

Proto-properties and Grammatical Encoding

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Abbreviations

17, 8, ...	noun classes (Bantu)	HAB	habitual
3 rd INF	third infinitive	ILL	illative
1SG	first person singular	IMP	impersonal
3PL	third person plural	IMPERF	imperfect
3SG	third person singular	IN	inessive
ABL	ablative	INCH	inchoative
ACC	accusative	IND	indicative
ACT	active	INF	infinitive
AD	adessive	INST	instrumental
ADV	adverb	IO	indirect object
AG	agent	LOC	locative
ALL	allative	MASC	masculine
ARG	argument	NEG	negation
CAUS	causative	NEUT	neuter
COM	comitative	NOM	nominative
COP	copula	OBJ	object
DAT	dative	OBJ _θ	object-theta
DEF	definite	OBL	oblique
DO	direct object	P-A	proto-agent property
ERG	ergative	PART	partitive
FEM	feminine	PAST	past tense
FV	final vowel	PERF	perfect
GE	grammatical encoding	PL	plural
GEN	genitive	PP	proto-property
GF	grammatical function	P-P	proto-patient property
		PRED	predicate
		PRES	present
		PRTCPL	participle

ix / ABBREVIATIONS

PT	patient
PV	pre-verb
REC PST	recent past
RFLX	reflexive
SB	subject
SG	singular
SUBJ	subject
SUBJNC	subjunctive
SUBL	sublative
TRANS	translative
VN	verbal noun

1

Introduction

1 Basic Linking Problems

Investigation into the lexical semantics of predicators has been central for efforts to characterize the MAPPING or LINKING between predicate arguments and their grammatical encoding. For example, consider the clauses in (1) containing simple predicates and arguments from the two genetically unrelated languages Russian and Hungarian. In both languages simple or basic lexical items with similar meanings, i.e., BUILD, possess two semantic arguments and these two arguments bear the SUBJECT and OBJECT grammatical functions in their clauses.

- (1) a. Poselency stroili doma.
 settlers built- PL houses-ACC
 ‘The settlers were building houses.’
- b. Az új telepések házakat építettek.
 the new settlers houses-ACC built-3PL
 ‘The settlers were building houses.’
 (Apreszjan and Pál 1982:509)

Fillmore (1968) observed that, given commonly accepted diagnostics for determining the grammatical function (e.g. subject, object, etc.) of a clause, the theoretical challenge is how to explain the evident cross-linguistic similarities in the linking patterns between the lexical semantics and grammatical function status of predicate arguments. Why, for example, isn’t ‘house’ the subject and ‘settlers’ the object in (1)?¹

This challenge becomes more intriguing when we observe recurrent patterns of relations between predicates within a single language and where these relations in one language are paralleled by similar relations in other

¹ We are ignoring here alignments of semantic roles and grammatical relations in languages which are argued to be ergative (Dixon 1994, Manning 1996).

languages. For example, consider basic or simple predicates and their LOCATIVE INVERSION variants. In English (2) and Chicheŵa in (3) we find pairs of predicates which do not differ with respect to their lexical semantics (i.e., each member of the paired alternants denotes the same situation, though it may express a different perspective on it), but the participants in the events are realized in different ways, displaying different grammatical function statuses.²

- (2) a. Those visitors came to the village.
 b. To the village came those visitors.
- (3) a. Alendôwo anabwérá kumudzi.
2-visitor-2-those 2SB-REC PAST-come-IND 17-3-village
 ‘Those visitors came to the village.’
- b. Kumudzi kunabwérá alendôwo.
17-3-village 17SB-REC PAST-come-IND 2-visitor-2 those
 ‘To the village came those visitors.’
 (Bresnan and Kanerva 1989, 2b and 1b)

On Bresnan’s (1994) account the nominal denoting the ‘visitors’ is a subject in both of the (a) clauses, while the nominal denoting the ‘village’ is an oblique. In the (b) sentences, however, the nominal ‘village’ bears the subject function, while the nominal ‘visitor’ bears the object function. Additionally, as she observes, the (classes of) predicates that both do and do not participate in locative inversion in these unrelated languages are strikingly similar. This can be seen by comparing the contrast in the Chicheŵa examples with those of the corresponding English glosses:

- (4) a. Mmitêngo mwakhala anyäni.
18-4-tree 18SB-PERF-sit-IND 2-baboon
 ‘In the tree are sitting a baboon.’
- b. * Mmitêngo mukuímbá anyäni.
18-4-tree 18SB-PERF-sit-IND 2-baboon
 * ‘In the tree was singing a baboon.’
 (Bresnan and Kanerva 1989, 47a-b)

As can be seen from these examples, whereas the predicate ‘sit’ participates in locative inversion in both languages, the predicate ‘sing’ does not participate in this construction in either language.

² We follow the analysis in Bresnan (1994) for the specific assignments of grammatical functions in these constructions.

In sum, some classes of predicates in a single language, as well as similar classes across languages, display systematic alternations in function assignment for an invariant set of semantic arguments.

Passive constructions cross-linguistically resemble locative inversion constructions in the sense that active-passive pairs exhibit grammatical function alternations which are not ordinarily accompanied by a change in the semantics of the active and passive variants. Phenomena such as these suggest that some frequently encountered and well-attested grammatical function alternations are not directly motivated by the lexical semantic properties of predicators. Rather, such grammatical function alternations appear to be motivated by discourse considerations, in which grammars provide speakers with the means to take different perspectives on truth-functionally equivalent situations.

In contrast, there are other commonly occurring types of constructions where variable function assignment does seem to correspond with systematic alterations in the lexical semantics of related predicates. In such examples, the related predicates denote events representing sometimes obvious and sometimes quite nuanced semantic distinctions. This is typified in the LOCATIVE ALTERNATION pairs from Russian in examples (5) and (6) and Hungarian in examples (7) and (8):

- (5) a. Xoz'ajka **namazala** pol mastikoj.
housewife-NOM onto-spread floor-ACC polish-INST
 'The housewife spread the floor with polish.'
- b. * Xoz'ajka **namazala** mastiku na pol.
housewife -NOM onto-spread polish-ACC on floor-ACC
- (6) a. Xoz'ajka **razmazala** mastiku po polu.
housewife -NOM onto-spread polish-ACC on floor-ACC
 'The housewife spread polish onto the floor'
- b. * Xoz'ajka **razmazala** pol mastikoj.
housewife -NOM onto-spread floor-ACC polish-INST
- (7) a. A háziasszony **bekente** a padlót
housewife -NOM on-spread the floor-ACC
beeressztőpasztával.
polish-INST
 'The housewife spread the floor with polish.'
- b. * A háziasszony **bekente** a beeressztőpasztát
housewife -NOM on-spread the polish-ACC
 a padlóra.
the floor-SUBL

- (8) a. A háziasszony **rakente** a beeresztőpasztát
housewife -NOM on-spread the polish-ACC
 a padlóra.
the floor-SUBL
 ‘The housewife spread the polish onto the floor.’
- b. * A háziasszony **rakente** a padlót
the housewife r-NOM on-spread the floor-ACC
 beeresztőpasztával.
polish-INST
 (adapted from Apreszjan and Pál 1982:657)

In general, the non-agent arguments of locative alternation predicates alternate between object versus oblique grammatical functions. For example, the different case-markings associated with the location argument ‘floor’ indicate that it bears the object function in (5a) and (7a), while bearing the oblique function in (6a) and (8a). Similarly, the case-marking on the patient argument ‘polish’ indicates that it bears the object function in (6a) and (8a), while bearing the oblique function in (5a) and (7a). As can be seen from the grammaticality judgments for examples in (5-8), specific predicates permit only certain alignments of semantic roles with grammatical functions. In Russian and Hungarian it is well-known that semantically related predicates can differ morphologically with respect to the prefixes accompanying the verbal stem. The prefixes are presented in boldface above. Most analysts treat predicates participating in locative alternation as having different meanings, though the meaning differences are often difficult to describe (Fillmore 1968, Anderson 1971, Salkoff 1983, Levin and Rappaport 1986, Pinker 1989, among others). For present purposes it suffices to observe that a HOLISTIC reading is claimed to correlate with the pattern in which the locative argument is an object (5a and 7a). The action denoted by the predicate is purported to affect the surface of the location, here ‘floor’, in its entirety, whereas there is no such entailment when this argument is encoded as an oblique. Thus the examples in (5-8) illustrate that alternative function assignments can be keyed to related predicates with different meanings.

From a cross-linguistic perspective, causative constructions, resultative constructions, and possibly applicative or dative shift constructions are among the common predicate formation operations that pattern with locative alternations. All of these exhibit a correspondence between meaning change and variable grammatical function alignment.

The contrast we have just illustrated between two types of function changing operations, or more generally, grammatical encoding options, has, of course, been noted in the literature. Within LEXICAL FUNCTIONAL

GRAMMAR this distinction corresponds to what Simpson (1983) refers to as SEMANTIC REDUNDANCY RULES for meaning changing operations with correlative function changes and RELATION CHANGING RULES for operations that simply re-assign function. Similar distinctions have been made by Grimshaw (1990) in terms of CONTENT and STRUCTURE and Rappaport Hovav and Levin (1998) in terms of operations on lexical conceptual structures versus those on argument structures. Within more recent developments of lexical mapping theory in LFG, it corresponds to what Ackerman (1990, 1992) refers to as MORPHOLEXICAL for semantically motivated alternations and MORPHOSYNTACTIC for discourse motivated alternations; this is paralleled by similar distinctions in Joshi (1993), Markantonatou (1995), and Dubinsky and Simango (1996). Sadler and Spencer (1998) use the more transparent term MORPHOSEMANTIC to designate meaning induced function alternations, while retaining MORPHOSYNTACTIC to designate meaning preserving instances of variable argument encoding. We will adopt this last terminology.

In sum, the standard empirical domain of linking theories is comprised of three types of systematicities evident in grammatical function encoding: parallelisms in argument encoding for simple predicates with similar meanings in different languages, patterns of encoding alternations that correspond to discourse-motivated constructions (without a semantic contrast), and patterns of alternation that are semantically induced.³

2 Overview

In this monograph we develop a general theory of morphosemantic alternations embedded in Dowty's (1991) PROTO-ROLE proposal for thematic roles. Briefly, Dowty proposes that thematic roles (e.g. AGENT, PATIENT, etc.) should be treated as prototype categories (PROTO-AGENT and PROTO-PATIENT); these categories are comprised of proto-agentive and proto-patientive properties which are construed as entailments of predicates. He formulates an ARGUMENT SELECTION PRINCIPLE that mediates between ar-

³ There is a long lexicographic tradition in which argument encoding alternations are referred to as DIATHETIC ALTERNATIONS (or VARIABLE BEHAVIOR VERBS) and where families of such alternations as DIATHETIC PARADIGMS: diathetic paradigms in this sense can be interpreted as systems of lexical relatedness exhibited among classes of predicates in a single language as well as between languages. The identification of universal diathetic paradigms, their content and patterns of regular behavior represent the empirical domain that linking theories must model. The notion that lexical relatedness is usefully viewed in terms of paradigmatic relations will play a central role in the theory of the lexicon proposed here (see Chapters 4, 5, and 6).

guments and grammatical functions – this essentially has the effect of linking proto-agents with subjects and proto-patients with objects. As will be seen, Dowty’s original selection principle accounts for the functional status of coarguments of a single basic predicate; because this mediates between coarguments, we refer to this as the SYNTAGMATIC SELECTION PRINCIPLE. The essential elements of Dowty’s proposal are outlined in Chapters 2 and 3.

Chapter 2 provides a general overview of the sort of atomic semantic roles that have standardly been appealed to in theoretical proposals on linking. It essentially reviews a critical reappraisal of such roles found in Dowty (1989).

Chapter 3 provides an introduction to Dowty’s proto-role proposal, since this serves as the foundation for the more comprehensive argument selection theory developed in the rest of the monograph. We provide both an overview of the motivations for this sort of proposal as well as the specifics of the proposal formulated in Dowty (1991). The empirical domain of Dowty’s proposal is of the sort typified by the predicate ‘build’ in (1), namely, simple, basic predicates.⁴ We will accordingly focus primarily on these predicates in this chapter, leaving until Chapter 4 the phenomena relating to systematically related classes of (complex) predicates.

Chapter 4 presents our augmentation of Dowty’s original proposal. This will make it capable of accounting for the semantically induced variable function encoding of a single argument across related predicates. That is, it provides a framework to account for argument encoding typical of morphosemantic alternations. Given the claim that a single argument vies for alternative encodings across related predicates, we will refer to this as the PARADIGMATIC SELECTION PRINCIPLE. Like Dowty’s syntagmatic principle, this principle compares degrees of proto-agentivity and proto-patientivity and determines alignments of grammatical encoding based on these comparisons. We demonstrate how a more comprehensive theory of argument selection is supported by the specific grammatical phenomena of PSYCH-PREDICATES and CAUSATIVE FORMATION.

Chapters 5 and 6 constitute the empirical core of the monograph. They are devoted to an examination of several of the predictions and conceptual issues identified in Chapter 4. In these chapters we examine certain patterns of alternative encoding for arguments which are less frequently discussed within standard approaches to linking, but which, we believe, are

⁴ See also Joshi (1993:79), Ackerman and Moore (1999a), and Davis (1997) for observations that Dowty’s original formulation must be augmented to apply to complex predicates. We discuss certain aspects of Joshi’s proposal in some detail in Chapter 3, since it resembles our own as well as Ackerman (1990 and 1992) in many respects.

nonetheless illuminating for determining the principled relationship between semantic arguments and their syntactic encoding. An empirical claim of this monograph is that Estonian (Finnic, more broadly) and Polish (Slavic, more broadly) each contain patterns of alternative grammatical functions and/or case-marking for their arguments whose proper analysis proves relevant to the development of an adequate theory of linking.

Estonian exhibits a type of alternation which represents the basic phenomenon examined in Chapter 5. Let us assume for expository purposes that a two-place verb such as *build* has two valence slots with verb specific participant roles:

- (9) *build* < BUILDER, THING BUILT >.

Estonian allows for two alternative encodings for the THING BUILT argument:

- (10) a. Ma ehtasin endale suvilat
I-NOM built-PAST-1SG myself-ALL cottage-PART
 kaks nädalat.
two-PART week-PART
 ‘I was building the cottage for myself (for two weeks).’
- b. Ma ehtasin endale suvila
I-NOM built-PAST-1SG myself-ALL cottage-GEN
 kahe nädalaga.
two-GEN week-COM
 ‘I built the cottage for myself (in two weeks).’
 (adapted from Erelt M. et. al., 1997:SY36)

The THING BUILT argument in (10a) is realized in the partitive case, while it is realized as genitive in (10b). In contrast, the BUILDER argument remains invariant. These encoding alternatives correspond to a semantic effect: the glosses reflect that (10b) conveys a (necessary) sense of completion, while (10a) does not. In these instances we see a correlation between semantic contrast and argument encoding; continuing the theme introduced in Chapter 4, we will argue that there is a principled alternation of surface case motivated by semantically induced case government patterns in Estonian.

The discussion of Estonian will lead to a comparison with the related language Finnish and a general consideration of aspectual issues as they bear on case-marking, rather than function alternation, in these languages. We will identify a typology of verbal marking, proto-property encoding, and aspect and will argue, building on work by Dowty (1991) and Krifka

(1992, 1998), that the property BOUNDING ENTITY must be added to the list of proto-patient properties within an augmented proto-role proposal.

While the alternations discussed in Chapters 4 and 5 center around non-subject arguments, Chapter 6 concentrates on subject-oblique alternations. Consider the following contrasts from Polish:

- (11) a. Janek czytał tę książkę
John-NOM read-MASC this book-ACC
 (z przjemnością).
 (with enthusiasm)
 ‘John read this book (with enthusiasm).’
- b. Tę książkę czytało się Jankowi
this book-ACC read-NEUT RFLX John-DAT
 *(z przjemnością).
 *(with enthusiasm)
 ‘John read this book with enthusiasm.’
 (Dziwirek 1994:58)

The verb for ‘read’ has two valence slots:

- (12) *read* < READER, THING READ >

The READER argument bears nominative case in (11a) and dative case in (11b), while the THING READ argument remains invariant (bearing accusative case). Hence, the first valence slot of the verb exhibits an encoding alternation. Following Dziwirek (1994), we refer to the dative variant as PRODUCTIVE INVERSION. It has been observed that there is a semantic contrast associated with these encoding options which can be characterized as follows: the productive inversion construction de-emphasizes the dative-marked argument’s role in bringing about the event, i.e., the dative argument exhibits attenuated agentivity with respect to the corresponding nominative argument. Furthermore, these productive inversion constructions focus on the manner in which this argument is affected by the event and, therefore, is correlated with a requirement for an adverbial in one form or another.

We will explore how the Polish inversion constructions compare with those of Russian (following the detailed analysis of Russian in Moore and Perlmutter 2000) and with OBLIQUE/DATIVE SUBJECT phenomena cross-linguistically, in particular, as it is manifested in Hindi and Marathi.

In sum, both the Estonian and Polish examples display a paradigmatic alternation between alternatively encoded nominals, as well as a semantic

distinction correlated with these alternations. This is described informally in (13):

- (13) *Estonian*: The second valence slot alternates between genitive object and partitive object.
Polish: The first valence slot alternates between nominative subject and dative indirect object.⁵

Chapters 5 and 6 explore the ways that these alternations can be naturally addressed in a proto-property approach to argument selection formulated in terms of paradigmatically contrasting arguments associated with lexically related predicates. The phenomena in these chapters represent the two grammatical functions singled out as central to a proto-property account in Dowty's original proposal, namely, SUBJECT and OBJECT. Both chapters provide an illustration of the usefulness of this type of approach for providing a principled account of disparate and complex data sets concerning alternations in both function assignment and case government. In doing this, they also constitute evidence for the requirement that linking frameworks contain some of the properties characteristic of this approach.

Throughout we will argue that syntagmatic and paradigmatic selection represent principles responsible for the organization of lexical information. Syntagmatic selection is responsible for the alignment of arguments with grammatical functions in simple predicates; i.e., it regulates the encoding of co-arguments of a single predicate. In contrast, paradigmatic selection is responsible for semantically induced alignments of arguments and grammatical functions between related predicates; it regulates the encoding of related argument across a paradigm of lexically linked predicates.

Throughout, we assume a generalized notion PREDICATE. In particular, we follow Ackerman and Webelhuth (1998) in positing that the lexicon contains representations for predicates which can be realized on the surface as either single synthetic wordforms or as co-occurring independent elements in syntax. Thus, argument selection principles are sensitive to entailment sets associated with predicates in this generalized sense.

Chapter 7 represents a summary of our results concerning how a proto-property approach containing syntagmatic and paradigmatic selection accounts for both the grammatical function status and the case-marking encoding of arguments. In this chapter we also explore ways that paradigmatic selection may be extended into new data domains, both in accounting for related predicate classes and morphological alternations that are not

⁵ The specific nature of the contrast with respect to grammatical functions (as opposed to mere case-marking) will be motivated in Chapter 5.

based on encoding contrasts. We conclude by briefly comparing our approach with other linking theories.

3 Correspondence Theory

The CORRESPONDENCE THEORY of linking that we propose here is one that attempts to provide an account of both grammatical function and case-marking alternations by appealing to the same basic explanatory apparatus. Indeed, the adaptation of a Dowtyian type system which appeals to correspondences between hierarchically organized and independent levels of information is quite natural within the sorts of lexical unification-based assumptions adopted here.⁶ At the heart of our proposals are two related argument selection principles; a typical operation of these principles is illustrated schematically in (14):

(14) SYNTAGMATIC SELECTION PRINCIPLE:

pred _a	arg ₁	arg ₂
pred _b	arg ₁ most proto-agent → SUBJ	arg ₂ most proto-patient → DO
pred _c	arg ₁	arg ₂

As can be seen, the two co-arguments of a predicate are associated with proto-properties and, in accordance with the Syntagmatic Argument Selection Principle, the most proto-agentive argument will be encoded as subject, while the most proto-patientive will be encoded as object.

The Paradigmatic Selection Principle is represented schematically in (15):

(15) PARADIGMATIC SELECTION PRINCIPLE:

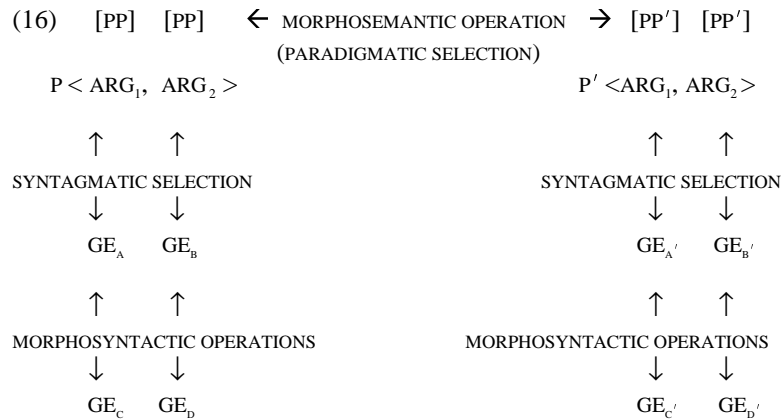
pred _a	arg ₁	arg ₂ most proto-patient → DO
pred _b	arg ₁	arg ₂ less proto-patient → OBL

⁶ In this sense we follow the architectural assumptions referred to as REPRESENTATIONAL MODULARITY in Jackendoff (1997).

Phenomena with this profile exhibit two (or more) related predicates which project different entailment sets for an argument designated to be comparable across distinct lexical entries: the relative numbers of relevant proto-properties determine the grammatical encoding for this argument.

Both selection principles compare the proto-role status of predicate arguments; argument encoding depends on which of the compared arguments is more prototypical with respect to a specific proto-role. The syntagmatic principle compares co-arguments of a single predicate, while the paradigmatic principle compares a single argument across related predicates.

Our paradigmatic principle provides a means of accounting for morphosemantic encoding alternations. Recall that these are alternations that coincide with a semantic contrast. This contrast results in different entailments with respect to a particular argument. These different entailments yield a contrast in the proto-role status of these arguments. In contrast, morphosyntactic alternations do not exhibit different argument entailments, and are, therefore, outside the scope of the Paradigmatic Selection Principle. Rather, monotonic linking theories, such as LFG's LEXICAL MAPPING THEORY, are well suited to accounting for these alternations. A schematic representation of an architecture that recognizes these different phenomena is given for the related predicates P and P' in (16):



[PP] = 'protoproperty set'; GE = 'grammatical encoding'

As can be seen, a predicate, P , is associated with a valence of two; each valence slot is associated both with a set of proto-properties [PP] and a grammatical encoding GE_x , interpreted as grammatical function status and/or surface case marking. While the valence slots are associated with

GES, alternative alignments of GES may be mediated by paradigmatic selection, i.e., by a morphosemantic operation, which yields contrasts between single arguments of related predicates. The schema above also suggest that syntagmatic selection always applies to predicates: sometimes, as we will show in Chapter 3, syntagmatic selection interacts with the argument information determined by paradigmatic selection.

Finally, the relevant operations may be morphosyntactic, where the alternations do not reflect changes in proto-properties of the arguments; as discussed above, we assume that a version of the LFG Lexical Mapping Theory mediates these monotonic linking alternations. Standard Lexical Mapping Theory was designed expressly to address the type of phenomena which we have characterized above as morphosyntactic and which were typified by passive and locative inversion constructions. Our main focus in the present work, however, is the role played by lexical semantics for identifying the principles responsible for semantically induced alternations. In other words, we address the complement of those data sets that motivated original Lexical Mapping Theory. As a consequence, we will endeavor to avoid the type of diacritic analyses associated with some previous work in this tradition, while permitting morphosyntactic alternations to be only indirectly determined by lexical semantic properties of predicates. This means that, as in the variants of Lexical Mapping Theory proposed in Ackerman (1990 and 1992) and Joshi (1993), we assume a theory in which some grammatical function changing operations merely yield realignments of grammatical functions with invariant argument arrays or invariant predicate entailments, while others are motivated by changes in the semantics of predicates.

As has been noted by several linguists, one striking property of Dowty's original proto-role proposal is that it does not provide analyses of morphosyntactic alternations such as ACTIVE/PASSIVE. Though this is true, it should be observed that this is appropriate, since the entailment sets of those predicates related as ACTIVE/PASSIVE pairs are not generally thought to be different. From the perspective of Dowty's proposal, as we develop it, this simply means that not all relatedness between predicates is motivated by comparing entailment sets, i.e., not all alternations signal semantic contrasts. Thus, no linking theory based on semantic entailments will appropriately account for morphosyntactic alternations. Instead, as within standard Lexical Mapping Theory, some function alternations seem to require a mechanism that merely manipulates functional assignments. These are "purely syntactic", or in the present terminology morphosyntactic operations, possibly motivated by discourse considerations.

There are several ways to implement the relevant architecture in order to achieve a comprehensive argument selection proposal, but since we do

not, by and large, examine morphosyntactic alternations, we defer the development of such a proposal to another forum (see Ackerman and Moore 2001). The practical effect of this is that we will assume the types of information depicted in (16) and explore the principles responsible for explaining the attested alignments or correspondences between entities at each of these information types, namely, proto-property entailments, valence, grammatical function status, and case government. Hence what we develop in this monograph is a correspondence theory of linking with exclusive attention to semantically induced morphosemantic encoding alternations. Though a variant of Lexical Mapping Theory provides a congenial framework to host the correspondence proposal advanced here, it is our goal to establish an effectively theory-neutral conceptual approach to argument selection and it is our belief that this basic approach should be incorporable into several different linking approaches.⁷

Finally, the reader should keep in mind the explanatory role we see for syntagmatic and paradigmatic selection within grammars. We will argue that these selection principles function as well-formedness conditions on the correspondences evident between different levels of content, i.e., semantic entailments, grammatical functions, etc., associated with lexical entries. Viewed from a larger perspective, i.e., a perspective more encompassing than the relatedness between specific (classes of) predicates, we see these principles as providing (violable) constraints on the organization of lexicons. In this respect, we are suggesting that these principles motivate the striking patterns of similarity noted by numerous linguists concerning alternations of grammatical encoding that are semantically induced.

⁷ Another type of implementation, which would represent a natural fit with the conceptual notions developed here, would be an optimality theoretical treatment. In fact, the rudiments of such a proposal have been formulated in Asudeh (2001) for subject/object reversal in Marathi.