

## **Symmetric and asymmetric encoding of functional domains, with remarks on typological markedness**

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### **1. Introduction**

In Miestamo (2003, revised as Miestamo 2005), I proposed a typological classification of the structures that languages use for encoding *standard negation*, i.e., the negation of declarative verbal main clauses. The classification was based on structural similarities and differences between negatives and affirmatives, the main division being between symmetric and asymmetric structures. In this chapter, I will elaborate on the principles of classification and explanation proposed in my earlier work, show how they can be applied to other functional domains beyond standard negation and discuss the relationship between (a)symmetry and typological markedness.<sup>1</sup>

The term functional domain dates back to Givón (1981), and can be characterized as any domain of related (semantic or pragmatic) functions that (one or more) language(s) encode with the formal means they possess; examples of functional domains include tense, negation and referentiality. Functional-domain typology examines the ways in which languages morphosyntactically encode functional domains, and typically proceeds as follows (see also Givón 1981; Stassen 1985: 1–23; Miestamo 2005: 26–50): The object of study – a functional domain or a specific function within a domain – is defined in a cross-linguistically applicable way, a language sample suitable for tackling the research questions is selected, and on the basis of the definition of the object, the relevant data found in the sample languages are then entered into the database that is to serve as the empirical basis of the study. The cross-linguistic variation found in the morphosyntactic encoding of the functional domain is then described, usually in the form of a typological classification of the encoding strategies found. Other cross-linguistic generalizations such as the frequencies and geographical distributions of the different types of encoding are also observed, and it is examined whether the types correlate cross-linguistically with other grammatical features. Finally, explanations are proposed for the cross-linguistic findings; these are usually functional in nature (in the

broad sense that they refer to functional aspects of language outside linguistic structure itself, e.g., meaning, use, or processing).

Haspelmath (2006) discusses the many ways in which the term markedness has been used in linguistics, and warns against over-using it especially in cases where more concrete terms would be more appropriate. The foundations of the typological theory of markedness were laid in Greenberg (1966). In this chapter, markedness is intended in the sense of typological markedness, using the term and definition of Croft (2003: 87–101, 110–117): it is defined using the structural, behavioural and frequency criteria. According to the structural criterion, for reasons of clarity henceforth referred to as the *overt coding criterion*, the marked category is expressed by at least as many morphemes as the unmarked one. There are two *behavioural potential criteria*: the *paradigmatic potential* of the unmarked category is at least as high as that of the marked one, i.e., at least as many grammatical distinctions can be made in connection with the unmarked category as with the marked one (Croft uses the term *inflectional potential*, but I prefer the more general term *paradigmatic* here); the *distributional potential* of the unmarked category is at least as high as that of the marked one, i.e., the unmarked category may itself be embedded in at least as many contexts as the marked one. According to the *frequency criterion*, the unmarked category occurs at least as frequently as the marked one. The concept of typological markedness is highly relevant here as it can help us in determining which functional domains and which categories within them are most suitable for analysis in terms of (a)symmetry. Furthermore, as will be seen further below, the symmetry-asymmetry approach has repercussions on discussions of markedness itself.

I will now clarify some central concepts and terms. Croft (2003) uses the term *category* for a higher level concept: number is a category and singular and plural are values of the category; accordingly, affirmation and negation would be values of the category polarity. I do not make this distinction here, but use the term *category* for the lower level as well. It should also be borne in mind that (the limits of) categories differ from language to language, and strictly speaking, categories are language-specific; cross-linguistic comparability is based on function (semantics/pragmatics). Acknowledging that structure can be found in meaning as well, I will use “structure” and “structural” to refer to formal linguistic structure. What is meant by asymmetry in this paper will become clear in Section 2, but it is worth noting at the outset that I am not talking about asymmetries in the syntagmatic sense (between different parts of an utterance) as do, in differ-

ent ways, e.g., Haiman (1985: 73), Hawkins (2004: 223–254) and Kayne (1994).

This chapter is organized as follows: Section 2 discusses the principles of classification – symmetric and asymmetric encoding – taking examples from standard negation; Section 3 introduces the principles of explanation based on language-internal and language-external analogy; Section 4 shows how the principles can be applied to the domain of polar interrogation; Section 5 discusses the relationship between asymmetry and typological markedness, and Section 6 consists of some concluding remarks.

## 2. Classification – symmetric and asymmetric structures

In this section I will define the principles of a generally applicable classification of encoding strategies with a main division between symmetric and asymmetric structures. I will start by showing how I used these principles in classifying standard negation structures in my earlier work (Miestamo 2000, 2003, 2005). The standard negation structures found in the world's languages can be divided into symmetric and asymmetric according to whether or not the structure of the negative differs from that of the corresponding affirmative. This division is made from the point of view of constructions on the one hand and paradigms on the other. Clauses containing symmetric negative constructions differ from the corresponding affirmatives only by the presence of (a) negative marker(s) (e.g., in Taba 1), but in asymmetric constructions further differences – asymmetries – are found as well (e.g., in Finnish 2, see below for analysis).<sup>2</sup>

- (1) Taba (Austronesian, South Halmahera – West New Guinea; Bowden 1997: 388)

a. <i>n-han ak-la</i>	b. <i>n-han ak-la te</i>
3SG-go ALL-sea	3SG-go ALL-sea NEG
‘She’s going seawards.’	‘She’s not going seawards.’

- (2) Finnish (Uralic, Finnic)

a. <i>laula-n</i>	b. <i>e-n laula</i>
sing-1SG	NEG-1SG sing.CNG
‘I sing.’	‘I do not sing.’

In symmetric paradigms, the members of the paradigms used in affirmatives and negatives show a one-to-one correspondence (e.g., in Romanian

3), whereas in asymmetric paradigms the correspondences are not one-to-one (e.g., in Maung 4 and Burmese 5). Paradigmatic asymmetry usually consists of neutralization of grammatical distinctions.<sup>3</sup> (In the Romanian and Maung examples the constructions are symmetric, whereas in Burmese the construction is asymmetric; see below for more detailed analyses).

## (3) Romanian (Indo-European, Romance)

a.	(a) <i>cânta</i> ‘to sing’ PRES		b.	(a) <i>cânta</i> ‘to sing’ IMPF	
	AFF	NEG		AFF	NEG
	1SG <i>cânt</i>	<b>nu</b> <i>cânt</i>		<i>cântam</i>	<b>nu</b> <i>cântam</i>
	2SG <i>cânți</i>	<b>nu</b> <i>cânți</i>		<i>cântai</i>	<b>nu</b> <i>cântai</i>
	3SG <i>cântă</i>	<b>nu</b> <i>cântă</i>		<i>cânta</i>	<b>nu</b> <i>cânta</i>
	1PL <i>cântăm</i>	<b>nu</b> <i>cântăm</i>		<i>cântam</i>	<b>nu</b> <i>cântam</i>
	2PL <i>cântați</i>	<b>nu</b> <i>cântați</i>		<i>cântați</i>	<b>nu</b> <i>cântați</i>
	3PL <i>cântă</i>	<b>nu</b> <i>cântă</i>		<i>cântau</i>	<b>nu</b> <i>cântau</i>

## (4) Maung (Australian, Iwaidjan; Capell and Hinch 1970: 67)

a.	<i>ŋi-udba</i>	b.	<i>ni-udba-ji</i>
	1SG>3-put		1SG>3-put-IRR.NPST
	‘I put.’		‘I can put.’
c.	<b>marig</b> <i>ni-udba-ji</i>		
	NEG 1SG>3-put-IRR.NPST		
	‘I do not [/cannot] put.’		

## (5) Burmese (Sino-Tibetan, Burmese-Lolo; Cornyn 1944: 12–13)

a.	<i>θwâ-dé</i>	b.	<i>θwâ-mé</i>	c.	<i>θwâ-bí</i>
	go-ACT		go-POT		go-PERF
	‘goes, went’		‘will go’		‘has gone’
d.	<b>ma-θwâ-bû</b>				
	NEG-go-NEG				
	‘does/did/will not go, has not gone’				

Furthermore, asymmetric negation is divided into subtypes according to the nature of the asymmetry (which can be constructional or paradigmatic in the different subtypes; these are cross-cutting parameters). In subtype A/Fin negatives, the finiteness of the lexical verb is reduced or lost, and a new finite element (most commonly an auxiliary verb) usually appears in the negative; in the Finnish negative construction (2), the negative verb *e-* appears as the finite element of the clause, carrying person inflection and the lexical verb is in the non-finite connegative form. In subtype

A/NonReal, negatives are obligatorily marked for a category that refers to non-realized states of affairs; in Maung negation is marked with *marig* (4c) and the construction is symmetric as compared with the affirmative irrealis (4b) (there is no constructional asymmetry whatsoever), but there is paradigmatic asymmetry since negatives obligatorily use the irrealis form of the verb and the distinction between realis and irrealis (4a,b) is lost in the negative (4c). There is a marginal subtype A/Emph defined by the presence of marking that denotes emphasis in non-negatives (not exemplified here to save space). In subtype A/Cat negatives, the marking of grammatical categories is different from their marking in affirmatives in other ways, the most commonly affected categories being tense-aspect-mood (TAM) and person-number-gender (PNG); in Burmese (5) the affirmative paradigm distinguishes between actual, potential and perfect, the negative construction is asymmetric since the postverbal part of the discontinuous negative marker replaces the TAM markers, and there is also paradigmatic asymmetry as these TAM distinctions are then neutralized.

Let us now see how the principles of classification can be applied to functional domains beyond standard negation. In principle, any structure encoding a category C within a functional domain can be classified as symmetric or asymmetric according to whether it differs – in addition to the (simple) marking of category C – from the structure expressing a category D which is related in a relevant sense. Some categories are of course more easily analysable in these terms than others. In the case of negation vs. affirmation, we have a clear semantic relation between two opposite categories. The study of negation is also a natural place to start looking for symmetry and asymmetry in linguistic structure, because there exists a long tradition in philosophy and logic for treating affirmation and negation as either symmetric or asymmetric (see Horn 1989 for a thorough discussion). What makes it typologically interesting is that very little asymmetry is found in well-known European languages which have been so influential in the development of virtually all modern linguistic theories. This approach is thus also theoretically interesting in highlighting the vast amount of structural asymmetry between affirmation and negation to a large extent still unknown to many linguists. In general, if we want to describe the structures expressing a given function in terms of symmetry and asymmetry, we need a reference point with which to compare the structures. A plausible reference point is provided by the category identifiable as the unmarked counterpart of the category being studied. Thus, a functional domain where a clear markedness pattern between two categories can be identified lends itself especially well to analysis in terms of symmetry and

asymmetry. Negatives are clearly marked vis-à-vis affirmatives. An obvious candidate beyond (standard) negation is polar interrogation; declaratives can be identified as the unmarked counterpart of interrogatives, and we can then examine how the structure of interrogatives differs from the structure of declaratives. A clear markedness pattern is, however, not a prerequisite for such an investigation and speaking about (a)symmetry does not presuppose a theory of markedness. I will come back to the question of the applicability of the principles to different domains in Section 6.

The principles of classification can be defined in more general terms as follows. The structures expressing a given category C can be divided into *symmetric* and *asymmetric* according to whether and how they differ from the structures expressing the related category D. Note that (morpho-)phonological differences between structures coding these categories are not asymmetry in the relevant sense, since they depend on more general principles operational in the language and do not reveal anything specific about the encoding of the functional domain in question. The symmetry-asymmetry distinction may be observed from the point of view of *constructions* on the one hand and *paradigms* on the other. Clauses (or phrases, more generally structures) expressing category C with a *symmetric construction* show no further differences in comparison to clauses expressing the corresponding category D than the presence of the marker(s) of category C.<sup>4</sup> In *asymmetric constructions* the structure of the clause changes in other ways too; thus, there are further structural differences between clauses expressing category C with an asymmetric construction and clauses expressing the corresponding category D. In *symmetric paradigms*, the members of the paradigms used in connection with categories C and D show a one-to-one correspondence. In *asymmetric paradigms*, the correspondences between the members of the paradigms used in connection with categories C and D are not one-to-one. Constructional and paradigmatic asymmetry are defined independently of each other – paradigms can be symmetric with asymmetric constructions (in Finnish the construction is asymmetric [2], but every affirmative form has its own negative counterpart just like in Romanian [3]), or asymmetric with symmetric constructions (in Maung [4]), and constructional and paradigmatic asymmetry may be connected in one and the same structure (Burmese [5]).

Cross-cutting the constructional-paradigmatic distinction, subtypes of asymmetric structures may be established. The subtypes are defined in terms of the nature of the asymmetry found and will differ depending on the functional domain under study. The subtypes established for asymmetric standard negation were briefly discussed above. In defining the sub-

types, attention is primarily paid to functional effects of the structural differences found between the categories under study. Purely formal differences with no functional connections are taken into account when they are specific to the marking of the category in question, and not automatic ([morpho]phonological) processes determined by more general principles operational in the language, but whenever functional connections can be found, they will be considered first in deciding what the subtypes are. They lend themselves better to functional explanation in terms of the analogy-based model to be introduced in Section 3.

Typological classifications may be arrived at either deductively or inductively. In the deductive case, the (logically possible) types are given beforehand and the cross-linguistic investigation tells us which types are found in the world's languages; word order typology is a prime example of deductive typologizing. Inductive approaches study cross-linguistic variation and decide on the theoretically relevant types only when the cross-linguistic variation has been charted, as in Stassen's (1985) typology of comparatives. Classification in terms of (a)symmetry combines these two approaches. The symmetry vs. asymmetry and constructional vs. paradigmatic parameters are given beforehand, but the subtypes of asymmetric encoding can be established for each domain only on the basis of the empirical cross-linguistic work done.

Before moving on to issues of explanation, two remarks are in order. Firstly, although the cases of paradigmatic asymmetry discussed so far – and indeed most cases of paradigmatic asymmetry found in standard negation – involve *neutralization* of grammatical distinctions, there are also other types of paradigmatic asymmetry (Miestamo 2005: 54–55, 125–127). *Paradigmatic displacement* refers to cases where the distinction between categories X and Y is not lost with category C, but still the form used for X cannot be used in connection with C and the form of Y is used instead. In Tunica, for example, affirmatives make a distinction between habitual and semelfactive, but only the semelfactive form may occur in negatives; the distinction is, however, maintained since different negative suffixes are used with the semelfactive base for these two aspects (in both cases the construction is symmetric). *Different-system* paradigmatic asymmetry is found, e.g., in Swahili where, as argued by Contini-Morava (1989), completely different TAM systems are used in affirmatives and negatives.

Secondly, we may observe asymmetries connected to different categories expressed in one and the same utterance, e.g., in a negative imperative in Finnish. It is very common in the world's languages that negation is marked differently in imperatives and declaratives (see van der Auwera

and Lejeune 2005). Finnish uses a negative auxiliary construction in both declarative (see example 2 above) and imperative negation, and thus has asymmetry between negatives and their positive counterparts in both declaratives and imperatives. The latter, however, use a different negative auxiliary (*äl-*), so negation itself is marked differently in declaratives and imperatives. Looking at this from the point of view of declarative vs. imperative, we may note that it is in fact asymmetry between declaratives and imperatives; that negation is marked differently is a structural difference between declaratives and imperatives in addition to the simple marking of the declarative-imperative distinction.

### 3. Explanation – language-internal and language-external analogy

Linguistic structures may be classified in many different ways, and not all parameters of classification are theoretically equally relevant. The theoretical interest in describing structures in terms of the symmetry-asymmetry distinction is that the types thus established can then be functionally explained by language-internal and language-external analogy.<sup>5</sup> In this section, I will first illustrate the model of explanation by showing how it works for the typology of standard negation, and then discuss the principles of explanation in more general terms.

Before going into the model itself, a brief look at the functional (semantic and pragmatic) asymmetry between affirmation and negation is in order. There are various ways in which affirmation and negation differ on the functional level. The following aspects of this asymmetry are of interest here (Miestamo 2005: 195–200; see also Givón 1978, 2001: 369–398):

- Stativity vs. dynamicity: affirmatives may report stative and dynamic states of affairs, but negatives prototypically report stative ones; a clause that negates an event refers to no change in the universe, i.e., to a stative state of affairs.<sup>6</sup>
- Reality-status: semantically affirmatives belong to the realm of the realized whereas negatives belong to the non-realized.
- Discourse context: negatives are prototypically used in contexts where the corresponding affirmative is somehow present or supposed, i.e., as denials, whereas the typical contexts of affirmatives are not restricted in this way.

In Miestamo (2000, 2003, 2005), I proposed to explain the different types of standard negation as follows. Symmetric negatives copy the lin-



guistic structure of the affirmative and are thus language-internally analogous to their affirmative counterparts. Asymmetric negatives copy aspects of the functional-level asymmetry between affirmation and negation and are thus language-externally analogous to the functional asymmetry. In the different subtypes of asymmetric negation we see different aspects of the functional asymmetry conventionalized in grammar: the stativity of negation motivates subtype A/Fin, the semantic connection between negation and other conceptualizations of the non-realized is behind subtype A/NonReal, and the prototypical discourse context of negatives motivates, in different ways, both subtype A/Emph and those subtype A/Cat structures where grammatical distinctions are neutralized. These explanations are discussed in detail in Miestamo (2005: 195–235).

In general terms, the principles of explanation can be formulated as follows: The symmetric type expressing a given category C copies the linguistic structure of the corresponding category D and is thus based on *language-internal analogy* between the linguistic structures encoding these categories. It is functionally motivated by pressure for system cohesion, which, in turn, is ultimately motivated by economy of storage and processing.<sup>7</sup> The asymmetric type expressing category C reflects, by *language-external analogy*, functional (i.e., strictly speaking language-external) asymmetry between the two categories. The functional asymmetry between the categories will naturally be different in different cases – negation has a set of typical functional properties and these differ from the functional properties of affirmation; similarly, e.g., interrogation has a set of typical functional properties and these differ from the functional properties of declaration. The functional properties have to be studied in each case to see if there are functional asymmetries that could be proposed as functional motivations for the structural asymmetry found. Different aspects of the functional asymmetry may be found to explain different subtypes of asymmetric structures. This kind of language-external analogy from function to form is usually referred to as iconicity, the functional properties of the categories being reflected in the linguistic structures that express the categories; according to Itkonen (1994), iconicity is a special case of the highly general cognitive process of analogy.<sup>8</sup> The motivations are given here as general principles for explaining the existence of the cross-linguistically recurring types. The two different types of analogy and the different aspects of functional asymmetry mediated by language-external analogy are competing motivations and different structures in different languages are due to the different weights that languages give to these dif-

ferent factors; I will not go into why a given structure in a given language has been shaped by one factor instead of another.

#### 4. Application to another domain – (a)symmetric polar interrogatives

This section will discuss the application of the principles of classification and explanation to another domain, viz. polar interrogation.<sup>9</sup> The discussion is based on a preliminary investigation of the domain in an areally and genealogically stratified pilot sample of 24 languages (see Miestamo 2004). Being the unmarked counterpart of polar interrogatives, declaratives provide the relevant reference point with which to compare interrogative structures. Therefore, I examine structural differences between interrogatives and declaratives. I focus on neutral polar interrogation in verbal main clauses, e.g., English *Is the dog barking?* (vs. *The dog is barking*). Although broad typological surveys of polar interrogatives exist (Ulan 1978; Dryer 2005), none of them have focused on how the structure of interrogatives differs from declaratives. Schmid (1980) examined co-occurrence restrictions in interrogatives, but her sample was rather restricted.

If we apply the principles of classification formulated in Section 3 to polar interrogatives, substituting interrogative for category C and declarative for the related category D, we can indeed find symmetric and asymmetric interrogative constructions and paradigms in the world's languages. A symmetric construction is found in Malayalam (6), the interrogative marker *-oo* being the only structural difference from the declarative. The paradigm is symmetric in Finnish (7), where every declarative has its own unique interrogative counterpart and no grammatical distinctions are lost.

- (6) Malayalam (Dravidian, Southern Dravidian; Asher and Kumari 1997: 8)

a. <i>ava[ varum</i> she come.FUT 'She will come.'	b. <i>ava[ varum-oo</i> she come.FUT-Q 'Will she come?'
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- (7) Finnish (Uralic, Finnic)

a. <i>laulaa</i> 'to sing', PRESENT	
DECLARATIVE	INTERROGATIVE
1SG <i>(minä) laulan</i>	<i>laulanko (minä)</i>
2SG <i>(sinä) laulat</i>	<i>laulatko (sinä)</i>
3SG <i>hän laulaa</i>	<i>laulaako hän</i>

1PL	( <i>me</i> ) <i>laulamme</i>	<i>laulammeko</i> ( <i>me</i> )
2PL	( <i>te</i> ) <i>laulatte</i>	<i>laulatteko</i> ( <i>te</i> )
3PL	<i>he laulavat</i>	<i>laulavatko he</i>

As to the construction in Finnish (7), the presence of the interrogative marker *-ko* is, in many cases, the only difference between declaratives and interrogatives, but the inversion of word order in cases where an overt (pro)nominal subject is present in the clause makes the construction asymmetric in these cases (in [Standard] Finnish subject pronouns are optional in non-third persons).

In Awa Pit (8) we find an asymmetric construction where the interrogative marker is the verbal element *ki* taking person marking and the lexical verb appears in the infinitive.

(8) Awa Pit (Barbacoan; Curnow 1997: 190, 324)

- a. (*nu=na*) *pala* *ku-mtu-y*  
 (2SG=TOP) plantain eat-IMPV-NLCT  
 ‘You are eating plantains.’
- b. *tlawa a-n ki-s?*  
 tomorrow come-IMPV Q-LCT  
 ‘Are you coming tomorrow?’

Curnow (1997: 326–328) does not treat *ki* as a verb, because it has fewer verbal characteristics than true auxiliary verbs in Awa Pit. Still, it does have some, and since it forces the lexical verb to appear in a non-finite form, it can be analysed as a finite element. In the Awa Pit examples we can also find differences in person marking, but there is not enough space here to go into the system of marking locutor and non-locutor in Awa Pit.

Awa Pit has another interrogative construction (9) with the past interrogative suffix *-ma* occurring in the same slot with many TAM markers and being thus mutually exclusive with them; there is paradigmatic asymmetry as distinctions made by these TAM markers in the declarative are lost in the interrogative. In Lavukaleve, the declarative distinguishes between focus and non-focus constructions (10a,b), but polar interrogatives are obligatorily focus constructions since the interrogative marker *mi* is itself a focus marker (10c); the distinction between focus and non-focus is thus lost in interrogatives and the paradigm is asymmetric. (Note that the constructions are asymmetric in both cases – the presence of interrogative markers is not the only structural difference between interrogatives and the

corresponding declaratives: in Lavukaleve a different focus marker is used and in Awa Pit the interrogative marker replaces the TAM markers.)

## (9) Awa Pit (Barbacoan; Curnow 1997: 199, 221, 323)

- a. *nu = na      juan = ta      pyan-t-zi*  
 2SG=TOP    Juan=ACC    hit-PST-NLCT  
 ‘You hit Juan.’
- b. *demetrio    a-ka = na              kal    ki-mtu-ata-w*  
 Demetrio    come-when=TOP    work    work-IMPFPST-LCT  
 ‘When Demetrio came, I was working.’
- c. *anshik = na      a-ma-s*  
 yesterday=TOP    come-Q.PST-LCT  
 ‘Did you come yesterday?’

## (10) Lavukaleve (Solomons East Papuan; Terrill 2003: 38, 316, 452)

- a. *legis      e-kae-e                      o-mi*  
 kite(N)    3SG.N.OBJ-put.up-NMLZ    3SG.POSS-special.thing(N)  
*tuna-Ø              fi*  
 be.really-SG.N    3SG.N.FOC  
 ‘That’s the special thing for kite-flying.’
- b. *o-na              o-re-a              tuna-a              la*  
 3SG.F.OBJ-INCL 3SG.SUBJ-say-SG.F    be.really-SG.F    SG.F.ART  
 ‘(He took the coconut) To the one she had really said.’
- c. *“tuna-Ø              mi?”              hide    a-e-re-ge*  
 be.really-SG.N    3SG.N.Q.FOC    thus    3SG.M.OBJ.SBRD-say-ANT  
 ‘“Is it really true?” he said.’

In many languages, as is well known, polar interrogation is marked simply by a final rise in intonation; this is the case in Ma’di (11).

## (11) Ma’di (Nilo-Saharan, Moru-Ma’di; Blackings and Fabb 2003: 632)

- a. *ʃí      `mū      rá*  
 2SG    NPST.go    AFF  
 ‘You will definitely go.’
- b. *ʃí      `mū      rá      ´*  
 2SG    NPST.go    AFF    Q  
 ‘Will you definitely go?’

The analysis of these constructions is not straightforward. We may take them as asymmetric in the sense that the interrogative intonation replaces the declarative intonation and thus changes the intonational structure of the clause. However, intuitively it might be odd to see the structure of the clause as different in these cases. The construction could also be analysed

as symmetric in two different ways. In the first analysis, there are no structural differences with respect to the corresponding declarative in addition to the intonational marker of interrogation, if we regard the intonation of the declarative as a phonetic default intonation with no structural role; such a view could, however, be accused of playing down the role of intonation in grammar. In the second analysis, we could say that when a marker of category C replaces the marker of the corresponding category D, but does not affect the marking of other categories or change the structure in any other way, the construction could be analysed as symmetric. Such an analysis would then have to be adopted for segmental markers as well; no cases were found with negation – overt markers of “affirmation” always seem to be markers of either emphatic affirmation or indicative in contrast with other moods, not simply unmarked counterparts of negation – but for other domains this could turn out to be a useful modification of the principles of classification. In Miestamo (2004), I treated the intonation interrogatives as symmetric.

Some preliminary observations about the possible subtypes of asymmetric polar interrogation can be made on the basis of the 24-language pilot sample. The following cross-linguistically recurring types can be identified. There are three languages, Khoekhoe, Lavukaleve (10), and Mosestén, in which asymmetry concerning focus (or emphasis) marking is found, and in all three cases the asymmetry is paradigmatic, a focus-non-focus distinction being lost in favour of the use of a focus construction in interrogatives. Another possible subtype may be formed by the constructions where the lexical verb loses its finiteness, which happens in three languages in the 24-language sample: Awa Pit (8), Halkomelem, and Meithei; in the first two there is a verbal question element acting as the finite element of the interrogative clause.<sup>10</sup> Furthermore, there are eight languages in which the marking of grammatical categories in interrogatives differs from their marking in declaratives in other ways, all of these cases being constructional asymmetry (only in Awa Pit [9] also paradigmatic); whether further subtype divisions can be made among these cases is to be addressed in future research. No cases of question marking by word order inversion were found in the sample (according to Dryer 2005, these constructions are found commonly in European languages only); whether inversion of subject-verb word order could also be seen as focus-related asymmetry – in the sense that putting the finite verb in initial position might serve as focusing the polarity of the sentence – will be another matter for future research.

A few words need to be said about how the principles of explanation can be used for symmetric and asymmetric polar interrogatives. As sym-

metric structures in general, symmetric polar interrogatives are accounted for by language-internal analogy. Asymmetric polar interrogatives are explained by language-external analogy where the linguistic structure of the interrogative copies different aspects of functional-level asymmetry between interrogation and declaration. What the relevant aspects of this asymmetry are and how they motivate asymmetric interrogatives will not be addressed here – this can only be done when a more definitive typology of polar interrogation has been established on the basis of an extensive sample. If such a study corroborates the existence of, e.g., the focus subtype proposed above, the principles of explanation will lead us to expect that there is some focus-related functional asymmetry between declaratives and interrogatives. Naturally, we cannot take the circular approach of saying that because we find focus constructions to recur in the world's languages, there must be focus-related functional asymmetry between declaratives and interrogatives, which can then be used to explain the structural subtype of asymmetric interrogation. To be able to argue for such an explanation, we must study the functional differences between declaratives and interrogatives in detail and find independent semantic or pragmatic evidence for focus-related asymmetry, possibly supported by performance data from languages where it has not been conventionalized in grammar.

Since this chapter is primarily concerned with general theoretical and methodological issues rather than with interrogatives, I will not discuss the details of the classification and explanation of interrogatives any further – the 24-language sample would not even suffice to allow any conclusions about this functional domain. However, these data are adequate for illustrating my main point: the model of classification and explanation can be fruitfully applied to functional domains beyond (standard) negation.

## **5. Discussion – asymmetry and typological markedness**

It is clear that the concept of typological markedness is relevant to the applicability of my principles of classification and explanation to different functional domains, but the relationship between markedness and (a)symmetry needs to be discussed in other respects as well. As already noted above, asymmetry and markedness are definable independent of each other, but there are some obvious connections that need to be made explicit. I will start by showing how the overt coding, behavioural potential and frequency criteria of typological markedness (see Section 1) reveal markedness relations between the category pairs discussed above. Taking

negation as an example, we may note that it satisfies, first of all, the overt coding criterion – no constructions are found in the world's languages where affirmation but not negation would be overtly coded.<sup>11</sup> Negation also satisfies the behavioural potential criteria, paradigmatic neutralizations being common in negatives and negatives also being less free to occur in different syntactic contexts than affirmatives. As to the frequency criterion, negatives have much lower textual frequency than affirmatives (see Hakulinen, Karlsson, and Vilkuna 1980: 120–121; Givón 2001: 373).

How, then, do these criteria relate to the symmetry-asymmetry model of classification and explanation introduced above? There is no reason to expect that whether a category is expressed symmetrically or asymmetrically would have an effect on its textual frequency; the frequency criterion is not about the structure of language and is therefore irrelevant here (its role in explaining markedness patterns will be addressed below). Symmetric and asymmetric structures do not behave differently as to overt coding, either – in both types, the marked category is generally overtly coded; it may, however, be noted that in cases where neither category is overtly expressed (e.g., in the Dravidian negatives mentioned in note 11), there has to be some asymmetry in the structures for the distinction between the categories to be visible and not merely inferable from the context. The symmetry-asymmetry distinction is highly relevant to the behavioural potential criteria. As seen above, paradigmatic asymmetry is usually about neutralization of grammatical categories, and thus indeed about the lower paradigmatic potential of the marked category. The concept of paradigmatic asymmetry is independent of the concept of markedness, and occasionally paradigmatic asymmetry conflicting with markedness relations, i.e., more distinctions made in the marked than in the unmarked category, can also be found. Handling such rare cases in terms of paradigmatic asymmetry is not a problem. Distributional potential may also be analysed in terms of paradigmatic asymmetry. When the marked category is restricted as to the contexts in which it can occur, we are dealing with paradigmatic asymmetry between the different categories that define these contexts. In Finnish, (standard) negation cannot occur in non-finite clauses and is thus restricted in its distributional potential vis-à-vis affirmation; if we take the point of view of the different clause types, we may say that there is paradigmatic asymmetry between finite and non-finite clauses as the distinction between negatives and affirmatives cannot be made in non-finites. Thus, the marked category is, on the one hand, the one in connection with which (some) grammatical categories tend to be neutralized when it shows paradigmatic asymmetry vis-à-vis its unmarked counterpart, and on the

other, the one that tends to be excluded in connection with marked members of other category pairs showing paradigmatic asymmetry. Often such co-occurrence restrictions may be seen as paradigmatic asymmetry from two different points of view – if negation and, say, imperfective aspect cannot co-occur in a given language, there is paradigmatic asymmetry between affirmation and negation (imperfective aspect being blocked in negatives) and between perfective and imperfective aspect (negation being excluded in imperfectives); but as the dependency hierarchies proposed by Aikhenvald and Dixon (1998) show, the choice of the perspectives from which such paradigmatic asymmetries are viewed is not indifferent.

The concept of typological markedness does not explain the correlation between the different phenomena that it brings together, but merely labels it; markedness is itself a relation that needs to be explained. Haspelmath (2006: 48–49, 62) suggests that the term typological markedness could be dispensed with because, according to him, frequency accounts for the correlation between the criteria. For overt coding, frequency provides a plausible motivation, but as regards behavioural potential, the model of explanation proposed in this chapter offers some challenges to this view. I have argued that structural asymmetry – including paradigmatic asymmetry restricting behavioural potential – may be explained by language-external analogy to functional asymmetry between the unmarked and marked categories. Assuming that the proposed model is indeed valid for explaining the phenomena, we must conclude that frequency alone cannot explain the phenomena subsumed under typological markedness, and this contradicts Haspelmath's arguments for abandoning the notion. It is easier to see frequency as motivating restricted behavioural potential in cases where extra distinctions are made in connection with unmarked categories – extra distinctions can be argued to be easier to remember with frequent categories – but when productive distinctions otherwise commonly observed in a language are restricted in connection with a marked category, frequency is much less likely to be the motivating factor; in fact, it might even be an extra burden for language users to remember this special restriction with a particular category. For the role of frequency as a partial explanation for paradigmatic asymmetry, see Miestamo (2005: 205–206, 216).

Comparing the cross-linguistic frequency of paradigmatic neutralization in negatives and interrogatives may provide a concrete test for the role of frequency vs. language-external analogy in explaining the phenomenon. As pointed out above, and discussed at length in Miestamo (2005: 197–200, 211–212), neutralization of grammatical distinctions in negatives can be explained in terms of language-external analogy by the special discourse



context of negation. A similar motivation is not known to exist for neutralization in interrogatives, and we would thus expect neutralization to be less common in interrogatives than negatives. In other words, negatives, where both frequency and a motivation based on language-external analogy are operational, should show more neutralization than interrogatives where frequency alone is responsible for the lower behavioural potential. This needs to be studied with a large sample, but the initial results presented in Section 4 above suggest that this is indeed the case; Schmid's (1980) results also point in this direction. Naturally, additional motivations based on language-external analogy will then have to be proposed for strong restrictions on behavioural potential found in any other functional domains.

In any case, explaining the behaviour of linguistic categories in terms of frequency still leaves open the question why one category is more frequent than the other. Haspelmath (2006: 45) sees frequencies as given and their explanations as outside the interests of linguistics. However, many functional factors that could be used in explaining frequencies can be used in explaining other linguistic phenomena as well, and seeing these as irrelevant as explanations for frequency, but as relevant as explanations for some other phenomena is problematic. The discourse context of negatives explaining paradigmatic asymmetries is a case in point; it may also be seen as an important factor behind the lower textual frequency of negatives. If we do not go beyond frequency in our explanations, we may miss some necessary ingredients for a deeper understanding of phenomena.

A practical problem in simply talking about frequency is that it does not say anything about the conceptual relation between the categories. Inherent in the concept of markedness is that the unmarked and marked categories form a conceptual opposition or are at least related in functional (semantic or pragmatic) terms. If we simply talk about frequency, we always have to add a qualifier like "the more frequent one of the semantically related/opposed categories". Contrary to Haspelmath (2006: 62), I think typological markedness is a useful metagrammatical concept – labelling a phenomenon, in this case the correlation between the criteria of typological markedness, with its (proposed) explanation will lead to confusing the phenomenon with its (proposed) explanation.

## **6. Concluding remarks**

I have argued for a model of describing linguistic structures in terms of constructional and paradigmatic symmetry and asymmetry between related

categories, and explaining them in terms of language-internal and language-external analogy. I have also provided a theoretical discussion of the relationship between (a)symmetry and typological markedness. We still need to return to the question how generally applicable the principles are: what kinds of functional domains can be described and explained in these terms? As discussed above, the principles lend themselves best to domains where clear markedness patterns are found, e.g., negation (vs. affirmation) and interrogation (vs. declaration). As to imperatives, their typological markedness vis-à-vis declaratives is not as clear according to the overt coding criterion – (second singular) imperatives are often minimally marked – but the other criteria do point towards the markedness of imperatives; in any case, there is a (universally expressible) functional opposition between declaratives and imperatives, and this is enough as a basis for examining the relationship between these categories in terms of (a)symmetry. It is also easy to imagine that the principles would yield interesting results when looking at for example subordinate (vs. main) clauses. It is less obvious how they could be used in studying domains such as tense or aspect, where it is far less clear which categories are typologically unmarked, i.e., which tense or aspect category, if any, could be taken as the reference point against which the other categories in the domain are compared. Still, even with such domains, the principles of classification and explanation may increase our understanding of cross-linguistic variation; the notion of paradigmatic (a)symmetry can be used as a tool to describe and explain co-occurrence restrictions in tense-aspect systems, for example. It may also be noted that the functional domains approached using the distinction need not be verbal or clausal; in principle, the marking of a function such as definiteness in noun phrases could be examined in terms of whether and how the structure of noun phrases marked for definiteness show constructional or paradigmatic (a)symmetry vis-à-vis their non-definite-marked counterparts, and then look for functional explanations for the different types of definiteness marking in terms of language-internal and language-external analogy.

Both (a)symmetry and markedness are about relations between categories, and they come together in – depending on perspective – paradigmatic asymmetry or behavioural potential. When studying the relations between categories, it makes sense to look at them from both viewpoints and pay attention to markedness and (a)symmetry. Just as paradigmatic asymmetry can be seen as one component of typological markedness, restricted behavioural potential may be seen in the larger context of constructional and paradigmatic (a)symmetry. The symmetry-asymmetry model provides an

effective descriptive tool, with clear definitions for constructional and paradigmatic (a)symmetry – a descriptive tool that is also theoretically motivated since it allows explanation in terms of language-internal and language-external analogy.

## Notes

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2. All examples for which no source has been specified are based on the author's knowledge of the language in question. Abbreviations used in the glosses: 1 first person, 2 second person, 3 third person, ACC accusative, ACT actual, AFF affirmative, ALL allative, ANT anterior, ART article, CNG connegative, F feminine, FOC focus, FUT future, IMPF imperfective, INCL inclusive, INF infinitive, IRR irrealis, LCT locutor, M masculine, N neuter, NEG negative, NLCT non-locutor, NMLZ nominalization, NPST nonpast, OBJ object, PERF perfect, PL plural, POSS possessive, POT potential, PRES present, PST past, Q interrogative, SBRD subordinate, SG singular, SUBJ subject, TOP topic.
3. In this context, neutralization means simply loss of distinctions, not contextual neutralization in the sense of Greenberg (1966: 28–29).
4. The presence of the marker(s) of category C, would, strictly speaking, also be an asymmetry between the structural encoding of the categories. Here, asymmetry means differences in addition to the simple marking of category C.
5. Itkonen (2001) uses language-external analogy to explain cases where fewer grammatical distinctions are made in non-factual modalities than in factual ones and language-internal analogy for cases where the same distinctions are made in both. My model of explanation takes these principles as general motivations for constructional and paradigmatic symmetry and asymmetry.
6. Some verbs, e.g., 'stay', may be seen as exceptions, but the most prototypical and frequent cases are the ones that matter for how grammar is shaped.
7. Humans prefer symmetry for aesthetic reasons as well. The two preferences for symmetry, aesthetics and ease of processing/storage, come nicely together in (traditional) poetry where similarities between verses (metre, rhyme, alliteration) serve both functions.
8. As the anonymous referee pointed out, iconicity may also be ultimately explained, at least partly, by economy of processing/storage – analogies between function and form certainly make processing and storage easier.
9. Miestamo and van der Auwera (2007) have applied the principles to the negation of imperatives, using a 30-language pilot sample.

10. Earlier typological observations about polar interrogatives (Ultan 1978; Saddock and Zwicky 1985; Siemund 2001; Dryer 2005) have identified the following types of interrogative markers: intonation, interrogative particles, disjunction (A-not-A), order of constituents, and verbal inflection. The existence of interrogative auxiliaries is certainly not news to linguists familiar with languages like Halkomelem and Awa Pit, but it is worth noting that earlier typological studies have not mentioned this type of interrogative marker. It seems probable, though, that this type is over-represented in the pilot sample.
11. There are some cases where overt negative markers are not found, e.g., in some South-Dravidian languages where negatives differ from affirmatives only by the absence of tense marking in negatives (Miestamo 2005: 121, 228); these do not, however, constitute counterevidence for the markedness of negation according to the overt coding criterion, since the unmarked category is not overtly coded either – it is tense and not affirmation that receives overt coding.

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