‘The boat is returning slowly.’

ATTR, PRED, and ADV in Pirahã

**ATTR**
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form: N G.MOD ⇒ (182), (8.13a), (6.28a)/(8.12a)

**PRED**
Function: PROPERTY PREDICATION
Form 1: S PER G.MOD(EMP) ⇒ (6.30)
Form 2: S PER G.MOD COP ⇒ (6.29)/(8.14)

**ADV**
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: G.MOD V ⇒ (183), (8.14b), (6.28b)/(8.12b)
Form 2: S V-INT ⇒ (8.13b)
B. List of examples

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Sahaptin (Sahaptian)

(184) ATTR (Jansen 2010: 376, 166)

(a) 3SG.SBJ-grow-HAB  damp  earth-LOC
    i-ttáwax-ixa  ptút  tiichám-pa
    ‘It grows in wet ground.’

(b) wrap.around-ST 3SG.SBJ-COP small.PL-INS bead-INS
    wáwinknik-i  i-wá  ákks-ki  k’pt ‘i-ki
    ‘It is wrapped with small beads.’

(185) PRED (Jansen 2010: 377)

nch'i  iwá
    3SG.COP
    ‘It’s big.’

(186) ADV (Jansen 2010: 377)

małáa  pa-nisháatwa
    clean  3PL.SBJ-live.HAB
    ‘They live cleanly (a clean life).’

(187) ADV (Jansen 2010: 390)

=pat  huuy  áw-ítáxshi-xa-na
    =3PL  in.vain  3.OBJ-wake.up-HAB-PST
    ‘They could not wake her.’

ATTR, PRED, and ADV in Sahaptin

ATTR

Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form 1: N ADJ(-PL)(-CAS) / ADJ(-PL)(-CAS) N  ⇒ (184)
Form 2: N G.MOD(-PL)(-CAS) / G.MOD(-PL)(-CAS) N  ⇒ (184)\(^{48}\)

\(^{48}\) It is unclear exactly which modifiers are Adjectives and which are General Modifiers, although it is clear that Sahaptin has both.
Function: PROPERTY PREDICATION  
Form: ADJ/G.MOD \textit{wa} \textit{cop} \Rightarrow (185)

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION  
Form 1: G.MOD V \Rightarrow (186)  
Form 2: ADJ_{\text{SUBSET1-INS}} V \Rightarrow (5.16)  
Form 3: ADV V \Rightarrow (187)  
Form 4: PFX_{\text{ADVL}} V \Rightarrow (5.23)

Level Overlaps  
Root: [ATTR PRED ADV]  
Lexeme: [ATTR PRED], [ATTR PRED ADV]  
Construction: [PRED ADV]

Sango (Atlantic-Congo)

(188) PRED (Thornell 1997: 82)  

\[ \text{\textit{\textit{E yeke propre.}}} \]  
1PL COP clean  
‘We are clean.’

ATTR, PRED, and ADV in Sango

Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION  
Form 1: ADJ N \Rightarrow (8.16)  
Form 2: G.MOD N \Rightarrow (8.18a)

Function: PROPERTY PREDICATION  
Form: S yeke_{\text{cop}} ADJ \Rightarrow (188)

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION  
Form 1: S V ADV \Rightarrow (8.17)  
Form 2: S V G.MOD \Rightarrow (8.18b)

Level Overlaps  
Root: [ATTR PRED], [ATTR PRED ADV]  
Lexeme: [ATTR PRED], [ATTR PRED ADV]  
Construction: –
B. List of examples

Slave (Athapaskan-Eyak-Tlingit)

(189) ATTR (Rice 1989: 18)

\[ \text{\textit{\^}{\textipa{\text{"o}}l\text{"a}}} \textit{h\text{"i}sha} \textit{i} \]

\text{boat 3.is.big REL}

‘big boat’

(190) ATTR-PRED (Rice 1989: 21, 239)

\[ \text{\textit{tl\text{"i}}} \textit{nech\text{"a}} \]

\text{dog 3.is.big}

‘The dog is big.’/’big dog’

(191) PRED (Rice 1989: 389)

(a) \[ \text{\textit{s\text{"o}}} \textit{h\text{"i}li} \]

\text{angry 3.be}

‘S/he is angry.’

(b) \[ \text{\textit{xii} \textit{en\text{"i}dh\text{"e}}} \]

\text{hurry 3.want}

‘S/he is anxious.’

(192) ADV (Rice 1989: 390)

\[ \text{\textit{xii} \textit{\text{"o}t\text{"i}}} \]

\text{fast 3.goe}

‘S/he goes quickly.’

(193) ADV (Rice 1989: 368)

\[ \textit{\text{"og\text{"o}}} \textit{ta} \textit{se\text{"o}n\text{"e}dhe\text{"e}}} \]

\text{hard-POST 3.pushed.1SG}

‘S/he pushed me hard.’

---

**ATTR, PRED, and ADV in Slave**

**ATTR**

Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION

Form 1: \quad \text{N ST.V \textit{i}_{\text{REL}}} \quad \Rightarrow (189)

Form 2: \quad \text{N/S ST.V} \quad \Rightarrow (190)

---

49 Note that ‘hurry’ is the glossing provided by Rice (1989: 389), without any comment on the translation.
PRED
Function: PROPERTY PREDICATION
Form 1: N/S ST.V ⇒ (190)
Form 2: ST.V$_{\text{SUBSET}}$ -lé ‘be’ ⇒ (191a)
Form 3: ST.V$_{\text{SUBSET}}$ -whé ‘want, allow’ ⇒ (191b)

ADV
Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
Form 1: ST.V$_{\text{SUBSET}}$ -whé ‘want, allow’ ⇒ (191b)
Form 2: ST.V V ⇒ (192)
Form 3: ST.V-[ta]$_{\text{POST}}$ V ⇒ (193)

Level Overlaps
Root: [ATTR PRED ADV]
Lexeme: [ATTR PRED ADV]
Construction: [ATTR PRED], [PRED ADV], PRED/ADV

Swahili (Atlantic-Congo)

(194) ATTR (Myachina 1981: 33)

m-tu mw-ema
1-man 1-good
‘a good man’

(195) ADV (p.c. Marilena Thanassoula)

To-sema ki-toto!
2SG:NEG-speak VII-child
‘Don’t speak childishly!’

(196) ADV (p.c. Marilena Thanassoula)

A-li-fanya kazi u-pesi.
3SG-PST-do IX:work XI-fast
‘He worked fast.’

ATTR, PRED, and ADV in Swahili

ATTR
Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
Form: N.CL-N N.CL-N/ADJ ⇒ (194), (6.6a)

PRED
Function: PROPERTY PREDICATION
Form: S ni$_{\text{COP}}$ N.CL-N/ADJ (INT) ⇒ (6.6b)
B. List of examples

**ADV**

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION

Form 1: \( V \text{ N.CL}_{\text{other}}\text{-N}/\text{ADJ} \Rightarrow (195); (6.7) \)

Form 2: \( V \text{ N.CL-N}/\text{ADJ} \Rightarrow (196) \)

Form 3: \( V \text{ PREP-N}^{50} \)

**Level**

Overlaps

Root: [ATTR PRED ADV]

Lexeme: [ ATTR PRED], [ATTR PRED ADV]

Construction: –

---

Tagalog (Austronesian)

**ATTR, PRED, and ADV in Tagalog**

**ATTR**

Function: PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION

Form: \((\text{ang}_{\text{SPEC/TOP}}) (\text{ST-})\text{X}^{51} \text{ na/}-\text{ng}_{\text{LK}} \text{ N} \Rightarrow (7.28), (7.29)\)

**PRED**

Function: PROPERTY PREDICATION

Form: \( \text{X} \text{ ang}_{\text{SPEC/TOP}} \text{ S} \Rightarrow (7.33) \)

**ADV**

Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION

Form: \( \text{X} \text{ na/}-\text{ng}_{\text{LK}} \text{ V (S)} \Rightarrow (7.31) \)

**Level**

Overlaps

Root: [ATTR PRED ADV]

Lexeme: –

Construction: [ATTR ADV]

---

50 No examples of adverbial prepositional examples have been attested, but a couple of examples are: *kwa haraka* ‘hurriedly’ and *kwa siri* ‘secretly’ (Ashton 1947: 158).

51 ‘X’ is used for the property item here, since this there is no specific class in Tagalog which this is limited to.

52 Tagalog could perhaps also be analyzed as having a total overlap on the lexeme level, since any appropriate property item can be used in any of the functions, but since there is no lexeme class whose use is limited to any specific functions, it is not analyzed as having any lexeme overlap.
Turkish (Turkic)

(197) **ATTR** (Göksel & Kerslake 2005: 191)

\[
\text{yükseğ} \ \text{ağaç} \\
\text{tall} \ \text{tree} \\
\text{‘tall tree’}
\]

(198) **PRED** (Göksel & Kerslake 2005: 19, Lees 1972: 70)

(a) \( \text{Ağאç} \ \text{yükseğ}. \)  \\
\text{tree} \ \text{tall} \\
\text{‘The tree is tall.’}

(b) \( \text{Sengenç-sin} \)  \\
\text{2SG} \ \text{young-2SG} \\
\text{‘You are young.’}

(199) **ADV** (Göksel & Kerslake 2005: 139)

\[
\text{Yavaş} \ \text{yürü.} \\
\text{slow} \ \text{walk} \\
\text{‘walk slowly’}
\]

(200) **ADV** (Göksel & Kerslake 2005: 214)

\[
\text{Erkeksi} \ \text{bir biçim-de konuşur} \\
\text{masculine a manner-LOC speaks} \\
\text{‘She talks in a masculine way.’}
\]

(201) **ADV** (Göksel & Kerslake 2005: 214)

\[
\text{Bu sorunu bilimsel olarak araştırmalıyız.} \\
\text{this problem scientific CVB investigate} \\
\text{‘We must investigate this problem in a scientific way.’}
\]

(202) **ADV** (Lewis 1967: 194)

\[
\text{Yavaş-ça Jale-nin koluna dokundu.} \\
\text{gentle-ADV J.-POSS arm touched} \\
\text{‘S/he gently touched Jale’s arm.’}
\]

(203) (Göksel & Kerslake 2005: 215), (Göksel & Kerslake 2010: 83)

\[
\text{Osman çocuk-ça davranıyor.} \\
\text{O. child-ADV behave} \\
\text{‘Osman is behaving childishly.’}
\]

(204) **ADV** (p.c. Hatice Zora)

\[
\text{çabuk gel} \\
\text{quickly come.IMP} \\
\text{‘Come quick(ly)!’}
\]
### B. List of examples

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**Level Overlaps**

- **Root:** [ATTR PRED ADV]
- **Lexeme:** [ATTR PRED], [ATTR PRED ADV]
- **Construction:** –

**Urarina (isolate)**

(205) **ATTR** (Olawsky 2006: 192-193, 189)

- (a) ni-a $ka$-$raj$ teru $kaua$t-i
  - be-3 1SG=POSS axe be.good-NMLZ
  - ‘I have a good axe.’

- (b) $\ddot{\text{aafihi}}$-i $nu$ne $baku$-ri-\text{\texttilde} $u$-a-e
  - be.small-NMLZ branch break-SPD-PTCP come-CAUS-3
  - ‘He broke off a little branch and brought it.’

(206) **ATTR** (Olawsky 2006: 195)

- bu$te$ se$hwa$ itca-e
  - boat big make-3
  - ‘He made a big boat.’

(207) **PRED** (Olawsky 2006: 189)

- $\ddot{\text{aafihi}}$-a $kaa$ lur$e$ri
  - be.small-3 this house
  - ‘This house is small.’
ATTR, PRED, and ADV in Urarina

**ATTR**
- **Function:** PROPERTY MODIFICATION WITHIN REFERRING EXPRESSION
- **Form 1:** $N \ ST.V-\overset{j}{NMLZ} / ST.V-\overset{j}{NMLZ} N \Rightarrow (205)$
- **Form 2:** $N \ ADJ \Rightarrow (206)$

**PRED**
- **Function:** PROPERTY PREDICATION
- **Form:** $ST.V-\overset{per}{S} \Rightarrow (207)$

**ADV**
- **Function:** PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION
- **Form 1:** $ST.V-\overset{i}{PTCP/CVB} V \Rightarrow (208)$
- **Form 2:** $V-\overset{uri}{SPD} \Rightarrow (3.23)$
- **Form 3:** $V \ ADV_{IDEO} \Rightarrow (5.21)$

**Level Overlaps**
- **Root:** [ATTR PRED ADV]
- **Lexeme:** –
- **Construction:** –

**Waiwai (Cariban)**

(209) **ATTR** (Hawkins 1998: 198)

(a) *mîîmo-tho*
	house-old.and.bad

‘an old and bad house’

(b) *parakwe-ci*

drinking.bowl-small

‘sweetly’

(210) **ATTR** (Hawkins 1998: 183)

*tî-kpo-re-m*

ADVZ-sweetness-ADVZ-NMLZ

‘a sweet one’

(211) **ADV** (Hawkins 1998: 204)

*tî-kpo-re*

ADVZ-sweetness-ADVZ

‘sweetly’
B. List of examples

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Warekena (Arawakan)

(212) ATTR (Aikhenvald 1998: 298)

neyawa weduana-ři(-yawa)
woman good-ADJ(-F)
’a good woman’

(213) ATTR (Aikhenvald 1998: 305)

waruti irua-mi
man good-ADJ
’a big sloth’

(214) PRED (Aikhenvald 1998: 306)

guñeta ulupe-ti peya a:tapi anetua-ři a:tapi anetua-ři anetua a:tapi
arrive foot-LOC one tree good-ADJ tree good-ADJ be.good tree
niwe niwe-ři a:tapi
be.high high-ADJ tree
‘He (the rabbit) arrived at the foot of a good tree, a good tree. The tree was good. High (it was), a high tree’

53 The affixes ŭ- and -so/-xi may also “adverbialize verb stems” (Hawkins 1998: 199).
(215) PRED (Aikhenvald 1998: 305)

\[\text{waya a\textit{watape}\textit{fia-mi}}\]
\[\text{we poor-ADJ} \]
‘We are poor.’

(216) ADV (Aikhenvald 1998: 307)

\[\text{wa-hā nuga crenti ate yaliwa nu-fia-wa anetua-xi} \]
\[\text{then-PAUS I evangelical until now 1SG-stay-NONACC good-ADJ} \]
\[\text{anetua-xi nu-fia-wa anetua nu-fia-wa ate yaliwa} \]
\[\text{good-ADJ 1SG-stay-NONACC good 1SG-stay-NONACC until now} \]
‘Now I am evangelical until now, I live as a good (man), as a good (man) I live, well I live up to now.’

\[\text{ATTR, PRED, and ADV in Warekena}\]

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Yagua (Peba-Yagua)

(217) ATTR (Payne & Payne 1990: 416)

\[\text{pasi\textsuperscript{y}-dee quí\textsuperscript{chiy}}\]
\[\text{little-DIM knife} \]
‘little knife’

54 No examples of simple Adverbs in context have been attested, but some isolated examples are: \textit{tsume} ‘almost’, \textit{matsena} ‘in vain’, \textit{tsina} ‘again’ (Aikhenvald 1998: 396).
B. List of examples

(218) ATTR (Payne & Payne 1990: 454)

\[
\text{sámiy-} \text{ra váchuïy pasto-} jú \text{ rá-niy} \text{ rá-jîtya brachiaria}
\]

\[
\text{good-}\text{CLF.INAN grass pasture-ADL INAN-CLEFT INAN-name brachiaria}
\]

‘Good grass for a pasture is (the kind) called \text{brachiaria}.’

(219) ATTR (Payne & Payne 1990: 454)

\[
\text{cááva sámiy yi-jacha}
\]

heron \text{beautiful} \text{2SG-be}

‘A beautiful heron you (will) be.’

(220) PRED (Payne 1985: 96)

\[
\text{Jááryiy sámiy Anita ray-yamúju.}
\]

very \text{good} Anita 1SG-more:than

‘Anita is nicer than me.’

(221) ADV (Payne & Payne 1990: 454)

\[
\text{núútyu vóóca jëggvye sámiy vuuy-múcadii-mu}
\]

what cow grow \text{well} 1.INCL-land-LOC

‘What (kind of) cow grows well in our land?’

(222) ADV (Payne 1985: 417)

\[
\text{Alchíco rupú} \text{jááryiy vániira.}
\]

Alchico walk very \text{fast}

‘Alchico walks very fast.’

---

**ATTR, PRED, and ADV in Yagua**

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**PRED**

| Function: PROPERTY PREDICATION |
| Form 1: | ADJ(-CLF).ANIM S \( \Rightarrow \) (6.4b) |
| Form 2: | G.MOD S \( \Rightarrow \) (220) |

**ADV**

<p>| Function: PROPERTY MODIFICATION WITHIN PREDICATING EXPRESSION |
| Form 1: | V G.MOD ( \Rightarrow ) (221) |
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Yankunytjatjara (Pama-Nyungan)

(223) **ATTR** (Goddard 1985: 47)

(a) \( \text{papa } \text{tjapu } \text{tju}-\text{ngku } \text{mayi } \text{ngalku-\-\-tju} \)
dog small many-ERG food[ACC] eat-PST

‘The small dogs (puppies) ate the food.’

(b) \( \text{tjitji } \text{ma}-\text{\-tju } \text{pu}-\text{ka} \)
child dark big[NOM]

‘(a) big dark child’

(224) **PRED** (Goddard 1985: 20)

\( \text{wati } \text{nyangatja } \text{pu}-\text{ka} \)
man this/here big[NOM]

‘This man (is) big.’

(225) **PRED** (Goddard 1985: 20)

(a) \( \text{ngana}-\text{\-tja } \text{puku} \)
1PLNOM contented[NOM] sit-PST.IPFV

‘We were contented.’

(b) \( \text{wati } \text{palatja } \text{pika-\-tja} \text{ra } \text{ngari-nyi } / \text{pupu-nyi} \)
man just.there sick-having[NOM] lie-PRS / crouch-PRS

‘The man over there is lying/crouching sick.’

(c) \( \text{pika } \text{pu}-\text{ka } \text{ngayulu } \text{nga}-\text{\-a-nyi} \)
sick big[NOM] 1SGNOM stand-PRS

‘I’m really sick.’

(226) **ADV** (Goddard 1985: 29-30)

\( \text{wati}-\text{ngku } \text{ka}-\text{\-pa } \text{ngu}-\text{\-u}-\text{ngku } \text{pu}-\text{ngu} \)
man-ERG snake[ACC] fearful-ERG hit-PST

‘The man hit the snake fearfully.’

(227) **ADV** (Goddard 1985: 29-30)

\( \text{tji}-\text{\-tju } \text{ngka-\-tja } \text{palya-\-ngku } \text{nyanga-nyi} \)
sun-LOC-1SG(.ERG) good-ERG see-PRS

‘Tomorrow I’ll look (at it) properly (i.e. in good light).’
B. List of examples

**ATTR, PRED, and ADV in Yankunytjatjara**

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**Yimas (Lower Sepik-Ramu)**

(228) ATTR (Foley 1991: 94)

kpa nam
big house
‘a big house’

(229) ATTR (Foley 1991: 94)

kpa-nm nam / nam kpa-nm
big-house.SG house / house big-house.SG
‘a big house’

(230) ATTR (Foley 1991: 94–95)

apak tjikŋt-k-nmaŋ
sister heavy-IRR-II.SG
‘a fat sister’

---

55 No example with context attested.
(231) **PRED** (Foley 1991: 226)

\[
\begin{align*}
M-n & \quad \text{kpa-}n \quad \text{anak} \\
\text{DIST-1.SG} & \quad \text{big-1.SG} \quad \text{COP-1.SG}
\end{align*}
\]

‘He is big’

(232) **PRED** (Foley 1991: 297)

\[
\begin{align*}
\text{wanwa} & \quad \text{wapi-}k-wa \\
\text{knife.IX.SG} & \quad \text{become.sharp-IRR-IX.SG}
\end{align*}
\]

‘The knife is sharp’

(233) **ADV** (Foley 1991: 341-342)

\[
\begin{align*}
\text{payкра-na-kwanan-kulanay} \\
1\text{PL.SBJ-DEF-badly-walk}
\end{align*}
\]

‘We are walking about aimlessly.’

(234) **ADV** (Foley 1991: 344)

\[
\begin{align*}
\text{na-mpi-mampi-pucm-api-}k \\
3\text{SG.OBJ-3DU.A-again-time.VII.SG-put.in-IRR}
\end{align*}
\]

‘They both gave him time again.’

---

**ATTR, PRED, and ADV in Yimas**

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Sammanfattning på svenska


(1) (a) Tåget körde sakta genom landskapet.
(b) Solisten sjöng vackert.
(c) Bebisen skrek högt hela natten.


Adverb och adjektiv är alltså båda modifierare, fast inom olika domäner: predicerande respektive refererande uttryck. Traditionellt sett anses dock adjektiv användas i två funktioner. Vid sidan av refererande uttryck, där adjektivet har en attributiv funktion, används adjektiv i en predikativ funktion. Adverbets funktion, respektive adjektivens båda funktioner, illustreras i följande exempel.

(2) (a) Hästen travade långsamt.                  ADVERB
(b) Den långsamma hästen kom sist av alla.         ATTRIBUTIVT ADJEKTIV
(c) Hästen är långsam.                            PREDIKATIVT ADJEKTIV

I denna studie jämförs adverb med både attributiva och predikativa adjektiv från ett tvärspråkligt perspektiv. Detta innebär att målet är att undersöka hur adverb ser ut och
fungerar jämfört med attributiva och predikativa adjektiv i en mängd olika språk. För en konsekvent jämförelse av de tre funktionerna jämförs dessutom attributiva och predikativa adjektiv med varandra. Avhandlingen syftar till att besvara följande frågor:

1. Hur kodas adverb, attributiva adjektiv, predikativa adjektiv och adverb på rot-, lexem- och konstruktionsnivå?

2. I vilken utsträckning finns det enkla adverb i världens språk?

3. Finns det enkla adverb i språk som inte har enkla adjektiv?

4. Tenderar enkla adverb att tillhöra samma semantiska typer i olika språk?


Avhandlingen består av tio kapitel fördelade på tre delar: **Del I. Bakgrund och metod,** **Del 2. Resultat** samt **Del 3. Diskussion.** Dessa delar föregås av en introduktion i Kapitel 1. Del I innehåller kapitel 2, 3 och 4. Syftet med kapitel 2 är att sammanföra olika perspektiv på adverb och i viss mån även adjektiv, för att bättre belysa problemen kring dessa ordklasser. Kapitlet inleds med en redogörelse för adverb

Kapitel 3 handlar om modifikation, en term som ofta används för att definiera både adverb och adjektiv. Här introduceras den definition av modifikation som används i avhandlingen, vilken bl.a. inbegriper en utvidgning av Croft’s ordklassteori så att den inkluderar adverbiell modifikation. I kapitel 3 diskuteras även betydelsen av adverb som just modifierare, samt kopplingen mellan modifikation och predikation. Sekundär predikation är av särskild relevans i detta sammanhang, eftersom adverb ibland definieras som sekundära predikat, tillsammans med depiktivor och resultativor.


Del II presenterar studiens resultat i tre olika kapitel: 5, 6 och 7. Kapitel 5 beskriver hur den adverbiella funktionen som sådan kodas. Ett av de tydligaste kodningsmönstren är att enkla adverb finns i en majoritet av urvalsspråken (41/60 språk). Dessa enkla adverb, som alltså inte avletts eller formats från någon annan kategori, visar att en stor mängd orelaterade språk har uttryck som beskriver egenskaper och vars enda funktion är att vara adverb. En avsevärd andel av de språk som har enkla adverb saknar dessutom enkla adjektiv (12/60). Detta visar att adverb inte är beroende av adjektiv. Kapitel 5 presenterar även andra typer av kodning i den adverbiella funktionen: avledda adverb, adverb bildade med hjälp av kasusböjning, ideofona adverb, inkorporerade och affixerade adverb, m.m.

I kapitel 6 flyttas fokus till rot- och lexemnivå. Rot- och lexemnivåerna hänger ihop på följande sätt: när ett språks kodning överlappar på lexemnivå så överlappar det åtminstone på motsvarande sätt på rotnivå. Exempelvis överlappar engelskans slow på
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lexennivå för attributiva och predikativa Adjektiv (men inte för Adverb: *slowly*), medan rotnivån överlappar totalt, eftersom roten *slow* även används i Adverbet *slow-ly*. Rotnivån visar att adverb, attributiva adjektiv, och predikativa adjektiv har samma kodning, alltså samma rötter i de tre funktionerna, i en överväldigande majoritet av urvalsspråken (50/60). I drygt en tredjedel av språken (23/60) överlappar kodningen av attributiva och predikativa adjektiv. I fem språk överlappar kodningen av predikativa adjektiv och adverb. Det vanligaste mönstret på lexennivå är att attributiva och predikativa adjektiv kodas likadant (37/60), i form av tre olika typer: adjektiv, stativa verb (verb som beskriver tillstånd), och lexem för vilka adjektiv inte kan skiljas tydligt från substantiv. Näst vanligast på lexennivå är att alla tre funktioner kodas likadant, vilket påträffas i över hälften av urvalsspråken (33/60). Större delen av dessa (20/60) utgörs av en klass av lexem som används både i funktion av adjektiv och i funktion av adverb, och därtill även i funktion av predikativa adjektiv. Denna typ av modifierare utgör en stabil klass som jag kallar *general modifiers* ‘allmänna modifierare’. Det finns även språk som har stativa verb i alla tre funktioner. Sex språk har lexem som även används predikativt och som adverb.


I kapitel 10 avslutas avhandlingen med en sammanfattning av resultat och slutsatser, samt en diskussion av potentiella vidare forskningsområden. Bland de senare diskuteras andra typer av adverb (t.ex. de som beskriver tid och aspekt), deras eventuella koppling till adverb som beskriver egenskaper, ideofoner, relationen mellan olika typer av adverb och sekundära predikat, adjektiv som enbart används predikativt (t.ex. engelskans *asleep* ‘sovande’ eller *glad* ‘glad’) m.m.

Sammanfattningsvis visar denna avhandling att enkla adverb finns i språk som är spridda över hela världen. I motsats till Hengeveld (1992, 2013), som konstaterar att ett språk måste ha adjektiv för att ha adverb, visar resultaten av denna studie att enkla adverb även finns i vissa språk som saknar enkla adjektiv. Adverb är därmed konceptuellt sett lika grundläggande som adjektiv. Studien ger också profil till ytterligare en ordklass som har som funktion att modifiera både substantiv och verb, nämligen allmänna mod-
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ifierare, dvs. lexem som används i funktion av både adjektiv och adverb. Både adverb och allmänna modifierare följer tydliga semantiska mönster. På denna grund föreslås två *implikationella universella tendenser*:

- *Om ett språk har enkla adverb så finns den semantiska typen hastighet bland dem.*
- *Om ett språk har allmänna modifierare så finns den semantiska typen värde bland dem.*

Även om det finns ett litet antal undantag så påverkar det inte de tvärspråkliga tendenserna som sådana, vilka tydligt visar på avhandlingens huvudresultat: Trots sina många egenheter, vilka utförligt beskrivits ovan, utgör adverben en prototypisk ordklass i det tvärspråkliga perspektivet.
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