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The Verbal Domain

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ROBERTA D'ALESSANDRO, IRENE FRANCO,
AND ÁNGEL J. GALLEGÓ

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The Verbal Domain

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ROBERTA D'ALESSANDRO, IRENE FRANCO,
and ÁNGEL J. GALLEGÓ

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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 verb phrase is a core component of the syntactic structure of sentences, and its proper analysis has developed over the decades from a very intuitive notion (the verb and some of its arguments and modifiers) to an expanded and more theoretically articulated structure, where functional elements do the work of creating the relevant linkages between meaning and form. In the present volume, the editors have brought together recent work on verbal syntax, focusing on the analysis of the verb phrase covering the three main areas of current research: how verbal roots are connected with the syntactic structures which they give content to, how transitivity and agentivity are expressed, and how the verbal domain is embedded in larger structures that signal the temporal contours of the event denoted by the root. The chapters present contrasting perspectives on one of the most central and controversial aspects of current syntactic theory.

David Adger
Hagit Borer

List of abbreviations

ABS	absolutive case
ACC	accusative case
ACT	active voice
AG	agent
Agr	agreement
ANAPH	anaphoric
aP	adjectivizer phrase
AdjP	adjectivizer phrase (in Anagnostopoulou)
Appl	applicative voice
ApplP	applicative phrase
Asp	aspect
ATTR	attributative
AUG	augment
AV	actor voice
CAUS	causative
CausP	Causative phrase
CI	conceptual-intentional
CL	classifier (noun class)
COP	copula
CONT	contessive
CP	complementizer phrase
CVB	converb
DAT	dative case
DEM	demonstrative
DIR	direct
DP	determiner phrase
DM	Distributed Morphology
EA	external argument
ECM	exceptional case marking
ecause	caused dynamic event
edyn	dynamic event

EL	elative case
EMPH	emphatic
EPP	Extended Projection Principle
ERG	ergative case
ESS	essive case
EV	epenthetic vowel
EVID	evidential
EXCL	exclusive person
EXIST	existential
EXPL	expletive
F	feminine
F:—	unvalued feature
F:val	valued feature
<u>F:val</u>	feature valued during the derivation
FIN	finalis
FUT	future
GB	Government and Binding
GEN	genitive case
HPL	human plural
IA	internal argument
IMPF	imperfective (IMPFV in Panagiotidis, Spyropoulos, and Revithiadou)
INCH	inchoative
INCL	inclusive
IND	indicative
INDIR	indirect
INF	infinitive
Infl	inflection
initP	initiator phrase
INST	instrumental
INTR	intransitive
IP	inflectional phrase
LAD	Language Acquisition Device
LOC	locative case
LOM	long object movement
LV	locative voice

M	masculine
MID	middle
MS	masdar
NACT	non-active (morphology)
NEC	Northeast Caucasian
NEG	negative
N	neuter
NHPL	non-human plural
NOM	nominative
NMLZ	nominalizer
NPL	non-plural, number-neutral
NPN	non-possessed noun marker
OBL	oblique case
P	person
PASS	passive voice
Perf	perfective
PF	phonological form
PFV	perfective (PRF in Harley)
PL	plural
PL	Pazar Laz
POL	politeness marker
POSS	possessive
pP	prepositionalizer phrase
PP	prepositional phrase
PredP	predicative phrase
PREP	prepositional case
PRES	present tense
procP	process phrase
PROG	progressive aspect
PRT	participle
PST	past tense
PV	preverbal marker
PV	patient voice
Q	question marker
RC	restructuring complement

REAL	realis
REFL	reflexive
ResultP	result phrase (<i>resP</i> in Ramchand)
RootP	root phrase
RSAP	resultant state adjectival passives
SBJ	subject
SE	“reflexive pronoun”
SG	singular
SOD	spell-out domain
Spec,IP	specifier inflectional phrase
ST	Icelandic <i>-st</i> morphology
STATE	state
StatP	stativizer phrase
SUP	superessive
TP	Tense phrase
TR	transitive
TrP	transitive phrase
TS	thematic suffix
TSAP	target state adjectival passives
uCL	unvalued class feature
UG	universal grammar
□ _v	empty vocalic slot
VAL	valency marker
VoiceP	Voice phrase
VOC	vocative case
vP	(light) verb phrase
VP	verb phrase
VRB	verbalizer
v _{tr}	transitive v
XP	phrase

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Introduction: the verbal domain

ROBERTA D'ALESSANDRO, IRENE FRANCO,
AND ÁNGEL J. GALLEGÓ

The verb phrase (VP) is the core of the sentence, and one of the oldest projections ever postulated. In the generative tradition, Chomsky (1957) already talks about a VP, but the definition of a verb phrase, *albeit* different from the one we use today, dates back at least to Saussure (1916). The VP was intuitively and primitively defined as the phrase containing the verb and its arguments.

The existence and importance of VP within the clause has never been in doubt; however, the structure of the VP and the argument positions within it have been the subject of extensive debate, even as far back as the Government and Binding (GB) era (Chomsky 1981).

The VP head is the verb: even this simple assumption has been controversial. Different hypotheses have been proposed: one is that the whole verb is base-generated (or first-merged) in V (for instance, as in Chomsky's (1995) early Minimalist Program, according to which fully inflected material is merged and subject to feature matching). A second hypothesis is that the verbal root is base-generated, and inflection is acquired via verb movement (Belletti 1990; Kayne 1989, and many others) or via affix hopping, in languages in which the verb does not move (Lasnik 1994).

Another possibility, formulated in the Distributed Morphology (DM) framework, is that only bare roots, with minimal semantic content but no functional/categorial specification, constitute the core of a V. In order to build a verb, a V root must combine with a "verbalizing" head, *v*, turning the root into a "base," i.e., into a verb. Inflection is acquired later on in the derivation. While most researchers share the idea that roots are category-neutral elements encoding non-compositional and encyclopedic information, there is disagreement on whether these units can encode other types of information (cf. Harley 2009: 13).

With regard to the other constituents of the VP—the arguments—the discussion was not centered so much on their nature, which is usually that of a determiner phrase (DP) or a complementizer phrase (CP), but on their position with respect to the verb, or to the VP, and their theta-roles. The Extended Projection Principle (EPP) for instance, formulated as a universal principle, together with the idea that subjects should be defined structurally and not semantically, led to the idea of externalization

of the subject, base-generated in specifier inflectional phrases (Spec,IP). Given that the subject receives its thematic role from the verb (but see Marantz 1984), however, it is plausible for it to be first-merged in the verbal domain, as argued by Sportiche (1988) on the basis of evidence from floating quantifiers, as well as maintained by McCloskey (1997). The co-occurrence of the subject with an expletive in sentences like, 'There is someone in the garden' also seemed to call for a VP-internal subject position (as discussed extensively by Kitagawa 1986; Speas 1986; Kuroda 1988; Sportiche 1988; and more recently McIntyre 2004; among others). Regarding the subject, then, the debate during the GB era mainly revolved around whether it should be base-generated within the VP or directly in Spec,IP. The two positions have been reconciled with the postulation of *v* as a head hosting the external argument as its first-merge position, as proposed by Chomsky (1995) and Kratzer (1996).

To arrive at this hypothesis, different paths and analyses had to converge. One of the key papers proposing the hypothesis of a complex V field was Larson (1988), in which the Split-VP Hypothesis is formulated. This hypothesis argues for a layered verbal projection in which the highest head is a light verb. While Larson's paper was mainly concerned with double-object constructions, and hence with identifying the position of the two internal arguments of the verb, the idea of a layered *v* gained a foothold and opened the way to the discussion of the complexity of *v*.

Dating from a similar time to Larson's paper, Marantz (1984) shows, mainly by means of idioms, that internal and external arguments have a different degree of connection to the verb. Before assigning an external theta-role, the verb must first combine with its internal argument(s). This hypothesis suggests a looser link between the external argument and the verb.

Taking inspiration from these papers, Hale and Keyser (1993) introduce an outer VP as the locus of merge of the Agent, and Kratzer (1996) proposes the existence of a Voice phrase (VoiceP), a projection hosting the external argument. Finally, Chomsky (1995) proposes a *v* as an agent-introducing, transitivity head: a head which would soon become crucial for his theory of phases (Chomsky 2000 and subsequent work).

These three proposals all converged in assuming a layered V field, with a head, V, introducing the lexical verb, and a *v*/V/Voice head introducing the Agent/external argument.

The last step in the history of the verbal domain consists of interpreting *v* as the head transforming a root (V) into a verb: this is a DM hypothesis, as in Harley (1995) and Marantz (1997).

Since its first formulation, *v*/Voice has been conceptualized in different ways: as a phase head (Chomsky 1998 et seq.), as a light verb head (like in Larson 1988), as the head encoding transitivity (with direct connection to phasehood, but not necessarily; see the discussion in D'Alessandro and Scheer 2015), and as a verbalizer (in the DM tradition). The first decade of the Minimalist Program "conflates" the two heads, *v* and Voice, into one: the head introducing the external argument.

Others claim that the VP—now conceived as a lexical V and a functional v—can be more complex, i.e., it can be composed of more layers. In this perspective, Voice and v arguably need to be kept separate. Specifically, several works propose that different v-features are not encoded on a single head, but on distinct functional heads. Belletti (2005) proposes that the v field may also encode discourse-related features in the so-called lower left periphery.

The way Aktionsart is encoded in the VP, and the inner structure of the event encoded in it, has given rise to a parallel line of research, notably represented by Ramchand's (2008) monograph and also debated in this volume.

The structure of the VP, its complexity, its semantics, its function, and the universality of the heads that it contains continue to be debated even today, 20 years after the appearance of Kratzer's paper. A lot of progress has been made: this volume features cutting-edge research on the verbal domain, while tackling the problem of the nature and structure of the vP-VP domain. The book includes some chapters based on papers presented at the "Little v" workshop, which was held at Leiden University on October 25–26, 2013.

The volume is divided into three main sections, representing the areas in which contemporary debate on the verbal domain is most active. The first part, entitled Root and Verbalizer, includes four chapters discussing the set-up of verbal roots, their syntax, and their combination with other functional heads like Voice and v. This part focuses on the V head. The second section, Voice, discusses the content and necessity of a Voice head in the structure of a clause, and whether Voice is different from v. Voice was originally intended as the head hosting the external argument in its specifier, but what is its role in expressing transitivity? And what about voice, intended as the alternation between actives and passives?

The third section is dedicated to event structure, inner aspect, and Aktionsart. The main issue it tackles is the one-to-one relation between argument structure and event structure, and whether there can be minimal structural units at the basis of the derivation of any sort of X phrase (XP), including the VP.

I. Roots and verbalizers

The idea of a complex verbal domain featuring a light verb, or an extra verbal projection, was originally adopted to distinguish between different verb classes. Along with aspectual (achievements, accomplishments, etc.), argument-taking (transitives, unergatives, etc.), and semantic (epistemics, volitives, etc.) properties, verbs have been classified into different classes in the recent literature (cf. Hale and Keyser 1993; Harley 1995, 2005; Arad 2003; Folli and Harley 2005, 2006; Marantz 2009a,b; Ramchand 2008, among others) according to the basic (non-decomposable) predicate they instantiate: BE, BECOME, GO, HAVE, DO, CAUSE, PUT, PROVIDE, etc. Typically, these meanings are attributed to the v head, and referred to as "flavors of v."

Flavors of *v* are regarded as primitives in most theories, although some authors have argued that they can be derived contextually (Acedo-Matellán and Mateu 2014; Harley 2005), just as the nominal or verbal nature of a root is determined by the type of functional morpheme it is merged with (cf. Marantz 1997). Thus, the specific flavor of *v* can be determined configurationally, roughly as in (1), where EA and IA stand for external and internal argument, respectively:

- (1) a. *v* = CAUSE, if there is EA and the IA is an adjectival small clause (e.g., *break*)
- b. *v* = DO (HAVE), if there is EA and the IA is a $\sqrt{\text{ROOT}}$ (e.g., *drink*)
- c. *v* = BECOME, if there is no EA and the IA is an adjectival small clause (e.g., *sink*)
- d. *v* = GO, if there is no EA and the IA is an adpositional small clause (e.g., *leave*)
- e. *v* = PUT, if there is EA and the IA is an adpositional small clause (e.g., *shelve*)

For some of these authors (e.g., Harley 2009, 2012, 2013; Hallman 2013), *v* and Voice are not to be treated as one and the same functional head. This assumption has non-trivial implications for phenomena like Case assignment and argument licensing.

In Chapter 1 of this volume Harley discusses the possibility, first explored by Pytkäinen (2002, 2008), that *v* and Voice are in fact distinct but can bundle into a unique head in some languages. The proposal raises a series of theoretical and empirical questions for the theory of parameters, and has important consequences for the articulation of the verbal domain. Building on data from languages like Chol, Persian, Hiaki, Chemehuevi, English, and Italian, Harley shows that the [\pm bundling] option has very specific effects. Under the hypothesis that Voice introduces the external argument and checks accusative Case, whereas *v* encodes agentive/causative semantics and verbalizes roots, Harley shows that in languages in which Voice and *v* bundle, the facts listed above are all present at the same time.

In DM and some other frameworks (Hale and Keyser 2002; Ramchand 2008; Starke 2009) *v* is typically clouded by a process of incorporation (cf. Baker 1988; see Haugen 2009 for recent discussion) that provides *v* with a phonological matrix, a process that is subject to parametric variation. This is visible in Basque (3a–f) and Tanoan (3g–l) (taken from Hale and Keyser 1998), where *v* is lexicalized with a morpheme that is translated by ‘do’ below.

- | | |
|----------------------------|---|
| (2) a. Negar egin (cry-do) | g. Sae-’a (work-do) |
| b. Eztul egin (cough-do) | h. Se-’a (speech-do) |
| c. Barre egin (laugh-do) | i. T _ɛ u-’a (whistle-do) |
| d. Jolas egin (play-do) | j. H _ɛ i _ɛ il-’a (laugh-do) |
| e. Oihu egin (shout-do) | k. Shil-’a (cry-do) |
| f. Lo egin (sleep-do) | l. Zaae-’a (song-do) |

In Chapter 2 Panagiotidis, Spyropoulos, and Revithiadou discuss morphological evidence from Greek in favor of the existence of a *v* head. Specifically, the authors

argue that virtually any verb in Greek has either an overt or a covert verbalizing suffix that corresponds to *v*. In cases in which there is no overt suffix lexicalizing *v*, Greek has an empty *v*(owel)-slot in the phonological representation which can also be analyzed as a verbalizing suffix. Despite exceptions such as *γράφω* write-NONPAST.1SG, Panagiotidis et al. conclude that every verb in Greek shows something that can only be understood as an abstract suffix. Since this suffix does not correlate in any way with Aktionsart, tense, ϕ -features, or any other feature beyond verbhood, we have to conclude that it is a “pure” *v*.

A different approach to *v*, revealing some more interesting properties of this syntactic head, is presented in Chapter 3. There, Polinsky, Radkevich, and Chumakina argue for a layered *v* to explain an unusual agreement pattern in Archi. In Archi there seems to be an agreement between first person pronouns and absolutive-marked arguments. In other words, we see an agreement between arguments that is not mediated by the verb. This is quite unusual, given that we are talking about person agreement, and not a sort of concord. Polinsky, Radkevich, and Chumakina solve this issue as follows: they first postulate a condition for the existence of DPs in Archi: all DPs must have a class feature, or they will not be interpretable at the interfaces. Next, they show that pronouns in Archi are not uniform: first person pronouns are weak and thus need to be “licensed” by *v*, while first person exclusive pronouns, which always feature a focus marker (a D head according to the authors), receive their class feature via agreement with *v*. Were *v* not layered, it would be impossible for these pronouns to get their class feature from it, because of positional constraints. Evidence for this layering is thus given indirectly in this chapter.

We have seen that there is disagreement regarding the information encoded on roots. Another key property of roots concerns their categorization. In Embick and Marantz’s (2008) work it is claimed that these units must be categorized before they are transferred to the interpretive components. More precisely, the little heads could be regarded as categorizers that turn concepts (non-linguistic units) into lexical items (linguistic units):

(3) $\sqrt{\text{CAT}}$, $\sqrt{\text{LIKE}}$, $\sqrt{\text{SAD}}$, $\sqrt{\text{SING}}$, etc. (concepts)

(4)
$$\begin{array}{c} xP \\ \swarrow \searrow \\ x \quad \sqrt{\text{ROOT}} \end{array} \quad (\text{lexical item})$$

Though acategorical, roots have been argued to correspond to different denotations/semantic types:

- (5) $\sqrt{\text{ROOT}}$ denotations
- States = $\sqrt{\text{clean}}$
 - Manners = $\sqrt{\text{hurry}}$
 - Entities? = $\sqrt{\text{hammer}}$
 - Relations? = $\sqrt{\text{await}}$

(from Marantz 2001a: 20)

After reviewing the different approaches to root types in the literature, Alexiadou and Lohndal argue in Chapter 4 that there is a typology to be drawn depending on the meaning a root encodes independently of its syntactic categorization. This language typology is proposed according to a division of labor between *v* and roots: in some languages, there are highly general roots that can appear with a range of different meanings; in others, roots impose severely restricted meanings. The typology is illustrated by an in-depth discussion of three languages: English, Greek, and Hebrew. Hebrew is argued to represent one end of the scale where the root encodes a minimal and highly abstract meaning. English represents the other end where the root has a severely restricted meaning. The two languages differ in terms of the role of functional morphology, which is crucial in Hebrew but not at all a central part of English. Greek is important in the sense that the language falls in between English and Hebrew: it has some highly general and abstract roots, and it has some roots with highly determined and specified meanings. The chapter offers suggestions on how to formalize the typology in question.

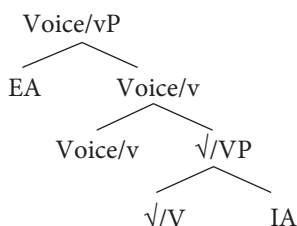
II. Voice

In the 1990s the standard take on Kratzer's (1996) Voice and Chomsky's (1995) *v* was to regard them as two sides of the same coin, as they indeed seem to perform the same functions: they introduce the external argument, signal a cyclic domain (phase), encode causative semantics, verbalize the root, and assign accusative (absolutive) Case to the internal argument. A closer inspection, though, reveals that these are "too many things" for a single head to do. Today the standard approach to the internal scaffolding of the *vP* assumes at least two independent functional heads right above roots: Voice and *v*, which can be bundled to form a single lexical item in certain languages (as noted above). The division of labor between Voice and *v* is as indicated in (6):

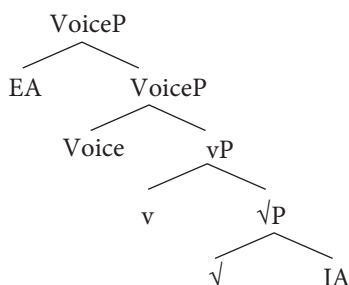
- | | |
|----------------------------------|--|
| (6) a. Chomsky's (1995) <i>v</i> | b. Kratzer's (1996) voice |
| (i) encodes causative semantics | (i) introduces the external argument |
| (ii) verbalizes the root | (ii) checks accusative (absolutive) Case |
| | (iii) delimits a phase |

The introduction of a Voice projection in addition to Chomsky's (1995) original little *v* head, yields the more articulated *vP* configuration in (7b), instead of the original formulation in (7a), which is only available via Voice-*v* bundling (Harley this volume; Pyllkannen 2008, and references therein):

(7) a. VoiceP/vP bundling structure



b. VoiceP/vP splitting structure



As argued by Harley (2012), evidence from applicative-deploying languages, such as Chichewa, Kinyarwanda, or Hiaki, suggests that Voice and *v* heads are independent. Hiaki provides morphological evidence of a causative head that also verbalizes the root. This is shown in (8), where the element **bolded** is the spell-out of *v*:

(8) English

- a. to **red**den (red)
- b. to **fatt**en (fat)
- c. to **soft**en (soft)
- d. to **sharpen** (sharp)

Hiaki

- a. sikisi (siki)
- b. awia (awi)
- c. bwalkote (bwalko)
- d. bwawite (bwawi)

(from Harley 2012: 16)

The contributions contained in this part of the book are related to the role of Kratzer's (1996) Voice, whose properties we have only just started to consider. In Chapter 5 Anagnostopoulou argues in favor of the coexistence of *v* (introducing an event variable) and Voice (introducing the external argument), and finds evidence for this articulation in adjectival passives, which split into several types that can be described in terms of this architecture. The chapter summarizes the main arguments for postulating *v* and Voice in adjectival passives, assuming that the two verbal layers are required in order to account for two distinctions: the distinction between participles without event implications vs. participles with event implications (the former lacking and the latter containing a *v*), and the distinction between resultant state adjectival passives with event implications vs. target state adjectival passives with event implications (the former possibly containing Voice, but the latter being unable to). The discussion also focuses on the absence of Voice in target state adjectival passives, providing evidence from constraints on verb classes that are allowed and disallowed to form adjectival passives, and from a phenomenon of coercion of manner, instrument-based denominal verbs into result verbs in target state adjectival passives. Building on Kratzer's (2000) distinction between target and resultant states (the latter being transitory, and therefore compatible with the adverb *still*), Anagnostopoulou shows that *by*-phrases, instrumental prepositional

phrases (PPs), and agent-oriented adverbials are incompatible with target states participles, which in her analysis lack Voice:

- (9) a. *Ta lastixa ine akoma fuskomena apo tin Maria (Greek)
 the tires are still inflated by the Mary
 'The tires are still inflated by Mary.'
- b. *Ta lastixa ine akoma fuskomena me tin tromba (Greek)
 the tires are still inflated with the pump
 'The tires are still inflated with the pump.'
- c. *Ta lastixa ine akoma fuskomena prosektika (Greek)
 the tires are still inflated carefully
 'The tires are still carefully inflated.'

(from Anagnostopoulou this volume)

Anagnostopoulou further shows that the presence of Voice forces a manner reading of instrument denominal verbs, which, in the absence of Voice, can be construed as expressing results in target state adjectival passives. A coercion phenomenon of this type challenges the Manner-result Complementarity Hypothesis because the instrument is still entailed in adjectival passives with coercion, even though the verb has a result interpretation.

In Chapter 6 Schäfer outlines an analysis of medio-passives and the distribution of *by*-phrases, developing his previous work for a typology of Voice heads. Schäfer designs a typology of Voice based on two dimensions: syntactic and semantic transitivity. Each of these dimensions can have a positive or a negative value (yielding transitive and intransitive verbs, and so on). A verb is syntactically transitive if Voice has a D-feature to be checked by a DP in its specifier. A verb is semantically transitive if Voice can introduce a semantic argument (as a variable to be saturated or as an existentially bound variable). The typology is made more complex by the double nature of *se*, which can be a variable, when it saturates an argument slot, or an expletive, when there is no argument slot to be saturated (and in the absence of a c-commanding antecedent). The result of the interaction of all these primitives is a six-point matrix, featuring: (i) active Voice (Voice with a D feature and an external argument), (ii) medio-passive Voice (with no D feature and existentially bound external argument), (iii) active expletive Voice (with a D feature but no external argument), (iv) medio-marked expletive Voice (no D feature and no external argument), (v) transitive medio-passive Voice (D feature which is existentially bound and external argument), and (vi) passive input Voice (no D feature and external argument). In this approach, the *by*-phrase is allowed in constructions that have an external theta-role which cannot be saturated by an argument DP.

Inspired by cartography-based approaches, Chapter 7 introduces McFadden and Sundaresan's idea that the verbal space right above the root should actually be

decomposed into four independent functional heads. With Tamil (a highly inflected, agglutinative Dravidian language) providing the empirical basis, these authors argue for the existence of a Trans(itive) head, distinguishing accusative from unaccusative variants of the same verb, having a specific phonological impact on the verb, and introducing the external argument; a Pass(ive) head, which is added to transitive variants of verbs, and is crucially independent from Trans; a Caus(ative) head, verbalizing the root base and introducing the event semantics; and finally a Mid(dle) head, a particularly complex functional item that is related to a series of notions (self-benefaction, volitionality, accident, inchoation from a state, etc.) associating the highest argument with an additional semantic role. Accordingly, the complete vP structure should be as in (10):

- (10) [_{Pass(ive)P} Pass [_{Mid(dle)P} Mid [_{voiceP} voice [_{vP} v [_√ROOT]]]]]

Chapter 8, by Wurmbrand and Shimamura, analyzes the behavior of restructuring across a wide variety of languages, and takes on the difficult task of building a comprehensive theory of restructuring able to deal with all the empirical facts presented. Starting from the assumption that restructuring configurations involve a deficient clausal (functional) domain, Wurmbrand and Shimamura illustrate how the properties of these constructions allow us to identify different components of the Voice domain. Specifically, the authors discuss the phenomenon of long object movement (LOM), in which the object of the embedded predicate is promoted to matrix subject due to a passive-like operation of the matrix predicate. Wurmbrand and Shimamura show how the LOM construction challenges existing accounts of restructuring and of the Voice domain more generally. The authors propose an analysis that is based on a VP-complementation approach, in which the restructuring complement has a Voice domain that is shown to be systematically deficient. The morphological, syntactic, and semantic properties of restructuring clauses are thus derived from a split-Voice hypothesis (v/Voice- vs. ϕ -features), which is combined with a cyclic spell-out approach in a valuation-based Reverse Agree framework.

III. Event and argument structure

Argument structure refers to the syntactic structure linking a verb with its arguments. Over the years, this notion has been interpreted in many different ways, mainly focusing either on the lexical verb or on the structure associated with it. According to the “lexicalist” view, starting in the generative tradition with Chomsky’s (1970) “Remarks on Nominalization,” the verb determines the structure associated with it. This also implies that argument structure alternations (like, for instance, the transitive-unaccusative alternation) are to be computed on the verb and its thematic grid as a whole, not excluding the verb from the computation. Lexicalist analyses assume thus that the specification of the number of arguments a verb can take and

their theta-role marking all stem from the verb and are codified in the corresponding lexical entry (Hale and Keyser 1993).

Argument-structure alternations, such as the transitive-unaccusative alternation involving verbs like *sink* or *open*, target the verb and the syntactic structure with the theta grid associated with it (cf. Chierchia 1989/2004; Reinhart and Reuland 1993; Pesetsky 1995; and many others), which is generally referred to as a subcategorization frame.

While sharing the same assumptions, some lexicalist approaches focus more on the thematic side than on the structural side of the VP. A more semantically oriented approach is taken, for instance, by Levin and Rappaport-Hovav (1995) and Levin (1993).

Events also involve participants, bearing different theta-roles. The distinction between a theta-role grid and an “event-participant” grid is somewhat blurred; this is why the two notions (event structure and argument structure) were very often treated as one and the same, much like the different sorts of *v* discussed above. Aktionsart (Vendler 1967; Taylor 1977; Dowty 1979) and event participants were thus often treated on a par with the subcategorization frame of the verb. In some cases this correspondence is made explicit. Dowty (1991), for instance, proposes the following definition of Agent and Patient proto-roles, linking thematic roles to events:

- (11) Contributing properties for the Proto-Agent:
 - a. volitional involvement in the event or state
 - b. sentience (and/or perception)
 - c. causing an event or change of state in another participant
 - d. movement (relative to the position of another participant)
 - e. exists independently of the event named by the verb.

(from Dowty 1991: 572)
- (12) Contributing properties for the Proto-Patient:
 - a. undergoes change of state
 - b. being an incremental theme
 - c. causally affected by another participant
 - d. stationary relative to movement of another participant
 - e. does not exist independently of the event named by the verb.

(from Dowty 1991: 572)

A different approach, focusing on events only and deconstructing them into eventuality atoms, is taken by Borer (2005b). Ramchand (2008) also proposes a decomposition of events into subevents, each of which featured on its own head, but she takes a less radical view of the atomicity of subevents than Borer. The subevent phrases identified by Ramchand (2008) are the “causing projection,” with an *init*

head, the “process projection,” with a *proc* head, and the “result projection” with a *res* head.

The lexicalist approach was heavily challenged by the advent of DM (Halle and Marantz 1993), which introduced the idea that a root can form any possible structure depending of the functional head it is merged with (a “nominalizer” *n*, a “verbalizer” *v*, and so on,) and that VP acquires a semantics derivationally, and not because of the predetermined selectional “template” it is merged with (Embick and Marantz 2008).

The extent to which event structure and argument structure overlap, and the way in which they are built up, are the issues addressed in this last part of the book.

While the first two chapters, one by Öztürk and Erguvanlı Taylan and one by Ramchand, take Ramchand’s view on argument structure as their background, the third and final chapter, by Marantz and Wood, takes the opposite path.

In Chapter 9 Öztürk and Erguvanlı Taylan examine Voice alternations in Pazar Laz. This language exhibits a three-way voice system, with options they call initiator voice, undergoer voice, and active impersonal voice. Öztürk and Erguvanlı Taylan argue that, despite this apparent “alternation,” there is no valency reduction in Pazar Laz: all verbs feature transitive structures. Verbs that are usually believed to feature only one argument, like unaccusatives and unergatives, also involve a transitive structure with an undergoer and initiator. While syntactically these two classes have an identical (transitive) structure, morphologically they display some differences. Morphological patterns, in fact, reflect the difference between these two classes of verbs, which consists in a change of perspective, either that of an undergoer or that of an initiator.

The chapter continues with the authors showing that an undergoer position is also present in unergative verbs, and that an initiator position is also present in unaccusative verbs, as reflected in the morphology. Initiator and undergoer cannot be dissociated in syntax, but they can be brought to the foreground or to the background depending on the perspective in which the event is presented. This gives the impression that the language has the same monoargumental verbal categories as English. In Pazar Laz, though, it is impossible to conceptualize events featuring only an initiator or only an undergoer.

In Chapter 10 Ramchand challenges once again the assumption that event structure and argument structure are essentially the same, and that therefore event participants and verb arguments always overlap. Firstly, Ramchand presents a theoretically and empirically grounded argument for a fine-grained distinction of the different properties that much literature ascribes to little *v*, under the assumption that functional heads must be semantically motivated.

Reviewing some studies on argument and event structure, Ramchand identifies three major domains into which current empirical generalizations fall. The first group includes the representations of event structure and event participants in syntax, like those put forward by Ramchand (2008). The second group consists of generalizations about the nature and ordering of morphemes in the extended verbal

projection. These generalizations are at the core of DM, represented by works such as Harley (1995). The third group consists of generalizations about domains, detecting locality effects in syntax and morphology. A significant contribution in this sense is the seminal work of Kratzer (1996). These three types of generalization are usually not compatible with one another. This chapter offers a unifying solution: Ramchand proposes a functional structure that encodes the roles of Voice and of the verbalizer without conflating them.

After discussing some open issues concerning the hierarchy of functional projections, Ramchand proposes a finer-grained structure for the VP, rejecting the hypotheses that the verbal domain corresponds to one single v-head or has Voice as its highest head. Specifically, event structure decomposition is shown to differ from argument externalization, although these two aspects are somewhat related. The argument for the splitting of the event domain in a number of functional projections finds empirical support in the syntax of English progressive and perfective forms, which are shown to respectively belong and not belong to first-phase syntax. Ramchand grounds her empirical observations in the first-phase semantics, and suggests a head which could possibly, from a syntax-semantics interface viewpoint, be closing up the first derivation cycle, in line with Ramchand and Svenonius (2014).

The last chapter, by Marantz and Wood, maintains that the syntax and semantics of external arguments depend on the autonomy of the syntax of argument structure, in line with Marantz (2013b). In contrast to the model proposed by Ramchand, as well as by Öztürk and Erguvanlı Taylan (this volume), Chapter 11 challenges theories that associate both the semantic interpretation and the morphophonological spell-out with a distinct syntactic head. Marantz and Wood argue instead for a simplification of the primitives that introduce argument structure in the syntax, proposing a unifying analysis for heads that typically introduce an external argument, such as Voice (which introduces the external argument of verb phrases), little *p* (which introduces figures, i.e., the external argument of a prepositional phrase (PP)), and low applicatives (which introduce the external argument related to a DP). Marantz and Wood argue that these constructions are syntactically identical, and differ from prepositions and high applicatives only because of the absence of a lexical root adjoined to them.

This chapter thus proposes that one single head, with distinct semantic and morphological realizations that are context-sensitive, can account for several empirical facts. The argument that there is only a single argument-introducing head is supported by a detailed discussion of three constructions: Icelandic figure reflexives, Japanese adversity causatives, and possessor-raising constructions.

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Part I

Root and Verbalizer

The “bundling” hypothesis and the disparate functions of little *v*

HEIDI HARLEY

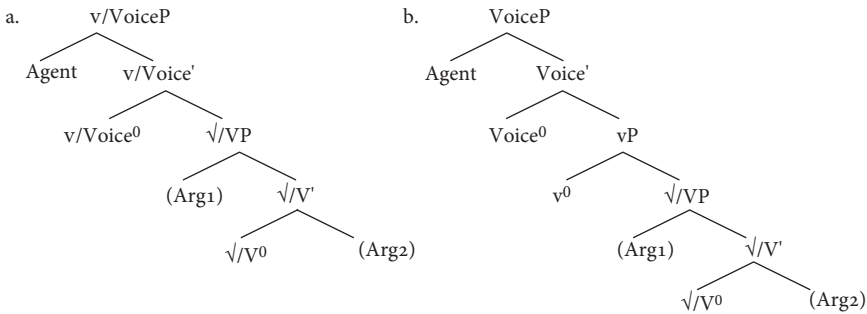
1.1 Introduction

The split-verb phrase hypothesis first appeared in Larson (1988), and was taken up in various guises by Hale and Keyser (1993), Kratzer (1994, 1996), Chomsky (1995), and Marantz (1997). Each ascribed a different subset of properties to the new external argument-introducing projection. The new projection also had a variety of names—verb phrase (VP), *v*P, or VoiceP. Some considered it functional (especially Kratzer 1996); others treated it as lexical, or left its functional or lexical status unaddressed.

However, all these proposals had in common the assumption that the external argument was introduced in the new phrase’s specifier, and the projection of the lexical verb or its root was the new phrase’s complement. That is, the overall picture was as illustrated in (1a). The new projection also variously (i) checked accusative case, (ii) served as a verbalizer for the head of its complement, (iii) introduced agentive or causative semantics and/or (iv) an initiating subevent, and (v) delimited a cyclic domain.

Later proposals further subdivided the VP, including, among many others, Borer (1994, 2005b), Travis (2000), Pytkäinen (2002, 2008), and Ramchand (2008). In Pytkäinen (2002, 2008), the single *v*P/VoiceP projection became VoiceP and *v*P, as in (1b). The VoiceP introduced an external argument, checked accusative case, and delimited a cyclic domain; the *v*P introduced agentive or causative semantics and verbalized the head of its complement.

(1)



Unlike other subdivision proposals, Pylkkänen also introduced a “Voice-bundling” parameter, allowing both (1a) and (1b) to occur in a language, depending on the setting of its Voice-bundling parameter. A Voice-bundling language would have the structure in (1a), unifying the functions of Voice and *v* in a single projection, and a Voice-splitting language would have the structure in (1b), with each functional head independently performing their different functions. The central idea is similar to the “Split-IP” parameter (Thráinsson 1996; Bobaljik and Thráinsson 1998), where rich agreement paradigms were argued to motivate learners to posit separate projections for agreement and tense marking, with consequences for the syntax of subjects (Rohrbacher 1994, 1998; Vikner 1995, 1997; Bobaljik and Jonas 1996; Thráinsson 1996; Bobaljik and Thráinsson 1998; Conradie 2007). In the case of the Voice-bundling parameter, the Language Acquisition Device (LAD) looks for morphological evidence that *v* and Voice are independently realized, and for morphosyntactic and semantic evidence that they function independently. Absent such evidence, the LAD posits a single *v/Voice* head consisting of a “bundle” of all the relevant features and serving the relevant functions. Given such evidence, the LAD projects separate *v* and Voice heads, with the former bearing certain features and the latter others. (Alternative technical formulations of the bundling parameter are possible, e.g., a Spanning view (Svenonius 2012; Merchant 2015) or a selection-based/Adjacency-requirement view (Marantz p.c.). In a Spanning treatment, a nanosyntactic series of projections—one for each feature—might be expected to arise. We will use Pylkkänen’s original metaphor throughout—feature-bundling—and comment occasionally when the data might differentiate alternative technical implementations.)

We first consider several case studies that suggest that Pylkkänen’s Voice-bundling parameter is on the right track. There are bundling languages where it appears that both *v* and Voice functions are tightly correlated, appearing and disappearing together; and there are splitting languages where the functions are distributed across two distinct projections and can be manipulated independently. The bundling languages we will consider in section 1.2 are Chol and Persian, while for splitting

languages we look at Hiaki and Chemehuevi in section 1.3. We apply the predictions of the splitting/bundling parameter to the interaction of passive and light verb constructions in Italian, suggesting that it is Voice-bundling.

We then focus narrowly on *v* (section 1.4), reviewing arguments from Key (2013) and Jung (2014) about productive causatives, applicatives, and passive, looking at Key’s treatment of Turkish causatives and Jung’s discussion of Korean and Hiaki applicatives and causatives. These patterns indicate that productive causatives are not a recursive *v*, as assumed in Harley (1995, 2013), but instead realize a pure “Caus” category. The verbalizing *v* and the causativizing Caus are categorically and morphosyntactically distinct. Finally, a sketchy, possibly cartographic picture of the hierarchy of derivational verbal projections begins to emerge (section 1.5).

1.2 The case for bundling: all functions in one head

What if accusative assignment, external argument introduction, and verbalization were all accomplished by a single head? There would certainly be a tight connection between case assignment and the presence of an external argument, as per Burzio’s Generalization (Burzio 1986: 178). Such a language should also show a tight connection between an external argument and the category of the main predicate: lack of external argument would entail lack of verbalizing projection, so the main predicate would be non-verbal. Coon and Preminger (2013) argue that Chol, a Mayan language, exhibits this constellation of properties, and constitutes robust evidence for the *v*P as originally conceived.

1.2.1 Chol (Coon and Preminger 2013)

Coon and Preminger propose that the following biconditional holds in Chol (Coon and Preminger 2013: 11):

- (2) a. All internal arguments must be assigned case (absolutive) by a v^0 head.
- b. All v^0 heads must assign absolutive case to an internal argument.

That is, v^0 is the locus of absolutive case. If a v^0 with absolutive case is present in the derivation, it must discharge it. If this is true, and if v^0 when present also introduces an Agent and verbalizes the lexical projection below, then the biconditional makes clear predictions:

- (3) *Predictions:*
 - a. Clauses without a case-marked internal argument will be headed by non-verbal predicates (since no internal case means no v^0 , and hence no verbalizing projection).

- b. Only structures *with* case-marked internal arguments will include an Agent (since no absolutive case means no v^0 , and no v^0 means no external argument).

Coon and Preminger show that both predications are true of Chol. Consider an optionally transitive root like *dance*. The unergative version is a nominal that cannot inflect as a verb, while the transitive version with an absolutive determiner phrase (DP) complement is a verb, with an overt verbalizing morpheme on the non-verbal stem (Coon and Preminger 2010: 11):

- (4) a. Choñkol-oñ tyi soñ
 PROG-ABS.1P PREP dance
 ‘I am dancing.’
 b. Choñkol k-soñ-iñ bals
 PROG ERG.1P-dance-V_{tr} waltz_N
 ‘I am dancing a waltz.’

In (4b), although the 3p absolutive case borne by *bals* ‘waltz’ is null on both noun and verb, its morphosyntactic presence can be detected by the fact that the first person marker on the transitive verb comes from the ergative A-series, while in the intransitive version in (4a), the first person marker comes from the absolutive B-series. In (4b), the null absolutive case on *bals* ‘waltz’ conditions the ergative marking of the subject. The presence of absolutive case assigned to an internal argument thus correlates with whether the verb root *soñ-* is verbal or not, as predicted by the bundling hypothesis.

The second prediction concerns the relationship between case assignment and the introduction of an Agent argument. Only roots with a case-marking complement should introduce an Agent. To express the agent of an unergative intransitive root, or a root with a caseless incorporated object, a light verb structure is required; the lexical stem cannot behave as a verb. The light verb takes a nominal version of the lexical stem as its complement. In consequence, the light verb (not the main verb) is able to introduce an Agent argument, since it case-marks that nominalized main predicate.

- (5) a. Tyi a-cha'l-e k'ay *unergative verb with agent*
 PRF A.2P-DO-V_{tr} song_N
 ‘You sang.’ (Lit. You did song)
 b. Tyi a-cha'l-e wuts'-pisil incorporated caseless object noun
 PRF A.2P-DO-V_{tr} wash-clothes_N *with agent*
 ‘You washed clothes.’ (Lit. You did clothes-washing)

In Chol, then, only verbalized things take case-marked complements, and only verbalized things have Agent arguments, and only case-marked complement-takers are verbal. The three properties—verbalizing, case-licensing a complement, and Agent-introducing—go together. This pattern is nicely accounted for if v^0 is associated with all three properties.