

Contrast and Representations in Syntax

edited by

BRONWYN M. BJORKMAN AND DANIEL CURRIE HALL

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Edited by BRONWYN M. BJORKMAN and DANIEL CURRIE HALL





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General preface

The theoretical focus of this series is on the interfaces between subcomponents of the human grammatical system and the closely related area of the interfaces between the different subdisciplines of linguistics. The notion of 'interface' has become central in grammatical theory (for instance, in Chomsky's Minimalist Program) and in linguistic practice: work on the interfaces between syntax and semantics, syntax and morphology, phonology and phonetics, etc. has led to a deeper understanding of particular linguistic phenomena and of the architecture of the linguistic component of the mind/brain.

The series covers interfaces between core components of grammar, including syntax/morphology, syntax/semantics, syntax/phonology, syntax/pragmatics, morphology/phonology, phonology/phonetics, phonetics/speech processing, semantics/pragmatics, and intonation/discourse structure, as well as issues in the way that the systems of grammar involving these interface areas are acquired and deployed in use (including language acquisition, language dysfunction, and language processing). It demonstrates, we hope, that proper understandings of particular linguistic phenomena, languages, language groups, or inter-language variations all require reference to interfaces.

The series is open to work by linguists of all theoretical persuasions and schools of thought. A main requirement is that authors should write so as to be understood by colleagues in related subfields of linguistics and by scholars in cognate disciplines.

The role of features as atomic elements which the syntax operates on has become more central in syntactic theory over the past decade or so. This focus on the syntagmatic properties of features has meant that less attention has been paid to their paradigmatic role: their function in negotiating relationships of contrast within syntax. Feature geometries, or the underlying semantics that generates these, are one approach to feature contrast, but the necessity of these geometries and how they are represented in the syntax remain open questions. The current volume highlights the central question of how the contrastive properties of features are connected to their role in simultaneously building meaning and form in larger syntactic structures. The chapters collected here bring new light to bear on this, drawing on a range of under-explored phenomena in a typologically diverse range of languages.

> David Adger Hagit Borer

Acknowledgements

This volume came into being as the result of a workshop on contrast in syntax in April 2015, held on the occasion of Elizabeth Cowper's retirement after nearly forty years at the University of Toronto. The workshop brought together linguists who had been supervised by Elizabeth at the undergraduate, graduate, or postdoctoral level, many of whom have contributed chapters to this volume. We take this opportunity to recognize those speakers from the conference who were unable to contribute to this volume: Lisa Cheng, Jila Ghomeshi, Päivi Koskinen, Julie Legate, Diane Massam, Kenji Oda, and Nick Pendar. Thanks especially to Diane, who co-organized the workshop (with Bronwyn Bjorkman) and who gave early advice on the development of this volume. Thanks as well to all the workshop participants, and to the Department of Linguistics at the University of Toronto, without whose support the workshop would not have been possible. We particularly acknowledge the assistance and expertise of Mary Hsu, the Departmental Officer, for her help at all stages of planning and logistics.

Shortly after the workshop concluded, we embarked on the project of editing this volume. Beyond the individual contributors, we thank the entire editorial team at Oxford University Press, including the series editors David Adger and Hagit Borer, as well as the commissioning editors Julia Steer and Vicki Sunter for their guidance and assistance in bringing this volume together. We also gratefully acknowledge the contribution of the colleagues who reviewed this volume and its individual chapters, whose comments and suggestions have been very helpful.

Finally, and most significantly, we gratefully acknowledge the tremendous contributions made by Elizabeth Cowper, without whom none of this work would have been possible. Of course, by providing the occasion for the workshop and inspiring its theme, she contributed the initial impetus that has led to this volume on contrast in syntax. More fundamentally, however, Elizabeth's research over the course of her career has inspired many of the approaches to grammatical contrast developed in the chapters of this volume, and many of the contributors can credit her teaching with helping to make them the linguists they are today. The editors both owe a great intellectual debt to Elizabeth, and will always regard her with great admiration as an excellent linguist, valued mentor, and dear friend.

BMB & DCH

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List of abbreviations

1	first person		
2	second person		
3	third person		
ACC	accusative		
ACCM	accompaniment final		
ADD	additive		
ADV	adverbial suffix		
AG	agent		
AI	animate intransitive		
AI+O	animate intransitive verb with indefinite object		
AN	animate		
AOR	aorist		
APPL	applicative		
AREA	areal prefix		
BEN	benefactive		
CAUS	causative		
CEN	complex event nominalization		
CJ	conjunctive		
CLOC	cislocative		
COMP	complementizer		
COMPR	comparative		
COND	conditional		
CONJ	conjunction		
CONT	continuative		
CONTR	contrastive		
COP	copula		
DAT	dative		
DEF	definite		
DEM	demonstrative		
DIR	direct		
DIS	dislocative		
DM	Distributed Morphology		
DU	dual		
EPP	Extended Projection Principle		
ERG	ergative		
ET	event time		
EVID	evidential		

EXCL	exclusive		
F	feminine		
FACT	factual		
FOC	focus		
FUT	future		
GEN	genitive		
GER	gerund		
HAB	habitual		
IC	initial change		
II	inanimate intransitive		
IN	inanimate		
INCL	inclusive		
INDEF	indefinite		
INF	infinitive		
INST	instrumental		
INV	inverse		
INVIS	invisible		
IPFV	imperfective		
JOIN	joiner vowel		
LF	Logical Form (interface level)		
LI	lexical item		
LOC	locative		
М	masculine		
MOD	modalizer		
Ν	neuter		
NEG	negation		
NMLZ	nominalizer		
NOM	nominative		
OBJ	object		
OBV	obviative		
OCS	Old Church Slavonic		
OPT	optative		
PART	participant		
PAST	past tense		
PAT	patient		
PCC	Person-Case Constraint		
PERF	perfect		
PF	Phonetic Form (interface level)		
PFV	perfective		
PL	plural		
PNS	possessed noun suffix		
POSS	possessive		
PRES	present tense		
PROG	progressive		

PRON	pronominal clitic
PROSP	prospective
PROX	proximate
PRT	particle
PSM	Parallel Structures Model
PSSD	possessed
PTCP	participle
PUNC	punctual
PURP	purpos(iv)e
PV	preverb
QU	question
RE	referring expression
REFL	reflexive
REL	relative clause
REP	repetitive
REST	restricted
RL	relative root
RMN	restrictive modification by nominals
RN	result nominalization
RT	reference time
SBJV	subjunctive
SDA	Successive Division Algorithm
SG	singular
SRFL	semi-reflexive
STAT	stative
TA	transitive animate
TAM	tense/aspect/mood
TH	theme suffix
TI	transitive inanimate
TLOC	translocative
ТОР	topic
TRAN	transitive
TS	thematic suffix
UG	Universal Grammar
VCE	voice
VI	vocabulary item
VN	verbal noun

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Contrast and representations in syntax

Introduction

Bronwyn M. Bjorkman and Daniel Currie Hall

The focus of this volume is the dual role of features in syntax. On the one hand, features serve to define paradigmatic contrasts, delineating a language's morphological and syntactic system of distinctions in grammatical person, number, tense, and so on. At the same time, features are also the basic building blocks of syntactic structure and the drivers of syntactic movement. This second role for features has received additional attention as the functional lexicon—the inventory of features that is active in a language, and the ways in which they are combined on heads—has increasingly been seen as the locus of parametric variation. Yet the connection between the paradigmatic and syntagmatic roles of features has not received comparable attention, though the identification of parameters with features has opened up new possibilities for exploring connections between the morphological system of a language and its syntax, and suggests a new role for featural contrast in syntactic theory.

The role of features in syntax has changed a great deal in the development of generative syntactic theory. In the early days of the field, as set out in the Standard Theory of Chomsky (1965), differences between one language and another, or between one construction and another within a single language, were primarily derivational rather than representational: differences arose through the application of different phrase structure rules and different transformations, rather than from differences in the elements manipulated by syntax, or in the base structure of a given language. This is summarized in the following passage from Cowper (1992: 9):

What was universal about this model was not any specific phrase structure rules or transformations, but rather the structure of the model and the various categories (NP, V, etc.) that it made use of. The rules in each of the components were seen as language-particular and therefore to be learned by the native speaker in the course of language acquisition.

Beginning with the Principles and Parameters framework set out by Chomsky (1981), however, subsequent work in syntactic theory has sought both to constrain variability and to shift its locus. An early example of this can be seen in Lasnik and Saito (1992), who generalized transformations to a single operation, Move α (or, still more radically, Affect α), with cross-linguistic differences arising from parametric variation in constraints on the application of this operation, and in the filters on its output, as well as from the fact that different languages have different lexical items for it to operate on.

The move towards grounding linguistic variation in representations, rather than in the operations that apply to those representations, has proceeded further within the Minimalist Program (Chomsky 1995 and subsequent work). This framework proposes to limit the syntactic component to a single structure-building operation Merge, combined with an abstract featurechecking operation Agree. All other constraints on language are attributed to interpretability requirements of the cognitive modules with which the grammar must communicate (the sensory-motor system and the conceptualintentional system).

Assuming that these language-external cognitive modules are constant across speakers of different languages (excepting, e.g. the difference in modality between signed and vocal languages, which will entail different constraints from the sensory-motor system), this raises again the question of where cross-linguistic difference is located in grammar. Minimalist syntacticians have typically, if often implicitly, adopted the view of Borer (1984: 3) that variability resides in 'the grammatical component that is idiosyncratic and learned in every language: the vocabulary and its properties'. This is the position that Baker (2008: 156) has called the Borer-Chomsky Conjecture (after Borer 1984 and Chomsky 1981, 1995). While the earlier Principles and Parameters framework conceived of parameters as UG-provided toggle switches with language-particular settings, the Borerian approach, as pursued in feature-driven Minimalist syntax, instead understands parameters in terms of the inventory of features active in a particular language (and perhaps also the structural positions in which those features occur). This both imposes constraints on what a possible parameter can be, and more clearly defines the task of parameter setting for learners.

While some cartographic theories, such as that of Cinque and Rizzi (2008), posit an invariant universal 'spine' of functional projections, with differences between languages arising from whether particular features (and the heads in which they are located) are 'active' in a given language, much other work has argued that the sequence of functional projections is not fixed, and that the regularity that languages do exhibit in their functional sequences follows instead from requirements of semantic composition and from the ubiquity of functions such as clause typing and deictic anchoring. This latter view is described as 'neoparametric' by Cowper and Hall (2017), and has been pursued by a number of authors, including Bobaljik and Thráinsson (1998), Ramchand and Svenonius (2008, 2014), and Ritter and Wiltschko (2009).

A central tenet of the neoparametric view is that variation in syntactic structure (i.e. in selection, checking, valuation, etc.) arises from the same formal features that define morphological paradigms and inflectional contrasts (with the proviso that structural variation may be further sensitive to metafeatures such as strength, interpretability, or 'EPP' properties that are invisible to morphological realization). Claims about a language's functional syntax can—indeed, should—thus be grounded in the observation of its system of inflectional morphology.

In a sense, the neoparametric approach applies to syntax a function that is analogous to Jakobson's (1960: 358) famous definition of the poetic function, namely that it '*projects the principle of equivalence from the axis of selection into the axis of combination*' (italics in the original). For Jakobson, this means that poetic language involves the syntagmatic combination of words that are paradigmatically connected by affinities of form, producing patterns such as metre, rhyme, and alliteration. In neoparametric syntax, the paradigmatic system of contrasts in the functional lexicon determines the formal materials (features) from which syntagmatic structures are built, and which are available for operations such as Agree. We might say, then, that the neoparametric approach projects the principle of *contrast* from the axis of selection into the axis of combination—i.e. from the lexicon into the syntax.

Contrasts between features are perhaps rarely discussed in syntactic work, but they conceptually underlie much of our understanding of grammatical representations, across different modules of language. Contrastive features were first used in generative linguistics in the domain of phonology, following the structuralist tradition, and subsequently extended to syntax by Katz and Fodor (1963), Chomsky (1965, 1970), and Jackendoff (1977), among others.¹ In phonology, features have traditionally been understood to divide the available phonetic space along articulatory or acoustic lines, for example dividing voiced sounds from voiceless ones, although some phonological

¹ See Adger and Svenonius (2011) for further discussion of the history of features in generative syntax, and Dresher and Hall (forthcoming) on how structuralist conceptions of distinctive features were adapted into generative phonology.

features may be more abstract.² In syntax, many features have consequences for semantic interpretation, morphological realization, or both. For example, tense and number features in many languages are both semantically interpretable and morphologically expressed, whereas Case and gender features frequently have morphological expression without necessarily having clearly identifiable semantic content. Other features may be wholly internal to syntax, such as Chomsky's (1970) [\pm N, \pm V] features defining a four-member set of lexical syntactic categories, or 'EPP features' driving overt syntactic movement (Chomsky 2000).

This notion of grammatical contrast is distinct from whether a feature is interpretable or valued, a question that has received considerably more attention in Minimalist syntax. Chomsky (2000) proposes that syntactic operations are motivated in order to prevent unvalued-and thus uninterpretable-features from 'crashing' the derivation at LF. On this view, the syntactic activity of a feature is linked to whether it occurs in both valued and unvalued forms. Subsequent work has developed this idea further: Zeijlstra (2008) argues that evidence for uninterpretable instances of a feature is a precondition for its acquisition as a formal feature in a given language, while Pesetsky and Torrego (2007) argue for a further division between the interpretability of features and whether they are valued, allowing for the possibility that the value of a feature might be introduced in a different position than the feature is interpreted in. Though whether a feature is interpretable or valued is potentially orthogonal to whether it is grammatically contrastive, Wiltschko's (2008) claim that only contrastive features are grammatically active implies a connection between these properties. Chapter 8 of this volume addresses the nature of the syntactic operation AGREE, and is thus concerned with the representation of features in this sense.

Beyond the simple idea of grammatical contrast, much recent work on feature systems has pursued the further idea that some cross-linguistic variation might be attributed not merely to which features are active in a language, but to how those features are related to one another in *hierarchies* or *geometries*. Within Minimalism, this has been pursued perhaps most notably in the domain of ϕ -features, accounting for both the organization of

² Major class features such as [sonorant] and [consonantal] are difficult to define precisely in phonetic terms, and radically 'substance-free' approaches to phonology (e.g. Blaho 2008: 41) posit that phonological features in general need not have phonetic correlates at all.

pronominal paradigms and the existence of person hierarchies in alignment and agreement, as in, for example, Harley (1994), Harley and Ritter (2002*a*,*b*), Cowper (2005*a*,*b*), Lochbihler (2008), Cowper and Hall (2012), Béjar and Rezac (2009), and McGinnis (2013). The hierarchical representation in (1), for example, has been proposed by Béjar and Rezac (2009: 42–3) to account for both the Person–Case Constraint (Bonet 1991) and the Direct–Inverse agreement system typical of Algonquian languages. The core idea is that a third-person argument is specified only for the root node [π]; second person is further specified with the dependent feature [participant]; and first person is further specified with [speaker]. A probe that encounters a goal that bears a subset of these features can continue probing in search of a goal that is more fully specified.

An alternative organization of person features for Algonquian is proposed by Lochbihler (2012), and Oxford (2017) recasts the hierarchy altogether, identifying grammatical person contrasts with different amounts of syntactic structure (projecting the paradigmatic contrasts into the syntagmatic domain). In Oxford's account, first and second persons (speech act participants) take precedence for agreement not because they have more feature structure, but because their person features are not obscured by additional layers of syntactic projections. Some of Oxford's representations are shown in (2).

(2) a. Speech act participants

 (1 and 2)
 φP
 [+participant]







Hierarchical structures have also been advanced for case features, as in Bonet (1991, 1995), Béjar and Hall (2000), and Heap (2002), and for the organization of features on D, as in Cowper and Hall (2009) and Kyriakaki (2011). Beyond the nominal domain, some authors have pursued a feature-geometric approach to the structure of tense, aspect, and mood, accounting for the organization of inflectional systems in different languages, as in Cowper (1999, 2005*a*), Cowper and Hall (2005, 2017), and Clarke (2009, 2013).

While this is not always recognized in syntactic work making use of feature hierarchies (particularly in the literature on hierarchies in ϕ -agreement), dependency relations expressed in feature geometries are a way of formalizing the notion of contrastive scope. In phonology, for example, Clements and Hume (1995) make the feature [anterior] a dependent of [coronal], indicating that anterior and posterior places of articulation contrast only within the coronal range. If [anterior] has scope only within the class of coronal segments, then [anterior] can identify dental and alveolar consonants as a natural class contrasting with retroflexes and postalveolars, but it cannot group dentals and alveolars with labials, or retroflexes and postalveolars with dorsals, as it does in feature systems in which it cross-classifies with [coronal] (e.g. Chomsky and Halle 1968). Similarly, in Cowper's (1999; 2005a) geometry for English viewpoint aspect, INTERVAL (which is spelled out by progressive -ing) is a dependent of EVENT, indicating that there is a contrast between perfective (momentaneous) and imperfective events, but that no such contrast exists among states:

(3)	a. State:		b. Perfective event:	c. Imperfective event:
		Ø	Event	Event
				Interval

Thus a sentence like (4a) describes two perfective events (most naturally understood as occurring in sequence), while in (4b) the imperfective playing event spans an interval (most naturally understood as containing the perfective arrival); the state denoted by *we were happy* in (4c), on the other hand, is neither perfective nor imperfective (and can be felicitously construed as starting either before or immediately upon the arrival event), and adding overt imperfective morphology to it, as in (4d), degrades its grammaticality.³

- (4) a. When Christina arrived, we played a freilach.
 - b. When Christina arrived, we were playing a freilach.
 - c. When Christina arrived, we were happy.
 - d. *? When Christina arrived, we were being happy.

It is worthwhile to note that the use of feature geometries to encode the scope of contrasts is logically independent of their use to structure feature representations on a single head. The dependency among person features proposed by Béjar and Rezac (2009) shown in (1) is a claim about the representation of person features. What it means, in this model, for a head to bear a first person feature is that it bears the full feature complex in (1); the feature [speaker] does not occur independently of this hierarchy. The feature dependencies proposed in Cowper's (2005a) analysis of tense, mood, and aspect, by contrast, do not require the entailed and entailing features to occur on the same head. As Cowper and Hall (2013: 129) point out, a semantically dependent feature may appear on a separate syntactic head that selects a complement specified for the entailed feature. For example, Cowper and Hall (2012: 35), building on work by Cheng and Sybesma (1999), propose that in Mandarin the classification feature CL is semantically dependent on the individuation feature #, and that CL heads a projection that selects an NP complement that is specified with #. In this view, then, feature geometries primarily represent semantic entailments between features that occur within a domain of projections, but not necessarily on a single syntactic head within that domain.⁴ Like Oxford's (2017) account of Algonquian person systems, this approach allows paradigmatic contrasts to be expressed syntagmatically.

³ Adding progressive *-ing* to a stative predicate can also force an eventive reading; compare *She is sick* with *She is being sick* (Cowper 2005*a*: 14). To the extent that (4d) is acceptable at all, it requires *being happy* to be construed as an activity rather than a state.

⁴ Although most of the dependency relations in Cowper's (2005*a*) geometry correspond to semantic entailments, the presence of the purely syntactic feature FINITE (which has no semantically interpretable content) as both an entailed and an entailing feature is an exception.

Harbour (2011) and Harbour and Elsholtz (2012) question the explanatory usefulness of feature geometries, arguing that few if any of the dependency relations that have been posited in the literature can be independently motivated-and that for those that can be, a geometric treatment is unnecessary. In their view, any feature geometry must be either stipulative or redundant. However, as noted by Cowper and Hall (2014b), geometric arrangements of features remain a useful expository device for diagramming semantic entailments between features and for describing language-specific systems of contrasts. The neoparametric perspective in general predicts that languages should be able to vary in the formal features they use (Chomsky 2000: 100), but that the combinations into which these features can enter are constrained by the requirements of interpretability. Geometries are merely one of a range of theoretical tools for representing differences in the relative scope of features. Similar insights are also captured by contrastive hierarchies in phonology (Dresher 2009), and by various other morphosyntactic formalisms. In nanosyntax (Starke 2009; Caha 2009; Pantcheva 2011, among others), feature dependencies are syntactically articulated, with dependent features selecting projections of the features they entail as complements. For Harbour (2013, 2016), who formalizes features as functions applying in a particular order, the variation in order of application between one language and another generates different systems of semantic and morphological contrasts.

While the identification of the featural lexicon as the locus of syntactic variation is a relatively recent development within generative syntax, the grammatical relevance of paradigmatic contrast has been recognized at least since Saussure (1916), who observed that the semantic value of any grammatical entity depends on the oppositions it enters into. For example:

Le protogermanique n'a pas de forme propre pour le futur; quand on dit qu'il le rend par le présent, on s'exprime improprement, car la valeur d'un présent n'est pas la même en germanique que dans les langues pourvues d'un futur à côté du présent (Saussure 1916: 161). Proto-Germanic has no special form for the future; to say that the future is expressed by the present is wrong, for the value of the present is not the same in Germanic as in languages that have a future along with the present (Saussure 1959: 117).

Expressing this in (somewhat naïve) binary features, we might say that while the present tense in a language like French is [-past, -future], the so-called present tense in Proto-Germanic (and many of its descendants) is

merely [-past], and thus compatible with future reference. In phonology, there is a long tradition, stemming from Saussure (1916) and Trubetzkoy (1939), of using the presence or absence of features to encode the presence or absence of contrasts.⁵ In morphosyntax, distinctive features and the possibility of underspecifying them have come to prominence more recently, particularly within the framework of Distributed Morphology (DM; Halle and Marantz 1993). Underspecification of vocabulary items (VIs) is the standard DM mechanism for generating syncretisms in morphological paradigms; the geometric organization of features, a device adapted from phonology, has been used to delineate the underlying systems of distinctions that those VIs spell out (Harley 1994; Harley and Ritter 2002b; Cowper 2005a; Cowper and Hall 2014b). Similarly, feature representations are subject to Impoverishment, a mechanism of deleting syntactic features in certain configurations to account for other instances of syncretism (similar to mechanisms of delinking in phonological theory). The second person paradigm in English, which lacks a contrast between singular and plural, is standardly explained as the application of an Impoverishment rule that deletes any number features that occur on a head that also bears a second person feature. In both these casesunderspecification of VIs and Impoverishment-the underspecification assumed in DM is realizational rather than representational; it is located in the morphology, in the rules that associate abstract syntactic information with phonological content, rather than in the syntactic representation proper. Syntactic representations themselves remain fully specified in DM, however, though work in this framework often argues that certain features do not cooccur in syntax for principled reasons.

Combining contrastive specification of distinctive morphosyntactic features with the neoparametric approach to functional projections offers new insights into connections between structure and meaning. For example, Cowper and Hall (2017) argue that the historical development of the English modals from verbs into auxiliaries (Lightfoot 1979) involved the addition of a feature MODALITY to the English inflectional system. As verbs, the (pre-)modal vocabulary items realized lexical roots that moved to T from the verb phrase; as inflectional elements, the Present-Day English modal VIs spell out a feature of T itself. The feature MODALITY contributes to a clause the information that the state or event described therein is a possibility or a necessity, rather than something simply asserted to be true; this is the same

⁵ See Dresher (2009) for a history of contrast in phonology, and Chapter 9 of this volume for a more detailed discussion of the parallels between phonological and syntactic contrast.

feature that characterizes the future and conditional tenses in languages such as French and Spanish.⁶ If this feature was indeed absent from the Old English system of tense and mood contrasts, then its absence from any individual clause was non-contrastive. Like the Proto-Germanic 'present' tense alluded to by Saussure, the Old English 'present' tense was not contrastively nonmodal or non-futurate, and was used with a much wider range of futurate meanings than are possible in Modern English (Cowper et al. 2015).

In this way, the contrastive neoparametric approach to formal features offers insight not only into the synchronic organization of grammatical systems, but also into how they might change: the rise of new surface patterns in a language will force learners to postulate contrastive features that underly the change.

Organization of the volume

The inspiration for this volume came from the *Contrast in Syntax* workshop held at the University of Toronto in April 2015. The workshop was held in honour of Elizabeth Cowper, who had recently retired after nearly forty years at the university, and the invited speakers included many of her past students and advisees. The individual chapters of this volume, in most cases revised and expanded from talks and posters presented at the workshop, represent a diversity of topics, perspectives, and concerns. They are united, however, by an interest in morphosyntactic representations, and in the formal encoding of syntactic contrasts.

By *syntactic contrasts* we mean the systems of grammatical oppositions that exist within individual languages and, in a broader sense, how these systems can and do differ from one language to another. This theme is tied to a question that has been fundamental throughout the development of generative syntactic theory: What is universal in syntax (and in language more generally), and what is variable? The chapters of this volume address in varying ways, and from different perspectives, the distribution of syntactic features and their twofold role in defining paradigmatic contrasts and shaping syntactic structures.

The first section of the volume addresses the role of contrastive features in defining the inflectional spine of the clause. Tense in particular has played a central role throughout modern generative syntax as the head of the clause

⁶ See Cowper (2005*a*), in which this feature is referred to as IRREALIS; it was renamed MODALITY by Cowper and Hall (2007).

and as a locus of argument licensing. In mainstream work tense was originally located in the generalized head $Infl^0$, and later distinguished in a dedicated head T^0 (distinct from Agr⁰, the locus of clausal agreement in some theories). Subsequent syntactic and semantic work has suggested that clausal inflection involves yet finer-grained structure, distinguishing further heads responsible for modality and aspect, among other categories. In recent work more radical variation has been proposed, suggesting that the content of individual heads— the features that define their semantic and syntactic contrasts—may vary, not only in the organization of features (Cowper 2005*a*), but in the substantive content they describe (e.g. a feature ±COINCIDENCE may relate times in a tense-based language, but person or location in other languages: Ritter and Wiltschko 2014; Wiltschko 2014). The chapters in the first section vary in the degree to which they assume languages differ in their inventory of formal features, but all are concerned with features relating to tense, modality, and aspect.

Chapter 2, by **Alboiu** and **Barrie**, proposes a feature geometry for the Onondaga inflectional system. They adapt proposals by Cowper and Hall (1999) and Cowper (2005*a*), but argue that in Onondaga it is modality, rather than tense, that anchors clauses to the utterance context, just as Ritter and Wiltschko (2014) propose that location and person anchor clauses in Halkomelem and Blackfoot, respectively (see also Ritter, this volume).

Likewise in the inflectional domain of the clause, **Carnie** and **Schreiner**, in Chapter 3, analyse temporal aspectual contrasts in Scottish Gaelic, extending Cowper's (2005*a*) geometry of Infl in another direction. Cowper proposes that two languages with the same set of inflectional features can nonetheless differ in whether those features are distributed across multiple heads, or bundled within a head. When bundled, features can stand in a dependancy relation: one feature may be possible only in the presence of another. Carnie and Schreiner propose that the system of prospective aspect in Scottish Gaelic aspectual system involves two further distinctive dependents of the past-tense feature REVERSED that results (i.e. they are not modal), but instead involve a feature REVERSED that results in a temporal relationship that is not backward-looking (as in perfects) but instead forward-looking. The second feature they propose is RESTRICTED, which results in both the restricted (recent) perfect and the restricted prospective.

In Chapter 4, **Ritter** looks at the system of lexical aspect in Blackfoot, arguing that event structure in this Algonquian language is based on contrasts in animacy and sentience, unlike the contrasts of dynamicity and boundedness