Parts of speech and dependent clauses: A typological study

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Discussion: Flexibility and Functional Transparency

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8.1 Introduction

The results presented in the previous chapter suggest that there is a dependency relation between the amount of flexibility displayed by the parts of speech classes of a particular language, and the amount of flexibility displayed by the dependent clause constructions of that language. More specifically, the data show that, as expected, the possibility of having (pervasively) flexible *deranked* DC constructions in a language is dependent of the presence of (pervasively) flexible PoS classes in that language.

However, there were also a number of unexpected findings. First, not all languages with flexible PoS classes also have flexible deranked DCs. Morever, those that do have flexible deranked DCs combine them with rigid (deranked or balanced) DCs. Second, there are no dependency relations between lexical and (deranked) clausal constructions with less pervasive flexibility, i.e. between nominals and nominal clauses, and between modifiers and modifier clauses. Third, the presence of specific rigid DCs is not dependent upon the presence of parallel types of rigid PoS classes. Finally, there are in general no correlations between the functional possibilities of PoS and *balanced* DCs.

The aim of the present chapter is to interpret the results of Chapter 7 from a specific functionalist perspective. In particular, recent functional-typological research has advanced the idea that flexibility and rigidity are relative rather than absolute notions, which may be applicable in various degrees to specific construction types at different levels of grammar. These

studies suggest that the categorial specificity of linguistic constructions increases – or their flexibility decreases – when they become structurally more complex (Haig 2006, Lehmann 2008). This generalization can be regarded as a specific instance of a more general functional principle regarding complexity in language systems, namely that flexibility or multi-functionality in one area of the grammar must be counterbalanced or 'traded off' by rigidity or categorial specificity in another area, in order to guarantee the functional identifiability of linguistic units within an actual utterance.

The structure of this chapter is as follows. I start out, in section 8.2, with a more extensive discussion of the relevant literature. Subsequently, in section 8.3, I apply the hypothesis that categoriality increases with grammatical complexity to the case at hand: (simple) PoS classes and (complex) dependent clauses. It will be shown that this approach accounts for the functional behaviour of virtually all *deranked* DCs attested in the sample. In section 8.4 I turn to *balanced* DCs, and show that, even though they do not behave in accordance with the specific hypothesis of increased complexity/categoriality, they do fit into a larger explanatory picture based on the principle of functional transparency. I conclude, in section 8.5, that the functionalist perspective developed in the present chapter provides a complete account of the data.

8.2 Theoretical background: Trade-off effects between flexible and rigid constructions

Recently, the debate in the functional-typological literature about the existence or non-existence of 'truly' flexible languages (see Chapter 2, section 2.5) has taken a new turn. In particular, it has been suggested that *flexibility* (or *pre-categoriality*) and *rigidity* (or *categorial specificity*) are not absolute notions that do or do not apply to complete language systems, or even sub-systems. Rather, they are viewed as gradable notions that may apply in certain degrees to individual constructions, pertaining to specific levels of grammar.

A first proposal to this effect is Haig's (2006). He distinguishes four grammatical levels at which any language may display a certain amount of categorial specificity: First, there is the basic level of so-called *radical elements*. At this level, languages may differ in their distinctions of major lexical categories. Second, at the level of *input of lexical derivation*, languages may display variation in the extent to which their derivational processes select certain base categories but not others. At the third level we find *output of*

lexical derivation, which concerns the degree to which derivational processes result in categorially specified forms. At the final, highest level of complexity, languages may vary in terms of the categorial distinctions drawn in inflectional and other syntactic categories (Haig 2006: 44). In short, languages differ in the amount and type of categorial specificity (or lack of it) displayed by their constructions at different levels of grammatical complexity.

Haig (2006) puts forward the hypothesis that this variation is not random, but rather constrained by what he terms the *Principle of Successively Increasing Categorisation* (henceforth PSIC), and formulates as follows:

> "The extent to which different levels of linguistic structure impose categorial distinctions increases monotonically as we move to the right of the following hierarchy:
> Radical elements > Derivational input > Derivational output > Inflection/Syntax"
> (Haig 2006: 45)

Haig discusses a number of languages that conform to the PSIC, and also points out some possible counterexamples to it[115]. In general, however, he suggests that cross-linguistic differences in 'flexibility' can be captured as points on a cline defined by the hierarchical complexity level at which maximal categorial specificity is reached in a language. At one extreme of this cline, we find *early-categorizing* languages, in which categorial distinctions are built into the inventory of radical elements[116], and are observed throughout the morphology and projected into the syntax. At the other extreme we find *late-categorizing* languages, in which the categorization of linguistic elements happens only through their syntactic or phrase-structural configurations. In between these two extremes we may find languages in which categorial

[115] Interestingly, the counterexamples that Haig (2006) mentions are all flexible languages: Tagalog, Mundari, and Riau Indonesian (Gil 2000). As Haig (2006: 46) puts it, in these languages "*the syntax unpacks categorial distinctions drawn in morphology, rather than refining them*". However, as I have argued in Chapter 2, the morphological categories of flexible languages are not defined in terms of phrase structure. Therefore, categorization at the morphological level is not only of a different degree than categorization at the syntactic level, but also of an entirely different nature (see also Himmelmann (2007) on Tagalog).
[116] Here the question becomes relevant whether or not one assumes that, at some level of abstraction, all languages have a stock of un-categorized roots (cf. Arad 2003). For the present purposes, it is not necessary to take a specific stance in this respect; the general point is that the degree of categorial distinctiveness is supposed to be lower at the level of roots than at the level of stems, words, and phrases. For more discussion see also Haig (2006), who provides an overview of relevant literature since Aronoff (1976).

distinctions are introduced at intermediate (morphological) levels, and/or in which lower level categorial distinctions become more fine-grained when moving upwards along the complexity hierarchy.

Lehmann (2008) arrives at a very similar generalization on the basis of data from a small sample of six languages (German, English, Spanish, Latin, Yucatec Maya, and Mandarin Chinese). In particular, Lehmann finds that, for each language in this sample, the degree of categoriality at the level of stems is higher than at the level of roots (cf. Haig's 'radical elements'). In addition, Lehmann argues that every linguistic unit has a unique category at the sentence level, so that "*we can safely generalize that categoriality increases with the grammatical levels*." (Lehmann 2008: 561) The term that Lehmann uses for this generalization is *staggering level-dependent categoriality*, which I will abbreviate as SLC.

Interestingly, Lehmann (2008: note 17, p. 565) points out a possible contradiction between his SLC principle and Dik's (1985, 1997) Principle of Formal Adjustment (PFA), the latter of which has been discussed in Chapter 3 (section 3.3.3.3). Lehmann argues that if, on the one hand, categoriality increases with grammatical levels, "*this would invite the inference that higher levels dictate the necessary categories, and categorizations made at lower levels follow that model*". Dik's PFA, on the other hand, claims that derived, secondary constructions are coined on the basis of less complex, primary constructions. This, as Lehmann puts it, "*seems to entail that categories of lower levels serve as models for categorization at higher levels*". Lehmann does not propose a solution to this problem, but I believe that, from the perspective of the present chapter, there are two points worth making.

First, consider the possibility that higher level categories determine lower level ones. Lehmann argues that the ultimate level of categorization of linguistic structures is determined by the propositional functions that must be performed within an actual utterance, i.e. reference, predication, and modification. According to him, this level of categorization constitutes the syntactic level. However, it seems that Lehmann confuses propositional functions with syntactically complex (rather than morphologically complex or lexically simplex) linguistic constructions that may express these functions. In other words, reference, predication, and modification are not constructions themselves; they are functions that may be expressed by constructions of different degrees of structural complexity.

Note that it is not necessary to measure the level of categorial specificity of linguistic constructions relative to some universal set of functions, which

would determine the maximal degree of categorical distinctiveness in any language. It is quite possible to assume that the ultimate set of relevant functional distinctions is a language-specific one. This still allows one to compare the set of function(s) that can be expressed by one construction with the functional possibilities of another construction that has a higher or lower degree of structural complexity.

A second issue concerns the status of derived, secondary constructions as they figure in Dik's PFA. The PFA predicts that derived, secondary constructions will be *formally* modelled on their non-derived, primary counterparts. However, it is not always obvious to what extent a more complex construction of a particular type can be regarded as derived from or secondary in relation to a simpler construction. The soundest basis on which to decide this would probably be a functional one: two constructions can be regarded a primary and secondary instantiation of the same category if they perform the same function(s). Obviously, however, this undermines the possibility to *compare* the functional possibilities of the two construction types, and as such leaves the Principle of Increasing Categoriality toothless. Therefore, a formal criterion is required in order to establish a derivational (primary-secondary) relation between two constructions, before the nature of their functional connection can be the subject of any testable prediction.

Haig (2006) and Lehmann (2008) have tested the hypothesis of Increasing Categoriality on data that involve derivations from simple roots to (derived) stems, and from stems to (inflected) words. In these cases, the formal connection between the simpler and the more complex form is quite clear. In the case of DCs, in contrast, such a derivational connection is less straightforwardly established. In particular, while *deranked* DCs are formally modelled on lexical or phrasal expressions, *balanced* DCs are not; the latter retain the formal properties of independent clauses. In view of this difference, I will assume that deranked but not balanced DCs can be regarded as secondary constructions in the sense of Dik's PFA[117].

The assumption behind the PFA is that the formal similarity between a primary and a secondary construction reflects a functional similarity. However, taking into account the generalizations pointed out by Lehmann and Haig, this hypothesis should be further specified: In particular, it is

[117] This difference between deranked and balanced DCs was already built into the hypotheses formulated in Chapter 4 and tested in Chapter 7, to the extent that a weaker functional match was expected between PoS and balanced DCs than between PoS and deranked DCs. In fact however, no significant correlations at all were found between PoS and balanced DCs.

expected that the functional possibilities of secondary, derived constructions (deranked DCs) are not necessarily identical to those of their primary bases (PoS classes), but may also be – and usually are – more restricted. In other words, Lehmann's observation that the PFA suggests an influence of the degree of categoriality of lower-level (or primary) constructions on the categoriality of higher-level (secondary) constructions seems justified, but this influence is not expected to take the form of direct modelling or copying. Rather, the simple, primary construction determines the minimal level of categoriality (or maximal level of flexibility) of the secondary, more complex construction.

Thus, in general, the degree of categorial distinctiveness displayed by a particular language at lower levels of complexity determines the amount of categorization that needs to be implemented at higher levels, in order to achieve maximal categorial distinctiveness at the level of the utterance. Lehmann describes this as follows:

> "In a language with low stem categoriality, the speaker's task of assigning the words to categories is fully achieved only at the level of syntax. This is done by inserting words into certain syntactic templates, which force a syntactic category on them. In a language with high stem categoriality the syntax contributes nothing to the categorization of words, which means that such templates play a minor role in constructions." (Lehmann 2008: 557)[118]

In fact, this idea is advanced already in an earlier study, namely Hengeveld et al. (2004). In particular, they predict that:

> "Languages with flexible lexemes will have certain morpho-syntactic strategies at their disposal that provide the hearer with clues as to the correct interpretation of the flexible lexeme. Morpho-syntactically, there are basically two possibilities to guide the hearer as regards the intended function of a flexible lexeme in the actual linguistic expression:

[118] Lehmann describes the implementation of categorical specificity as a task for the speaker. In fact, however, in order for this functional motivation to work, one should also take into account the perspective of the hearer: He or she should be able to identify the right function of each form. This point is acknowledged in the work of Hengeveld et al. (2004) (see below).

(i) morphological markers in the immediate linguistic context; and (ii) syntactic patterning."
(Hengeveld, Rijkhoff & Siewierska 2004: 547-548)

This prediction is strongly supported by data from a balanced sample of 50 languages. In particular, it is shown that languages with flexible PoS resolve the functional ambiguity of their lexemes either by means of word order restrictions or by means of special markers indicating the functions in which lexemes appears. Note that this is an implicational universal in the weak sense, since languages with rigid lexeme classes may also make use of fixed word order or function-indicating markers. Thus, Hengeveld et al. (2004) interpret their results as evidence for a trade-off effect between the lexical, morphological, and syntactic coding means that a language has at its disposal. In particular, these coding means must together ensure that the function of any linguistic units is identifiable within an utterance. While this means that functional ambiguity must be resolved, it does not mean that redundant marking is necessarily excluded (see also Van Lier 2006, and cf. Chapter 9).

Functional trade-off effects have also been studied for more specific functional sub-domains. For instance, Sinnemäki (2008) finds such an effect between three types of strategies for core argument encoding: fixed word order, head marking, and dependent marking. In addition, and in line with the findings of Hengeveld et al. (2004), Sinnemäki suggests that languages adhere more strongly to distinctiveness than to economy, which is another way of saying that they allow for redundancy more than for ambiguity. Finally, Sinnemäki emphasizes that complexity trade-off should not be regarded as an all-encompassing principle, but rather as one of several factors that motivate certain aspects of the encoding of functions in a particular domain.

Similarly, Frajzyngier & Shay (2003) present their *Principle of Functional Transparency* as an explanatory mechanism in the division of labour between coding devices pertaining to different grammatical levels, in the expression of a certain functional domain. In particular, their principle states that:

"Every constituent must have a transparent function within the utterance. […] This is achieved either through the inherent properties of lexical items in the clause or through the system of grammatical means, which may include affixes, adpositions, linear order and free morphemes with grammatical functions." (Frajzyngier & Shay 2003: 4-5)

Frajzyngier & Shay (2003: 7) explicitly do not assume a universal level of maximal categorial specificity. Rather, in their view, functional transparency is determined relative to the set of functional distinctions that are relevant in a particular language. As mentioned above, such a stance does not preclude the possibility to find cross-linguistic generalizations with respect to the way in which the workload of categorization is divided over the available grammatical resources.

To sum up, recent functional-typological literature suggests that there is a relationship of interdependence or trade-off between different construction types, pertaining to different levels of grammatical complexity, as regards their contribution to the ultimate goal of establishing functional transparency at the utterance level. In the next two sections (8.3 and 8.4) I will discuss the results from Chapter 7 against this theoretical background.

8.3 Applying the complexity hypothesis to PoS and deranked DCs

8.3.1 Hypothesis

As explained in the previous section, deranked DCs can be regarded as secondary constructions, derived from primary, underived lexical constructions, in terms of the Principle of Formal Adjustment. Secondary, derived constructions are assumed to be more complex than primary, underived ones. Therefore, the Principle of Increasing Categorization or Staggering Level-dependent Categoriality, which states that categoriality increases with complexity, predicts that:

(1) In any language, the functional flexibility of a PoS class is either greater than or equal to the flexibility of a deranked DC construction that can be used in at least one of the same function(s).

This hypothesis may be formally represented as a constraint, in the following way:

(2) [flex PoS ≥ flex deranked DC]

There are three possibilities concerning the functional possibilities of a particular deranked DC that are in accordance with the constraint in (2). They are listed in (3):

(3) a. A deranked DC has the same amount of flexibility as the relevant PoS class;
b. A deranked DC has less flexibility than the relevant PoS class;
c. A deranked DC has no flexibility (i.e. it is a rigid deranked DC).

The constraint in (2) is violated when a deranked DC has more flexibility than the relevant PoS class, i.e. when the DC can express more propositional functions than the PoS class.

Note that the situations described in (3b-c) would constitute counterexamples to some of the hypotheses tested in Chapter 7, but do not count as such in view of the prediction in (1)/(2). Consider first the situation in (3b): It would not constitute a counterexample to the hypotheses about global matches between flexibility in PoS systems and deranked DCs, since for a global match it is not necessary that flexible PoS and DCs can express exactly the same type and amount of functions. However, it would indeed constitute a counterexample to the hypotheses in Chapter 7 about one-to-one functional matches between specific types of flexible PoS classes and flexible deranked DC constructions (see the predictions in (18b-d), and (21b-d) of Chapter 7). Furthermore, situations like those described in (3c) would constitute counterexamples to all hypotheses in Chapter 7, whether they make reference to global matches between flexibility in PoS and DC systems, or to specific matches between particular flexible PoS classes and flexible deranked DC constructions.

Note further that in cases where the relevant flexible PoS class can express two functions (i.e. when it is a class of nominals or modifiers) and the DC only one, the difference between situation (3b) and (3c) becomes irrelevant: When the DC can express one function less than the PoS class, then there is only one function left, so that the DC construction is automatically rigid rather than flexible. I will return to this issue in more detail below.

Furthermore, recall that virtually all languages with a flexible PoS system have one or more rigid PoS classes. It is predicted that, whenever a language has a deranked DC construction that is used in a function for which a rigid PoS class is available, this deranked DC will be rigid too. In other words, if there is already maximal categoriality at the level of the simple, primary construction (PoS), then this situation should be retained at the level of the derived, secondary construction (deranked DC).

The same prediction, of course, applies to languages with a rigid PoS system, i.e. a system consisting of rigid classes only: Their deranked DCs, if they have any, are expected to all be rigid too. Note that, whenever a language lacks a lexical category for the expression of one or more particular function(s), there is no basis on which to predict the functional pattern of DC(s) appearing in any of those functions.

In the next sub-section I present the results for the hypothesis formulated in (1)/(2). I first discuss languages with flexible PoS systems (section 8.3.2.1), followed by languages with rigid PoS systems (section 8.3.2.2).

8.3.2 Results

8.3.2.1 Distribution of deranked DCs in languages with flexible PoS systems

Introduction

Table 8.1 below lists all languages in the sample with flexible PoS classes, and compares the functional possibilities of these PoS classes with the functional possibilities of deranked DCs (if the language has any) occurring in one or more of the same function(s). The rightmost column indicates either that a particular DC has the same functional distribution as the relevant flexible PoS (=), or that it can express a smaller amount of functions than the flexible PoS (>).The data in Table 8.1 thus show that the hypothesis in (1)/(2) above is confirmed in all cases (with the possible exception of one case that will be discussed further below), since there are no deranked DCs with a higher degree of flexibility than the relevant PoS class (<). The figures between the brackets in the rightmost column of Table 8.1 indicates the difference in flexibility between the DC and the PoS, in terms of the amount of expressible functions: (1) means that the DC can express one function less than the PoS, (2) means two functions less, and (3) means three functions less.

In short, there are some cases in which a flexible PoS class and a flexible DC construction can express exactly the same set of functions. This corresponds to the situation described under (3a) above. In other cases, the DC can express a subset of the functions that are expressed by the PoS class. These latter cases can be subdivided into two groups. In accordance with (3b) above, there is one group of cases in which the DC can express less functions

than the PoS class, but still remains flexible. And, in accordance with (3c) above, there is another group of cases in which the subset of functions that the DC can express is a singleton set, so that the DC is in fact a rigid rather than a flexible construction. In what follows I discuss and illustrate these three types of cases in turn.

Table 8.1: Languages with a flexible PoS class, and the distribution of deranked DCs that appear in at least one of the same function(s)

Language		Relevant flexible PoS	Deranked DCs in the same function(s)			
			Form	Function	Type	Flex PoS ≥ Flex DC?
1	Tagalog	contentives	*pag-*	contentive/	3	=
2	Kharia	contentives	RDP/*Ø*	contentive	3	=
			-na	multi-functional	3	> (1)
			-na-wala	relative	2	> (3)
			-al	relative	3	> (3)
			-ker	relative	3	> (3)
			-ga	adverbial manner	2	> (3)
			-ta + RDP	adverbial manner	2	> (3)
3	Samoan	contentives	*-ga/Ø*	complement	3	> (3)
			ona/ina	complement	2	> (3)
4	Warao	non-verbs	*-kitane*	complement	2	> (2)
5	Turkish	non-verbs	*-DIK/ -AcAk,*	nominal	3	> (1)
			-mA	complement	3	> (2)
			-mAk	complement	2	> (2)
			-An	relative	2	> (2)
			-(y)ArAk	adverbial manner	2	> (2)
			-(y)A.... -(y)A	adverbial manner	2	> (2)
6	Kayardild	non-verbs	*-n-*	multi-functional	3	=
			-Thirri-n	relative	3	> (2)
			-ngarrba	relative	2	> (2)

Language		Relevant flexible PoS	Deranked DCs in the same function(s)			
			Form	Function	Type	Flex PoS ≥ Flex DC?
7	Quechua	nominals	*-shka*	nominal	2	=
			-ngapaj	complement	2	> (1)
			-chun	complement	2	> (1)
			-y	complement	2	> (1)
8	Ma'di	nominals	*-lɛ̄, -dʒɔ*	nominal	2/3	=
			-ka	complement	3	> (1)
			-rɛ́/-ɓá	relative	2	> (1)
9	Gooniyandi	nominals	*-woo*	complement	2	> (1)
10	Hungarian	nominals	*-ni*	complement	2	> (1)
			-ás/-és	complement	3	> (1)
			-ó	relative	2	> (1)
			-ótt	relative	3	> (1)
			-andó/ -endó	relative	2	> (1)
11	Japanese	nominals	*no/mono*	complement	3	> (1)
12	Ket	modifiers	*Ø* (bare INF)	nominal	2	> (1)
13	Koasati	modifiers	*-n*	adverbial manner	2	> (1)
			-k	adverbial manner	2	> (1)
			-t	adverbial manner	2	> (1)

Deranked DCs with the same distribution as flexible PoS

Table 8.1 shows that there are five cases in which a flexible PoS class and a flexible deranked DC construction can express exactly the same type and amount of functions (as signalled by the = sign). An example of such a case is Kayardild, which has lexical non-verbs and deranked multi-functional clauses. The latter are demonstrated in (4a-c, cf. (33a-c) in Chapter 6), where the same DC construction, marked by *-n-*, appears in the functions of head of a referential phrase (a), modifier in a referential phrase (b), and modifier in a predicate phrase (c):

Kayardild (Evans 1995: 472, 474)

(4) a. *Ngada* *kurri-ja* [*ki-l-wan-ji*
1SG.NOM **see**-ACT 2-PL-POSS-MLOC
*dalwani-**n**-ki* *thawal-urrk*]
dig.up-**NMLZ**-MLOC yam-MLOC:A.OBL
'I saw you digging up yams.'

b. *Nga-ku-l-da* [*wirr-**n**-ku*] *dangka-wu*
1-INC-PL-NOM dance-**PTC**-M.PROP man-M.PROP
kurri-ju
see-POT
'We will watch the dancing man.'

c. [*Bilaangka-nurru* *kari-i-**n**-da*] *ngada* *warra-j*
blanket-ASSOC cover-M-**CONV**-NOM 1SG.NOM go-ACT
'I went along, covering myself in a blanket.'

Deranked DCs with less flexibility than flexible PoS

In all other cases listed in Table 8.1, the DC can express a subset of the functions of the PoS class (as indicated by the > signs). Two of these cases correspond to the situation described in (3b) above: They involve DCs that can express less functions than the relevant PoS classes, but are nevertheless still flexible (i.e. can be used in at least two functions). These cases are multifunctional *-na* clauses in Kharia and nominal *-DIK/-AcAK* clauses in Turkish. The former DC construction can express three functions, which is one function less than lexical contentives in Kharia. This distribution of the *-na* construction is illustrated in (5a-c) below, where it appears in the functions of head of a referential phrase (a), modifier in a referential phrase (b), and modifier in a predicate phrase (c). The second DC construction, Turkish nominal clauses, can express two functions, which is one function less than the lexical non-verbs in this language. This DC has already been illustrated several times (see Chapter 3 examples (23a-b); Chapter 6 example (37a-b); and Chapter 7 examples (8a-b)).

Kharia (Peterson 2006: 259, 243, 249)

(5) a. [*iɲ* *u* *iku?ɖ* *sundar* *konthe?ɖ=ki=te*
1SG this very beautiful bird=PL=OBL
*satay=**na***] *um=iɲ* *lam=te*
torment=INF NEG=1SG want-ACT.PRS
'I don't want to torment these beautiful birds.'

b. [*ɖoli=te* *ɖo?ɖ=**na***] *bhere*
palanquin=OBL take=INF time
'the time [they were] to take away the palanquin'

c. *…lekin* [*lam=**na*** ***lamna***] *sou?b=te* *ikuɖ* *jughay*
but search=INF RDP all=OBL very much
ɖa?-piyas *la?=ki.*
water-thirst EMOT=M.PST
'But searching and searching, [they] all became very thirsty.'

Full and partial retention of flexibility in DCs: Chapter 7 revisited

Above I discussed the cases in Table 8.1 that represent the situations described in (3a) and (3b) above: Deranked DCs that have the same amount of flexibility as the relevant flexible PoS classes, and deranked DCs that are less flexible than the relevant PoS classes, but still flexible. I want to emphasize here that these are the cases behind the general finding of Chapter 7 that flexibility in the domain of deranked DCs is dependent upon flexibility in the domain of PoS classes. This finding can now be reinterpreted as follows: The maximal amount of flexibility (or the minimal amount of categorial specificity) of deranked DCs in a language is constrained by the amount of flexibility (or categorial specificity) displayed by the PoS classes in that language.

Moreover, and as already pointed out in section 8.3.1, those cases in Table 8.1 which involve a PoS class that expresses two functions and a DC that expresses only one function can be interpreted as instances of the situation in (3b) as well, since the DCs express one function less than the PoS classes. This holds for all DCs in Table 8.1 that are marked with > (1) from Quechua down to Koasati[119]. If these cases are accordingly counted as representing partial loss of flexibility as compared to the relevant PoS, then the following picture emerges: Among the total 13 languages in Table 8.1 with flexible PoS classes and at least one deranked DC (as opposed to

balanced clauses only), there are 11 in which this deranked DC can either express all the functions that can be expressed by the relevant PoS class, or one function less[120]. The situation in these 11 languages is summarized in Table 8.2 below. In terms of PoS classes (see the two leftmost columns), a distinction is made between languages with very flexible PoS (contentives or non-verbs) and languages with less flexible PoS (nominals or modifiers). In terms of deranked DCs (see the two top rows), a distinction is made between cases of equal flexibility (=), and cases in which the DC expresses one function less than the PoS class (>(1)).

		Deranked DCs		
		=	> (1)	total
PoS	contentives/non-verbs	Tagalog Kharia Kayardild	Turkish	4
	nominals/modifiers	Quechua Ma'di	Gooinyandi Hungarian Japanese Koasati Ket*	7
	total	5	6	11

Table 8.2: The Principle of Increasing Categorization: Flexible PoS and deranked DCs

Note that there is one somewhat quirky case in Table 8.2, marked by an asterix: Ket has lexical modifiers and deranked nominal clauses. This means that, while both the lexical and the clausal construction can be used in two functions, there is overlap in only one of these functions, namely modifier in a referential phrase. Therefore, the DC is counted as expressing one function less than the PoS class[121].

In short, in the large majority of languages with flexible PoS systems, deranked DCs either display full retention or partial loss of the functional possibilities available at the lexical level. This is in accordance with the hypothesis in (1)/(2).

[119] These cases stand in contrast to rigid deranked DCs that can express two or three functions less than the relevant PoS. This is indicated in Table 8.1 as > (3) or > (2). These cases will be discussed shortly.

[120] As can be seen in Table 8.1 (and see also example (5)), Kharia has both a deranked DC that displays the same flexibility as lexical contentives and a DC that can express one function less than lexical contentives. In order to avoid double values, in Table 8.2 Kharia is mentioned as possessing only the former, most flexible DC.

Flexible deranked DCs and Functional Transparency

Before turning to the remaining cases in Table 8.1 – those that involve complete loss of flexibility in the DC (cf. (3c) above) – I will consider flexible deranked DCs from the perspective of functional transparency, as discussed in the previous section. Put simply, any flexible construction, including a flexible deranked DC, presents a potential problem of functional ambiguity. As in the case of flexible lexeme classes (cf. Hengeveld et al. 2004), it is expected that languages will have certain morpho-syntactic means to resolve this ambiguity. The data from my sample confirm this prediction. In particular, the relevant languages employ the same phrase-structural devices that are used for lexical or phrasal constituents to unambiguously mark the functions of flexible deranked DCs. Consider for instance the examples in (6a-b) from Tagalog. Example (6a) illustrates the use of the flexible gerund construction in a functional slot marked by the locative marker *sa*. Example (6b) shows the use of a simple lexical construction in the same functional slot, marked by the same element:

Tagalog (Himmelmann 2005: 373; Himmelmann 2007: 252)

(6) a. *pag-bawal-an mo ang bata?-ng iyó*
SF-forbidden-LV 2SG.POSS SPEC child-LK DIST
sa [***pag***-*la-laró?* *sa* *lansangan*]
LOC **GER**-RDP-play LOC street
'Forbid that child to play in the street.'

b. *um-sakay silá* ***sa*** ***bangká***
AV-passenger 3PL **LOC** boat
'They got on the boat.'

Other strategies used to resolve the functional ambiguity of flexible deranked DCs include case marking and rigid word order. For instance in Quechua, *-shka* clauses are case-marked when they function as the head of a referential

[121] It is possible, however, that the bare infinitival form in what I have classified as a nominal clause construction is in fact a lexical derivation when it appears in the function of modifier in a referential phrase. This is hard to say, since in this function the patient argument of the dependent predicate is gapped, and the agent is demoted, so that there are no overtly expressed arguments (cf. example (16) in Chapter 6).

phrase, but not when they modify a referential head. Nominal clauses in Ma'di follow the main predicate when functioning as object complements, while they follow their nominal head when functioning as relative clauses. I will return to the issue of functional transparency in section 8.4, where I discuss how languages may disambiguate the multiple functions of flexible *balanced* DCs.

Complete loss of flexibility in the DC

I now turn to the cases in Table 8.1 involving DCs that (i) can express a subset of the functions of the relevant PoS class, and (ii) where this subset is a singleton set, so that the DC is a rigid rather than a flexible construction. This corresponds to the situation described in (3c) of section 8.3.1: complete loss of flexibility in the deranked DC. As explained above, cases that involve a PoS class that can express two functions and a DC that can express only one are regarded as instances of *partial* loss of flexibility. Thus, the cases that remain to be discussed here involve rigid deranked DCs that can express two or three functions less than the relevant PoS. These cases are indicated in Table 8.1 above as > (3) or > (2).

Two languages in Table 8.1 only have deranked DCs that display complete loss of flexibility, i.e. loss of two or three functions compared to the relevant flexible PoS classes in these languages. The first case is Samoan, which has lexical contentives and rigid deranked clausal nominalizations; the second is Warao, with lexical non-verbs and rigid deranked infinitival clauses. The other languages with deranked DCs that show complete loss of flexibility (Kharia, Turkish, and Kayardild) also have deranked DCs that show no loss or only partial loss of flexibility.

Obviously, the categorial distinctiveness of any rigid deranked DC construction is by definition higher than that of any flexible PoS class. As such, these DCs all conform to the [flex PoS ≥ flex deranked DC] constraint, and do not require further explanation. Nonetheless, there seem to be additional motivations for the attestation of many rigid deranked DCs in languages with flexible PoS. A first reason may be borrowing. This occurs in Kharia, which has borrowed the rigid participial forms *-na-wala, -al*, and *-ker* from Indo-Aryan. A second reason – more relevant from the present perspective – may be the presence of an additional (possibly derived) rigid PoS class in an otherwise flexible system, serving as the primary category on which the rigid deranked DC is modelled. Warao, for instance, has

simple non-verbs plus a class of derived rigid nouns (see also Chapter 7, section 7.2.2.3).

The rigid deranked complement clause construction in Samoan also presents an interesting case. These nominalized clauses may occur with a special marker on the dependent predicate, namely the suffix *-ga*. In Chapter 2 (section 2.5.2.2), I have shown that this suffix is also used for lexical derivation. I explained there that lexically derived *-ga* formations remain flexible (see example (39) in Chapter 2). In contrast, when *-ga* formation applies at a higher level of grammatical complexity, i.e. when *-ga* is a marker of syntactic derivation, then its output is apparently no longer flexible. This is in accordance with the [flex PoS ≥ flex deranked DC] constraint. An example of a syntactic *-ga* nominalization is given in (7). Note that this construction can be distinguished from a regular NP (with a *-ga*-derived head) by the fact that the second argument of the dependent predicate (*apu ma moli* 'apples and citrus') remains expressed as in an independent clause. Note also that the term 'NP' is not meant here to refer to a phrase with a nominal head, to the extent that Samoan has no lexical nouns (neither simple nor derived).

Samoan (Mosel & Hovdhaugen 1992: 575)

(7) *A le faalavelave le tupu i* [*le ai-**ga***
PST NEG trouble ART king LD ART eat-NMLZ
apu ma moli a le pipili ma le tauaso]
apple and citrus POSS ART lame and ART blind
'The king was not troubled that the lame and the blind ate the apples and oranges.'

Interestingly, Samoan rigid nominalized clauses can also occur *without* any structural coding on the dependent predicate. This is illustrated in (8):

Samoan (Mosel 1992: 267)

(8) *E lelei* [***l*=*a*=*u*** *tunu ia*]
GENR good **ART=POSS**=2SG roast fish
'Your fish roasting is good.'

Arguably, these unmarked rigid nominalizations are indeed modelled on a rigid primary construction, but on a phrasal rather than a lexical one: an NP. Samoan NPs are characterized by the possibility to take determiners/case-

markers, and to contain possessive modifiers. Since in Samoan any lexeme can function as the head of an NP, the dependent predicate does not need to be re-categorized when it comes to function as the nucleus of a clausal nominalization. This explains why no special marker appears on the dependent predicate.

Similar types of unmarked nominalized clauses are attested in other Central-Eastern Malayo-Polynesian languages with a high degree of lexical flexibility, such as Tuvaluan (see example (9)) and Kambera (see example (10)). In the latter language nominalized clauses are cross-referenced with a dative marker on the matrix predicate, just like lexical and phrasal objects.

Tuvaluan (Besnier 2000: 512, 513)

(9) *Koe na e poto i* [***te*** *fakkaa o*
You there NPAST clever in **ART** CAUS-burn
o *te kasa*], *nee?*
POSS ART pressure-lamp TAG
'You know how to light a pressure-lamp, don't you?'

Kambera (Klamer 1998: 96)

(10) *Nda ku-pí-a-nya* [***na*** *ngàndi-**mu***
NEG 1SG.NOM-know-MOD-**3SG.DAT** **ART** take-**2SG.GEN**
rú kuta]
leaf pepper plant
'I dind't know that you would bring kuta.'
(lit.: 'I didn't know (of) your bringing kuta.')

In short, there may be independent motivations, apart from the [flex PoS ≥ flex deranked DC] constraint, for the attestation of rigid deranked DCs in functions that can be expressed by means of a flexible PoS class, including borrowing and modelling on an additional rigid PoS class or a rigid phrasal construction.

Rigid PoS and deranked DCs in languages with flexible PoS systems

Finally, consider rigid PoS classes in languages with flexible PoS systems, and their clausal counterparts. It was hypothesized that any deranked DC appearing in a function for which a rigid PoS class is available, should be a rigid construction. In other words, this DC should not be able to express

any more function(s), since this would obviously violate the [flex PoS ≥ flex deranked DC] constraint. The data in Table 8.3 make clear that this prediction is born out: For every rigid PoS class in a language with a flexible PoS system it is true that, if there is a deranked DC available to express the same function, then this DC is also a rigid construction.

Summary

In sum, in this section I have tried to reinterpret three types of results from Chapter 7 in terms of the Principle of Increasing Categorization. One was an expected result, in terms of the hypotheses in Chapter 7, namely that flexibility in the domain of deranked DCs is dependent on flexibility in the domain of PoS classes. I have shown that this dependency relation can be interpreted as a constraint, imposed by the amount of flexibility attested in the PoS system of a particular language, on the maximal amount of flexibility (or minimal amount of categorial specificity) that can be displayed by the deranked DC(s) of that language.

Furthermore, I accounted for two results that were unexpected in terms of the predictions in Chapter 7. First, I explained the lack of correlations between lexical nominals and modifiers on the one hand, and deranked DCs with the same functional patterns on the other hand (see Tables 7.16-7.18 and Table 7.19 in Chapter 7). This finding can be understood as involving loss of flexibility in the DCs as compared to the PoS classes, and thus as supporting the Principle of Increasing Categorization. The same holds for the finding that virtually all languages with very flexible PoS classes have at least one rigid deranked DC (whether or not in combination with flexible deranked DC(s)).

Table 8.3: Rigid PoS classes in languages with flexible PoS systems, and the distribution of deranked DCs that appear in the same function as these rigid PoS classes

Language		Relevant Rigid PoS	Deranked DCs in the same function(s)			
			Form	Function type	Type	Flex PoS ≥ Flex DC?
1	Warao	D Noun	*-kitane*	complement	2	=
2	Kayardild	Adj	*-Thirri-n*	relative	3	=
		Adj	*-n-garrba*	relative	2	=

Language		Relevant Rigid PoS	Deranked DCs in the same function(s)			
			Form	Function type	Type	Flex PoS ≥ Flex DC?
3	Gooniyandi	Madv	*-wadda*	adverbial manner	2	=
		Madv	*-mawoo*	adverbial manner	2	=
		Madv	*-bari*	adverbial manner	2	=
		Madv	*-ya/ -gowaaya*	adverbial manner	2	=
4	Hungarian	(D) MAdv	*-vá/-vé*	adverbial manner	2	=
		(D) MAdv	*-vén*	adverbial manner	2	=
5	Japanese	Noun	*no/mono etc*	complement	3	=
		MAdv	*-te/-de/-ite*	adverbial manner	2	=
		MAdv	*-i/-Ø*	adverbial manner	2	=
6	Lango	Noun	*-(kk)ɔ*	complement	3	=
7	Koasati	Noun	NMLZ (various forms)	complement	2	=
		Noun	*-:sáya*	complement	2	=
		Noun	*-:yólli*	complement	2	=
		Noun	*-:ka*	complement	2	=
		Noun	*-:kítta*	complement	2	=
		Noun	*-laho:li:sáya*	complement	2	=
		S/D MAdv	*-n*	adverbial manner	2	=
		S/D MAdv	*-k*	adverbial manner	2	=
		S/D MAdv	*-t*	adverbial manner	2	=

8.3.2.2 Distribution of deranked DCs in languages with rigid PoS systems

This section is concerned with deranked DCs in languages with rigid PoS only. It was predicted that in such languages any deranked DC that appears in a function for which a lexical class is available should be a rigid construction too. The relevant data are presented in Table 8.4. These results make clear that the prediction is confirmed, except for the two counterexamples that were already discussed in Chapter 7: In Burushaski and Hdi we find flexible deranked nominal clauses, while these languages both have rigid lexical

nouns, and Burushaski also has rigid lexical adjectives. These cases violate the [flex PoS ≥ flex deranked DC] constraint, since the degree of flexibility of the deranked DCs is higher (or their categorical distinctiveness lower) than that of the corresponding PoS classes.

Table 8.4: Rigid PoS classes in languages with rigid PoS only, and the distribution of deranked DCs that appear in the same function

Language		Relevant rigid PoS	Deranked DCs in the same function(s)			
			Form	Function	Type	Flex PoS ≥ Flex DC?
1	Itelmen	Noun	INF (various forms)	complement	2	=
2	Basque	Noun	*-t(z)e,*	complement	2	=
		Adj	*-tu/-du/-i/- Ø*	relative	2	=
3	Bambara	Adj	*-le/-ne*	relative	2	=
		Madv	*-tò*	adverbial manner	2	=
4	Georgian	Noun	*-a*	complement	3	=
		Adj	*m- (-a-)(-el/-al))*	relative	3	=
		Adj	*-ul/-il/m--ar/-al*	relative	3	=
		Adj	*sa- (-el/-al/r)*	relative	2	=
5	Abkhaz	Noun	*-ra*	complement	3	=
6	Polish	Noun	*-nie*	complement	2	=
		Noun	INF (various forms)	complement	2	=
		Adj	*-c*	relative	2	=
		Adj	*-any* etc.	relative	2	=
		Adj	(PST.PASS) PTC (various forms)	relative	2	=
		S/D Madv	PRS.PL-*c-*	adverbial manner	2	=
7	Burushaski	Noun	*-(á)as*	nominal	2	>
		Adj	*-im/-um/-am*	relative	2	=
		S/D Madv	*n*-STEM-*(a)n*	adverbial manner	2	=
8	Lavukaleve	Noun	*-e/-i*	complement	2	=

Language		Relevant rigid PoS	Deranked DCs in the same function(s)			
			Form	Function	Type	Flex PoS ≥ Flex DC?
9	Alamblak	Noun	*-nef*	complement	3	=
		Noun	*-(kfë)t*	complement	3	=
		Adj	*-ind*	relative	2	=
10	Dhaasanac	Noun	*-ɲ/-an*	complement	3	=
11	Berbice Dutch	Noun	*fu/fi/Ø*	complement	2	=
12	Nama	D MAdv	*-se/!'aa/tsii* (no INDIC)	adverbial manner	2	=
13	Hdi	Noun	*tá*	nominal	3	>
14	Tamil	Noun	*-atu*	complement	3	=
		Noun	*-(kk)a*	complement	2	=
15	Kisi	Noun	*Ø*	complement	2	=
16	Garo	Noun	*-a*	complement	3	=
		Noun	*-a-ni*	complement	2	=
		Noun	*-na*	complement	2	=
		Noun	*-kan/-kan-a*	complement	2	=
		S/D Madv	*-e/-e-min/-e-r*	adverbial manner	2	=
17	Krongo	Noun	*-(t)*	complement	3	=
18	Hixkaryana	Noun	*ni-/-thi-/-hito + ri*	complement	3	=
19	W. Greenlandic	Noun	*-niq*	complement	3	=

Recall that in Chapter 7 no correlations were found between specific rigid PoS and rigid deranked DCs, i.e. between nouns and deranked complement clauses (see Tables 7.22-7.24 in Chapter 7), between adjectives and deranked relative clauses (see Tables 7.27-7.29), and between manner adverbs and deranked adverbial manner clauses (see Table 7.32). This is because, instead of deranked DC's, languages may employ *balanced* DC constructions, the formal and functional properties of which are unrelated to PoS (cf. section 8.4 below). Nonetheless, as the data in Table 8.4 show, if a language does employ a deranked DC, then this construction displays the same functional specialization as the relevant rigid PoS class in that language.

8.3.3 Summary

The findings of this section can be summarized as follows:

(i) In languages with flexible PoS systems, there are no cases of deranked DCs that are more flexible than the relevant flexible PoS classes;
(ii) In languages with flexible PoS systems, deranked DCs occurring in a function that can be expressed by a rigid PoS class are rigid too;
(iii) In languages with rigid PoS systems, there are only two cases of flexible deranked DCs occurring in functions that are expressed by rigid PoS classes.

Thus, except for the two counterexamples mentioned under (iii), the functional patterns of all deranked DCs in the sample language are in accordance with the [Flex PoS ≥ Flex deranked DC] constraint. In the next section, I will consider the functional possibilities of balanced DCs.

8.4 Balanced constructions: functional transparency and other factors

8.4.1 Introduction

The results presented in Chapter 7 make clear that the functional patterns of balanced DCs, unlike those of deranked DCs, are not dependent on the degree of flexibility displayed by the PoS classes of the same language. This holds for global matches as well as for specific matches; and for languages with flexible PoS systems as well as for languages with rigid PoS systems. In Chapter 7 and in section 8.2 I have argued that this absence of a functional connection ties in with the absence of any formal similarity between lexical expressions and balanced DCs. In the present section, I attempt to further interpret the results for balanced DCs, taking into account the Principle of Functional Transparency as well as other functional factors.

8.4.2 Functional Transparency

From the point of view of functional transparency, rigid balanced DCs, both in languages with and languages without lexical flexibility, do not present any problem: they are functionally transparent by definition. Flexible balanced clauses, in contrast, are functionally ambiguous by definition. In the remainder of this sub-section I try to explain the distribution of flexible balanced DC

from the perspective of functional transparency; first in languages with flexible PoS systems, and then in languages with rigid PoS systems.

8.4.2.1 Flexible balanced DCs in languages with flexible PoS systems

The data presented in Chapter 7 show that a number of languages with flexible PoS systems display flexible balanced DCs (even though no dependency relation was established between these two construction types; cf. Tables 7.3, 7.11, 7.15, and 7.33 in Chapter 7). The relevant cases are listed in Table 8.5:

	Language	Form	Function	Type	Flexible PoS class in same functions
1	Tagalog	*Ø*	multi-functional	1	contentives
2	Samoan	*Ø*	nominal	1	contentives
3	Turkish	*ki*	nominal	1	non-verbs
4	Kayardild	*-ntha-*	nominal	1	non-verbs
5	Paiwan	*a (Ø)*	nominal	1	predicatives
6	Gooniyandi	*Ø*	multi-functional	1	nominals
7	Ket	*Ø*	nominal	1	modifiers

Table 8.5: Flexible balanced DCs in languages with flexible PoS systems

Interestingly, in many of these cases, the flexible balanced DC is not marked by means of a dedicated subordinating conjunction. Rather, it makes use of the same function-indicating marking, at the level of phrase-structure, as constituents with a different internal structure, such as simple lexemes, phrases, or deranked DCs (see for instance the Tagalog examples in (6) of section 8.3.2.1 above). This fits in with the idea that languages with (more or less pervasive) lexical flexibility use a kind of 'grid' of morpho-syntactically marked slots to compensate for the functional ambiguity of their lexical material (cf. Hengeveld et al. 2004, Lehmann 2008). Apparently, these functional slots may not only accommodate lexical and phrasal constituents, but also complete clausal structures, which do not structurally deviate from independent clauses.

We may again take Tagalog as an example: In this language a balanced DC is marked with the same function word that would be used for any other linguistic unit expressing the same function. In (11), for instance, the 'specifier' *ang* is used to mark a balanced object complement clause, while in (12) *ang* marks a simple lexical object.

Tagalog (Palmer 2003: 268)

(11) *Moo-ng una hindi ko ma-alam-an*
REM-LG first NEG 1SG:GEN IRR:NC-knowledge-LOC
ang [akin-g ga-gaw-in]
SPEC 1SG-LG RDP-do-IRR
'At first I didn't know what to do.'

(12) *I-in-abót ng manggagamot sa sundalo* ***ang itlóg***
CV-REAL-reach GEN doctor LOC soldier **SPEC** egg
'The physician handed the egg to the soldier.'

Similarly, example (13) shows a balanced clause in relative function that is marked by the linking element *na*. The same marker is used for a simple lexical attribute in (14):

Tagalog (Himmelmann 2005: 368)

(13) *Sa mga lalaki* ***na*** [*maN-ibig nung*
LOC PL man **LK** AV-love DIST.GEN:LK
kanyá-ng anák]
3SG.DAT-LK child
'(So he held a contest) between the men who courted his child.'

(14) *ulól* ***na*** *unggó*
foolish **LK** monkey
'foolish monkey'

Samoan also has the possibility to insert balanced DCs into functional slots without a dedicated subordinating conjunction. Example (15) shows a complement clause that is zero-marked for absolutive (the subject *Tigilau* is marked for ergative). This can be compared with (16), which shows that simple lexical arguments in the same functions are marked in the same way.

Samoan (Mosel & Hovdhaugen 1992: 589, 635)

(15) *Na iloa e Tigilau* [*úa sau Sina*]
PST know ERG Tigilau PFV comes Sina
'Tigilau knew that Sina had come.'

(16) *Sā fasi le maile e le teine*
PST hit ART dog ERG ART girl
'The girl hit the dog.'

Example (17) shows a balanced relative clause, which is marked by means of rigid word order: it obligatorily appears to the right of the head. As is shown in (18), the same order is used for lexical modifiers.

Samoan (Mosel & Hovdhaugen 1992: 635, 296)
(17) *Ua tu le alii lea* [*na ua e Popi*]
PFV stand.up ART man that PST bite ERG Popi
'That man who was bitten by Popi stood up.'

(18) *le ta'avale mumu*
ART car red
'the red car'

As a final example, consider balanced nominal clauses in Paiwan. They are marked with the particle *a*, as is shown in (19a-b), where the construction functions as a subject complement clause and as a relative clause, respectively. In (20) it can be seen that the same element is used with lexical constituents as a marker of the argument in focus (the agent in (20a)), and as an attributive marker in NPs (see (20b)):

Paiwan (Egli 1990: 230, 178)
(19) a. *na'nguaq **a*** [*ma-ngetjez sun*]
good FOC PASS-come you
'It is good that you have come.'

b. qala ***a*** [na tem-ker tua vaua]
stranger LK PFV drink-AG OBL wine
'he stranger who has drunk wine'

Paiwan (Egli 1990: 180, 181)
(20) a. *na qem-aung **a** alak*
PFV cry-AG FOC child
'The child has cried.'

b. *vavayan* ***a*** *burai*
woman **LK** beautiful
'beautiful woman'

There are two flexible balanced clauses in Table 8.5 that do not conform to the general picture of using the same phrase-structural coding for lexical and clausal constructions, but these both represent rather special cases. First, the balanced nominal clause construction in Kayardild displays so-called complete concord (see Dench 2006): All elements of the DC are separately marked with the oblique complementizer case *-ntha*. Example (21) shows this construction in the function of object complement:

Kayardild (Evans 1995: 516)

(21) *Ngada* *kamburri-ja* *niwan-ji* [*walbu-**ntha*** *dathin-**inja***
1SG.NOM say-ACT 3SG-MLOC raft-**C.OBL** that-**C.OBL**
*barji-nyarra-**nth***]
capsize-APPR-**C.OBL**
'I told him that the raft would capsize.'

Second, the balanced nominal clause construction in Turkish, marked by the general subordinating conjunction *ki*, is special to the extent that it is borrowed from Persian.

In sum, the majority of flexible balanced DCs in languages with flexible PoS systems conform to the Principle of Functional Transparency by making use of the same function-indicating morpho-syntactic markers that are also employed for the disambiguation of non-clausal constituents.

8.4.2.2 Flexible balanced DCs in languages with rigid PoS systems

The data presented in Chapter 7 make clear that flexible balanced clauses also occur quite often in languages without any lexical flexibility. The relevant cases are listed in Table 8.6 below (cf. Table *7.33* in Chapter 7)[122].

[122] In fact, Thai and Basque both have small classes of flexible modifiers; this marginal amount of lexical flexibility is ignored here.

	Language	Form	Function	Type	Rigid PoS class(es) in same functions
1	Thai	*thîi*	nominal	1	nouns, adj
2	Basque	*-en*	nominal	1	nouns, adj
3	Georgian	*rom*	nominal	1	nouns, adj
4	Burushaski	*ke/ki*	multi-functional	1	nouns, adj, S/D Madv
6	Pipil	*ka(h)*	nominal	1	nouns, adj
7	Dhaasanac	DET (+ DEM)	nominal	1	nouns, adj
8	Mandarin	*Ø/de*	multi-functional/ modifier	1	nouns, S. Adj, S. Madv
9	Nung	*Ø*	multi-functional	1	nouns, S. Adj, X
8	Greenlandic	PTC mood	nominal	1	nouns, X

Table 8.6: Flexible balanced DCs in languages with rigid PoS systems

These DCs are again inherently functionally ambiguous. Therefore, on the basis of the Principle of Functional Transparency, it is expected that they combine with additional morpho-syntactic means that distinguish between their multiple functions. This expectation is confirmed. Some of the flexible balanced DCs in Table 8.6 employ disambiguating strategies that pertain exclusively to the domain of subordination. Other DCs make use of more general strategies that are also used with other types of constructions (cf. Hengeveld & Van Lier 2008).

As a first example of the former, subordination-specific type of strategy, consider Thai. This language has a balanced nominal clause construction marked with *thîi*, as illustrated in (22a-b) below. When functioning as a relative clause, as in (22b), this construction can be combined with a resumptive pronoun. Even though this grammatical device does not count as structural coding in the sense of a relativizer, it does mark the function of the relativized item in the DC, and as such helps to show that we are dealing with the modifying use of the *thîi*-constuction, rather than with its referential use.

Thai (Iwasaki & Ingkaphirom 2005: 245, 255)

(22) a. *tè-wâa dii ná* [***thîi*** *mây mii khay pen alay*]
but good PRT **COMP** NEG have who COP what
'But it was good that no one was hurt.'

b. *Khon* [***thîi*** ***kháw*** *pay yùu kan* *taam roŋrian*]
people **REL** **RSP3** go stay RECIP school
'people who want to stay at school'

A second example is the Georgian DC construction marked with *rom*. This is also a nominal clause construction: it can be used as a complement clause and as a relative clause, as is illustrated in (23a-b) below. Example (23a) shows that the *rom*-construction, when functioning as a complement clause, can be combined with a pronominal element in the main clause. This is even obligatory when the complement clause is dependent on a postposition or functions obliquely (i.e. follows a verb that takes instrumental case). Moreover, the examples in (23) show a contrast in terms of the position of the conjunction: Very often (although not obligatorily) complement clauses start with *rom*, while in relative clauses rom avoids the first position.

Georgian (Hewitt 1995: 613, 607)

(23) a. ***(is)*** *uk've*
(**that**(**NOM**)) already
še-v-a-mčn-i-e ***rom*** *es*
PREV-1SG-NV-notice-THS-AOR.IND **COMP** this
xalx-i *sando* *ar* *ar-i-s*
people-NOM trustworthy not be-PRS-it
'I have already noticed that this people is not trustworthy.'

b. [*gušin* ***rom*** *m-a-čuk-e,*]
yesterday **REL** me-LV-present-AOR.IND
is *beč'ed-I* *sad* *ar-i-s?*
that(NOM) ring-NOM where be-PRS-it
'Where is that ring which you presented to me yesterday?'

There are also languages that use more generally applicable strategies to indicate the function of flexible balanced DCs. An obvious example of such a strategy would be fixed word order[123]. Consider for instance Pipil: the complementizer *ka(h)* in this language is sometimes also used to

[123] See Hengeveld et al. (2004), who show that disambiguating morpho-syntactic measures, such as rigid word order, are not confined to languages with flexible PoS systems. While such measures are always present in the case of lexical flexibility, they may be present in languages with rigid PoS systems. cf. section 8.2 above.

introduce relative clauses (Campbell 1985: 128). The two functions of the *ka(h)*-construction are illustrated in (24a-b). These examples show that complement clauses are post-verbal, while relative clauses must follow their nominal head. Since Pipil has rigid classes of verbs and nouns, these ordering restrictions resolve the functional ambiguity of this DC construction.

Pipil (Campbell 1985: 126, 129)

(24) a. *Tesu ki-mati* [***ka*** *ne i-siwa:-w*
no it-know **COMP** the his-wife-POSS
se: bru:hah]
a witch
'He didn't know that his wife is a witch.'

b. *Ni-k-miktih ne mistun* [***ka*** *ki-kwah ne tu:tut*]
I-it-killed the cat **REL** it-ate the bird
'I killed the cat that ate the bird.'

The *-en* construction in Basque can also be used as a complement clause and as a relative clause. This is illustrated in (25a-b). The first example shows that this DC combines with a determiner when used as a complement clause. In contrast, when the construction is used as a relative clause, the determiner appears on the modified head:

Basque (Hualde & Ortiz de Urbina 2003: 646, 764)

(25) a. *Entzun dut* [*Amaiaren neba hil d-**en***]-***a***
hear AUX Amaia.GEN brother die **AUX-COMP**-ART
'I heard that Amaia's brother died.'

b. [*Pellok ekarri du-**en***] *diru-**a*** *galdu dut*
Peter.ERG bring AUX-**REL** money-**DET** lose AUX
'I lost the money Peter brought.'

Finally, consider the somewhat exceptional case of the West Greenlandic participial mood construction. This is again a construction that can be used as a complement clause and as a relative clause, but, as already discussed in Chapter 6 (see example (57a-b)), it behaves quite differently in each of these two functions: Intransitive participial forms are fully balanced when functioning as complements, whereas in relative clause function they are not

marked for person other than third. Also, it is not possible to create relative clauses with corresponding transitive participial mood forms.

In sum, flexible balanced DCs in languages with rigid PoS systems conform to the Principle of Functional Transparency; their multiple functions can be disambiguated by means of several strategies. Some of these strategies, such as the use of resumptive pronouns, are specific to subordinate clauses, while others, such as word order constraints, are used more generally in the language system as function-indicating devices.

8.4.3 Other factors: diachrony and cognition

Tables 8.5 and 8.6 above show that many flexible balanced DCs display a particular pattern of flexibility: They are nominal clauses constructions, i.e. they can be used as complement clauses and as relative clauses. There appear to be two functional factors that motivate this pattern.

The first factor is a diachronic one. According to Cristofaro (1998), relative clause markers may develop complementizer use along the following pathway[124]: The original construction involves a predicate meaning 'see', 'think', 'know' etcetera (i.e. a potentially complement-taking predicate) with a (pro-)nominal object followed by a non-restrictive relative clause. Cristofaro illustrates this type of construction with an example from Biblical Hebrew (taken from Givón 1991):

Biblical Hebrew (Givón 1991: 289)

(26) *ʔal* *tirʔu-ni* [***she***-*ʔani* *shaxoret*]
NEG see:IPFV:3SG:MASC-me REL-I be.dark:SG:F
'Don't see me that I am dark-skinned.'

As Cristofaro (1998: 65) explains, in such constructions "*the relative clause* […] *has high communicative value: it conveys a specification about the main clause object, and this specification represents the communicative focus of the sentence*". As a result of this pragmatic saliency, the relative clause is reanalyzed as the object of the matrix clause, so that the relative pronoun becomes a complementizer, and the (pro-)nominal head is dropped. Example (27) shows that the original relative marker *she* in Biblical Hebrew is used as a complementizer:

[124] The diachronic scenario to be described is probably most relevant for balanced DCs that are marked by means of subordinating conjunctions, as opposed to zero-marked constructions.

Biblical Hebrew (Givón 1991: 297)

(27) *yada"ti* [***she**-gam* *zeh* *hu* *ra"yon* *ruah*]
know:PFV:1SG **COMP**-also this it notion of:wind
'I knew that this too was total nonsense.'

Second, Croft (2001: 346-349) suggests that there is also a cognitive connection between complementation and relativization, which seems to be in line with Cristofaro's point about pragmatic saliency. In particular, Croft makes use of Langacker's (1987) distinction between *dependent* and *autonomous concepts*: A dependent concept elaborates on (i.e. makes more specific) a certain aspect of an autonomous concept. According to Croft, complement clauses and relative clauses are alike in that they are both dependent concepts that elaborate on an aspect of the main clause event. However, complement clauses and relative clauses don't do this in exactly the same way. Whereas complement clauses elaborate on the main clause event by filling an argument position, relative clauses rather represent an elaboration of a participant of the main clause event. Nonetheless, Croft argues that the sharing of structural properties between complement clauses and relative clauses in the same language can be explained in terms of their shared cognitive function of main clause elaboration.

In short, the fact that many flexible balanced DCs involve nominal clause constructions may be motivated in terms of diachronic and cognitive factors. These motivations make reference to a similarity between the functions of complementation and relativization constructions: both specify a discursively important aspect of the matrix clause.

8.4.4 Summary

In this section I have tried to show that the distributional behaviour of balanced DCs, even though it it is not related to the flexible or rigid functional properties of PoS classes in particular languages, does fit into a larger explanatory picture based on the Principle of Functional Transparency.

8.5 Summary

In this chapter I reconsidered the results obtained in Chapter 7 in light of two closely related functional principles proposed in recent typologically-based literature: the Principle of Increasing Categoriality (Haig 2006, Lehmann 2008), and the Principle of Functional Transparency (Frajzyngier & Shay 2003, Hengeveld et al. 2004, Sinnemäki 2008). In addition, a categorical

distinction was implemented between deranked and balanced dependent clauses, based on Dik's (1997) Principle of Formal Adjustment. In particular, I hypothesized that deranked DCs, which are formally modelled on PoS, are also functionally constrained by the latter. Balanced DCs, in contrast, have no formal properties of PoS, and are not expected to display any functional similarities with lexical constructions either.

The hypothesized functional connection between PoS and deranked DCs was operationalized in accordance with the Principle of Increasing Categoriality, which states that the degree of categorial specificity of linguistic constructions increases with their structural complexity. In terms of the present study, this means that (secondary) deranked DCs are predicted to either display the same amount of flexibility as (primary) PoS classes, or less flexibility, but not more. This prediction was confirmed for virtually all deranked DC constructions attested in the sample.

Moreover, it was shown that flexible deranked DCs conform to the more general Principle of Functional Transparency, which claims that languages avoid ambiguity in the formal expression of a particular functional domain. Interestingly, most flexible deranked DCs in languages with flexible PoS systems do this by means of the same morpho-syntactic devices that are used in these languages to disambiguate the functions of lexical and phrasal constructions.

Regarding balanced DCs, it was shown that, even though their functional possibilities cannot be correlated with those of PoS classes in the same language, their distributional properties can be explained in terms of the Principle of Functional Transparency. Whereas rigid balanced DCs are by definition functionally transparent, flexible balanced DCs, like other flexible constructions, require additional morpho-syntactic means to compensate for their inherent functional ambiguity. I have illustrated several types of strategies that serve this function for balanced DC constructions. Some such strategies are confined to subordination constructions, while others are more general applicable. It was shown that balanced flexible clauses in languages with flexible PoS systems, like deranked ones, employ the same function-indicating devices that are used to compensate for functional ambiguity at the lexical/phrasal level.

In sum, the functional principles of Increasing Categoriality, Functional Transparency, and Formal Adjustment together provide a complete account of the results presented in Chapter 7. Moreover, the discussion in the present chapter confirms the general picture emerging from Chapter 7, namely that functional flexibility at the lexical level has pervasive repercussions at higher grammatical levels.