

VOICE AND THE INTERFACES OF SYNTAX

David Embick

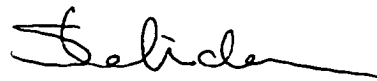
A DISSERTATION

in

LINGUISTICS

**Presented to the Faculties of the University of Pennsylvania in Partial Fulfillment of the
Requirements for the Degree of Doctor of Philosophy.**

1997




Sabine Iatridou

Supervisor of Dissertation



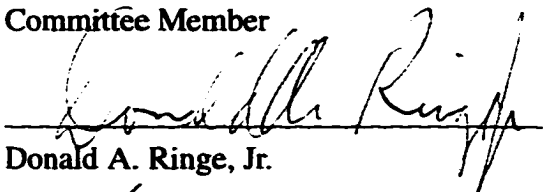
Alec Marantz

Committee Member



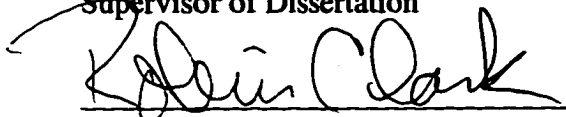
R. Rolf Noyer

Supervisor of Dissertation



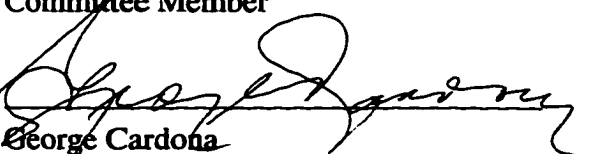
Donald A. Ringe, Jr.

Committee Member



Robin Clark

Committee Member



George Cardona

Graduate Group Chairperson

Contents

Acknowledgements	ii
1 Morphosyntactic Syncretisms	1
Part I. Preliminaries	1
1.1 Introduction and Prolegomena	1
1.1.1 Overview	1
1.1.2 Voice	2
1.1.3 Syntax and Separation	4
1.1.4 Syncretisms and Voice Systems	9
1.1.5 Dissociation and Morphological Neutralization	13
1.1.5.1 Competition in Distributed Morphology	13
1.1.5.2 Approaches to Neutralization	14
1.1.5.3 Underspecification	15
1.1.5.4 Impoverishment	17
1.1.5.5 Dissociation vs. Underspecification	18
1.1.6 Approaches to Syncretism	19
1.1.6.1 Lexicalist Approaches	19
1.1.6.2 Argument-Structure Treatments	23
1.1.6.3 Syntactic Approaches	25
1.1.7 Preliminary Conclusions	26
1.1.7.1 The Approach to be Taken	26
1.1.7.2 Outline of the Discussion to Come	28

Part II. Dissociation	29
1.2 Non-Active Voice in Modern Greek Reflexives	30
1.2.1 Initial Considerations	30
1.2.2 The 'Reflective' Approach	35
1.2.2.1 Reanalysis	35
1.2.2.2 The Role of Non-active Morphology in Rivero (1992)	42
1.2.2.3 Reciprocals	44
1.2.2.4 Summary: The Possibility of an MSA Approach for Greek	45
1.2.3 Non-Active and Reflexive Elsewhere: Fula	47
1.3 A Second Case: The 'Linking' Antipassive	49
1.3.1 Antipassivization and Noun Incorporation in Yucatec	49
1.3.2 The Yucatec System	57
1.3.2.1 Separating the Phenomena	57
1.3.2.2 The 'Antipassive Morpheme'	59
1.4 Summary	61
Part III. Syncretism	61
1.5 Syntactic Configurations and Voice Morphology	61
1.5.1 Aims and Issues	61
1.5.2 Feature Identity	63
1.5.3 Lexicalist(Minimalist) Approaches	63
1.5.4 The Process	66
1.5.4.1 Issues	66
1.5.4.2 Possibilities	67
1.6 Voice in Syntax/PF/LF and Dissociation	70
1.7 Syncretism and Syntax/Morphology Interactions	72
1.7.1 Questions to be Pursued	72
1.7.2 Syncretism	73
1.7.2.1 Questions about Syncretism	73

Part IV. Voice Systems, Abstract and Concrete	77
1.8 Diacritic Classes and Systematic Identities	77
1.8.1 Syncretisms without Dissociation	77
1.8.1.1 Underspecification	77
1.8.1.2 Homophony	80
1.9 Diacritics and Syncretism	80
1.9.1 Overview	80
1.9.2 Syncretisms	81
1.9.2.1 A Note on Notation	81
1.9.2.2 Syncretism by Stipulation	81
1.9.2.3 Syncretism by Specification	82
1.9.2.4 Syncretism by Signal Elsewheres	84
1.9.2.5 Identifying a Systematic Syncretism	84
1.10 Voice Systems	86
1.10.1 Mediation and Voice Systems	86
1.10.2 Remarks on Romance	91
1.10.2.1 Data	91
1.10.3 Analysis	92
1.11 Conclusion	96
2 Participles and Passives	97
Part I. Concerns	97
2.1 Introduction	97
Part II: Participles and Voice	98
2.2 The Participle I: Category and Derivation	99
2.2.1 Preliminaries	99
2.2.1.1 Goals	99
2.2.1.2 An Approach in Outline	99

2.2.2	Roots and Syntactic Environments	100
2.2.2.1	Nominalizations	100
2.2.2.2	Application to Deverbal Adjectives	101
2.2.3	Derivation of Participles	104
2.2.3.1	Two Ways of Being a Participle	104
2.3	The Stative/Eventive Distinction	113
2.3.1	The Relevance of this Dichotomy	113
2.3.1.1	Pesetsky (1995)	114
2.3.2	Two Types of Passive	115
2.3.3	Wasow's Dichotomies	115
2.3.3.1	'Adjectival' and 'Verbal' Participles	115
2.3.3.2	Wasow's Lexical vs. Transformational Passives	116
2.3.3.3	A Note on <i>Un-</i>	121
2.3.4	Conclusions	122
2.4	Participle II: Aspect and Voice	122
2.4.1	Overview	122
2.4.1.1	The Relevance of Voice	122
2.4.2	Participles and Syncretism	123
2.5	Participles and Voice Orientation	124
2.5.1	Issues	124
2.5.2	Aspect/Voice Interactions at a Morphological Level	126
2.5.2.1	Latin Participles	126
2.5.2.2	Present Participles in Modern Greek	134
2.5.3	Voice and Syntax in Participles	136
2.6	English Participles: Structures and Features	137
2.6.1	Voice, Syntax, and the English Participle	137
2.6.1.1	The Pattern	137
2.6.2	Localizing the Effects	139

2.6.2.1	Reduced Relatives Revisited	139
2.6.2.2	Auxiliary Verbs and the Reduced Relative	140
2.6.3	Features of Participles	145
2.6.3.1	Present States	145
2.6.3.2	The 'Past Participle'	146
2.6.3.3	Resultative	147
2.6.3.4	The Participle in the Universal Perfect	148
2.6.3.5	The 'Past Participle': Summary	149
2.7	Stative and Eventive Passive	150
2.7.1	Semantics: The Stative Passive	150
2.7.2	Semantics: The Eventive Passive	150
2.7.3	Review	152
	Part III: Passive	152
2.8	Passive and Voice	153
2.9	An Earlier Treatment	153
2.9.1	Baker, Johnson, and Roberts (1989): Synopsis	153
2.9.2	Questions	155
2.9.2.1	Incorporation	155
2.9.2.2	The Passive Morpheme Cross-Linguistically	155
2.9.2.3	Passive Morpheme and Verb	156
2.9.2.4	Passive and Other Participles	159
2.10	Conceptual Considerations	160
2.11	The English Passive	163
2.11.1	Outlook	163
2.11.1.1	Strategy	163
2.11.1.2	An Outline of the Account	164
2.12	The Agent and Case	168
2.12.1	Argument Structure and the Passive	168

2.12.2	Theta-Criterion and Subcategorization	168
2.12.3	Configurational Theories of Argument Structure	170
2.12.3.1	DP/Position Mismatches	171
2.12.3.2	External Arguments	171
2.12.4	The Agent in the Passive	173
2.12.4.1	The Presence of Agentivity	173
2.12.4.2	The 'Syntax' of the Passive Agent	173
2.12.4.3	An Implementation	174
2.12.5	Accusative Case	177
2.13	Movement from Object in the English Passive	179
2.13.1	Movement within the Participial Phrase	179
2.14	Auxiliaries	180
2.14.1	Questions	180
2.14.2	Features and Auxiliaries	181
2.14.2.1	Auxiliary Selection	182
2.15	Relating the Two Components	183
2.15.1	Complex Interactions	183
2.15.1.1	The Progressive Passive	183
2.15.1.2	Restating the Question	184
2.15.1.3	The Auxiliary with Eventives	185
2.15.1.4	Putting Things Together	186
2.16	Passive Form and Passive Syntax	187
2.16.1	Synthetic Passives	187
2.16.1.1	Evidence for the Structure of the Passive	187
2.16.1.2	Differences with Analytic Passives	188
2.16.2	No Synthetic Passive in English	188
2.16.3	The Impersonal Passive	190
2.16.3.1	Preliminaries	190

2.16.3.2	The Impersonal Passive and Syncretism	192
2.17	Conclusions	193
3	Inherent Specification	194
Part I.	Preliminaries	194
3.1	Introduction	194
3.1.1	Overview	194
3.1.2	Terminology	197
3.2	Conspectus	199
3.2.1	Plan	199
3.2.2	Results	200
3.2.2.1	Diacritics in Morphology	200
3.2.2.2	There are no [Active] Diacritics	201
3.2.2.3	Relations Among Diacritics are Syntactically Defined	202
3.2.2.4	Feature Changing vs. Context Sensitivity	203
3.2.2.5	Dissociation and Grammatical Architecture	204
3.2.2.6	A Theory of Inherent Specification	205
Part II.	Case Studies	205
3.3	The Case Studies	205
3.4	Modern Greek	207
3.4.1	Overview	207
3.4.1.1	Goals	207
3.4.1.2	The Voice System	207
3.4.2	Aplastics and Their Syntax	210
3.4.2.1	Some Aplastics	210
3.4.2.2	Intransitive Deponents	212
3.4.2.3	Transitive Deponents	213
3.4.2.4	Diagnostics for Transitive Deponents	215

3.5	Latin	218
3.5.1	Agenda	218
3.5.2	The Voice System and Voice Alternations	218
3.5.2.1	Active and Passive	218
3.5.2.2	Impersonal Passives	219
3.5.2.3	Medio-Passives	220
3.5.3	Aplastics	221
3.5.3.1	Aplastic Verbs	221
3.5.4	Aplastic Syntax	223
3.5.4.1	Deponents	223
3.5.4.2	Verba Commūnia	224
3.5.5	Active and Passive Perfects	226
3.5.5.1	Analytic vs. Synthetic	226
3.5.5.2	Syntax vs. Morphology	227
3.6	Classical Greek	229
3.6.1	Introduction and Aims	229
3.6.2	Morphological Overview	229
3.6.3	Voice Alternations	231
3.6.3.1	Introduction	231
3.6.3.2	Middle	232
3.6.3.3	Passive	234
3.6.3.4	Deponents as Passives?	235
3.6.4	Voices and Tenses	236
3.6.5	Aplastic Verbs	236
3.6.5.1	Classification	236
3.6.5.2	Middle (Non-Active) Deponents	237
3.6.5.3	Passive Deponents	240
3.6.5.4	Activa Tantum	242

3.6.6	Passive/Middle Interactions	243
3.6.6.1	Facts and Features	243
3.6.6.2	Outline of the Analysis	246
3.6.6.3	Analyzing Passive/Middle Interactions	246
3.6.6.4	Conditions on Modification	256
3.6.6.5	Summary	264
3.6.7	Tense Dependencies	264
3.6.7.1	The Middle Voice in the Future	264
3.6.7.2	Primary and Secondary Aplasticity	266
3.6.7.3	Override?	269
3.6.8	Conclusions on Diacritics	270
Part III. Discussion		270
3.7	Inherent Specification	270
3.8	Morphological Restrictions	271
3.8.1	Inflectional Classes, Diacritics, Lists	271
3.8.2	The Nature of the Diacritics	274
3.8.3	Possible Aplastic Verbal Classes	275
3.8.4	Syntactic Restrictions	278
3.8.4.1	Passives in Disguise	278
3.8.4.2	Conditions on Insertion	279
3.9	Voice, Aplasticity, and Inherent Specification	281
3.9.1	The Nature of Aplasticity	281
3.9.1.1	Conditions on Aplasticity	281
3.9.1.2	A Hypothesis	282
3.9.2	Form and Aplasticity	285
3.9.3	Features	285
3.9.4	Diacritics and Inherent Specification	287
3.9.4.1	Sets of Signals	287

3.9.4.2	Single Signal Identities	287
3.9.4.3	Further Interactions	288
3.10	Comparative Aplasticity	289
3.10.1	Morphosyntactic Categories without Inherent Specification	289
3.10.1.1	Agreement	289
3.10.1.2	Tense and Aspect	290
3.10.1.3	Inherent Number	291
3.10.2	Another Case of Inherent Specification	294
3.10.2.1	The Subjunctive	294
3.11	Inherent Specification and Architecture	295
3.11.1	Overview	295
3.11.2	Untenable Alternatives	295
3.11.2.1	Standard Lexicalism	295
3.11.2.2	The Minimalist/Lexicalist Treatment	296
3.11.3	Assessment	297
A	Appendix: Latin Deponents	298
A.1	Deponent Verbs	298
A.2	Verba Commūnia	301
B	Appendix: Classical Greek Deponents and Voice	304
B.1	Additional Data	304
	Bibliography	308

Dissociation and Morphosyntactic Syncretisms

Part I. Preliminaries

1.1 Introduction and Prolegomena

1.1.1 Overview

In the context of a set of specific assumptions about grammatical architecture, the domain in which syntactic explanations are taken to apply is restricted in scope, in the sense that syntax is construed only as a basic ‘Computational System’ (Chomsky (1995)), whose function is to generate hierarchical structures and perform operations on these (‘Merge’ and ‘Move’). The burden of explanation for phenomena falling outside of the purview of the syntax is placed on the interface levels PF and LF, which are themselves construed as involving certain derivations and operations. There are thus two types of question to be asked in the development of the theory of syntax: questions about the properties of the computational system, irrespective of what kinds of objects the syntax is moving; and, in addition, questions about what types of features the syntax manipulates, and how these features relate to the PF and LF interfaces, i.e. how they are manipulated and interpreted in the derivation to each interface.

The study presented here illuminates the behavior of the syntax as it relates to both interfaces in that it examines the systematic correlations between syntactic structures, the features which are operative in syntax and semantics, and the morphological signals which are sensitive to both features and structures. This is presented in the domain of voice

interactions. On a broad level, the goal of this thesis is thus to examine the nature of the systematic relations alluded to above, and thereby to provide a characterization of the syntax/morphology interface. Narrowly, the goal is to provide a theoretical framework for the treatment of voice phenomena in which the relationships between the syntax and semantics of voice and the morphological marking of voice may be articulated. The investigation of voice phenomena is highly appropriate given these objectives, as there is, along with a sharply defined set of syntactic questions about voice, an equally interesting set of questions about the morphological correlates of syntactic alternations. In addition, this involves the investigation of a number of properties which belong specifically to the syntax/morphology interface, and not to either of these two components of the grammar individually.

1.1.2 Voice

To begin with, the notion of 'voice phenomena' to be employed here must be clarified, given the vast number of linguistic behaviors associated with the term 'voice' (for a more typological approach to this question, and one which is much more concerned with the application of terminology, I refer the reader to Klaiman (1991).) There are two notions collapsed under or associated with the term of 'voice', based on (1) morphological form and (2) syntactic/semantic form (sometimes referred to as *diathesis*.) The former type of definition treats voice purely in terms of overt morphological realization. In referring to environments showing non-active voice throughout the discussion below, the definition should be understood morphologically; i.e. I will be using the term to cover those cases in which the relevant type of inflection appears, irrespective of syntactic environment. Although the definition of voice employed is based on form, i.e. based on morphology, the cases in which the role of this morphology will be examined are nevertheless to be restricted. In particular, I will begin by examining cases in which voice morphology is

associated with particular syntactic behaviors.¹ Later in the discussion I will analyze cases in which verbs are inherently specified for voice morphology that is unrelated to the syntax.

Beyond focusing on individual syntactic alternations, the present study provides a detailed examination of systems of voice, i.e. of syncretisms in which multiple distinct syntactic configurations show identical patterns of morphology; for instance, the common cross-linguistic pattern according to which Passive, Reflexive, and Anticausative syntactic configurations show the same morphological realization.²

The questions that I pose and discuss in this section concern the extent to which existing theoretical discussions, whether focussing primarily on syntax or primarily on morphology, are able to provide an adequate characterization of voice phenomena. In addition to serving as a critique of the syntactic and morphological approaches to the question at hand, the discussion will center on two very specific questions, both of which relate to the earlier observation that voice morphology appears systematically and not always in isolation. The first of these concerns whether or not an appeal to the *Separation Hypothesis* (defined below) is sufficient to justify the positions taken in exclusively syntactic treatments of voice morphology, and is answered negatively. More specifically, the question to be addressed is to be stated in the following terms. Syntactic approaches to voice pursue a strategy of direct syntax/morphology interaction: voice morphology is taken to possess syntactic properties which effect a set of syntactic changes in the clause. Disregarding the syntactic adequacy of this type of approach, there is a further question about the interface: does this type of 'Direct' treatment exhaustively characterize the manner in which syntax and morphology interact in the domain of voice? I show that this strategy is untenable, and that a further type of interaction, based on a property I call *Dissociation*, must be recognized for cases in which voice morphology on a verb systematically reflects properties of the verb's structural environment rather than bringing about an alternation.

¹This type of statement is sometimes found in definitions of the distinction between inflectional and derivational morphology, as in e.g. Anderson (1982), and the position taken here should not be seen as embodying any such claim.

²It is not absolutely necessary here that exactly the same morphology be found with all of the syntactic notions, only that a subpart be shared by a number.

The first question and its answer provide the background in the context of which the second question, concerning voice systems, may be meaningfully stated. In particular, the second question is focussed on the question of whether existing approaches to morphology/syntax interactions could be extended so as to provide an account of morphosyntactic syncretisms, cases in which the verb in multiple distinct syntactic configurations shows the same voice morphology (this will be defined and illustrated below.) The questions go together in the sense that both reveal the inadequacies of syntactically oriented 'Direct' approaches, and in the sense that both are answered through the examination of voice systems, not simply individual voice alternations in isolation. As such, they provide insight into the manner in which the examination of voice provides for a characterization of the syntax/morphology interface.

Proceeding from the initial statement of these two questions as just presented, I will proceed now to a more detailed discussion of syntactic treatments of voice. Following this is a discussion of the basic facts concerning syncretisms and some purely morphological observations on such systems. I then review prior attempts to capture syncretisms in voice systems, and provide strong arguments as to their inadequacy. I then argue that a proper characterization of certain types of voice systems can be provided with an extended notion of what counts as input to the morphological component.

1.1.3 Syntax and Separation

On a syntactic level, the background for the present discussion is provided by treatments which have sought to analyze voice morphology syntactically. In a number of approaches, morphology appearing in certain clauses has been analyzed as interacting on a syntactic level with the verb to which it is attached, thus bringing about morphosyntactic changes. The strategy underlying such treatments is to have the syntactic properties of the clause, usually in terms of Case- and θ -role assignment, affected in such a way as to produce the differences between the related clauses. Typical of such approaches are the treatments of the Passive found in Chomsky (1981) and Jaeggli (1986), based on the 'absorption'

of Case by passive morphology. This type of approach is also explored and extended in treatments which actually identify the morphology with an argument of the verb, as in the treatment of passives and antipassives in Baker (1988) and related work.³

Syntactic accounts have had little to say concerning the actual morphological realization associated with voice operations.⁴ At the same time, this position has been mirrored on the morphological side, with the distinction between syntactic and morphological questions emphasized in a way that precludes the investigation of questions about the interface. Some researchers focussing exclusively on morphological issues, such as Aronoff (1994), have stated explicitly that the questions of the syntax associated with voice morphology are orthogonal to the concerns of morphology proper (cf. Aronoff 1994:134.) Thus for Aronoff the question of whether passive morphology is ultimately related on a syntactic level to a pronominal element in the sense of Baker et al. (1989) is irrelevant to the actual morphology realized on passive verbs; the 'passive' syntactic element plays the role of mapping the verb to a particular morphological class, where syntactic issues are irrelevant to morphological rules. This distinction between morphosyntactic features and the phonological material which instantiates them follows from the *Separation Hypothesis* of Beard and others.⁵ The essence of the Separation Hypothesis is that morphosyntactic features and the phonological elements which appear in these morphosyntactic environments are distinct from one another. That is, rather than saying that there is a past tense morpheme

³Treatments of this type may differ as to whether or not they are Lexicalist in orientation, i.e. treating the morphology as the result of a presyntactic operation on the verb, or whether they treat the morphology as an independent syntactic element; the unifying factor is that the morphology possesses certain properties by virtue of which it is in some way directly implicated in the syntactic differences brought about.

⁴This is a manifestation of a larger problem concerning the failure of morphology-as-syntax approaches to address questions about the derivation of surface forms; Carstairs-McCarthy (1992) makes this point strongly about allomorphy. These deficiencies are for the most part redressed in theories like Distributed Morphology (Halle and Marantz (1993) and related work; see below).

⁵Theories accepting Separation may be contrasted to Lexicalist approaches to morphology, according to which morphemes are lexical items containing syntactic and phonological features, and whose combination is determined by subcategorization. I will assume separation here; for criticisms of Lexicalist approaches to morphology, see Marantz (1992b) and Noyer (1992). Among separationist theories further distinctions may be made between theories which treat morphemes as the phonological by-products of rules (e.g. the Amorphous approach of Anderson (1992)) and those which countenance morphemes as pieces of material which are inserted in morphosyntactic feature arrays (the approach of Distributed Morphology.)

with phonological form /-X-/ which adds morphosyntactic features like [+past] to verbs to which it attaches, a Separation-based theory would have a feature [+past] independently present in the syntax, and a set of rules which *realize* [+past] as /-X-/. Thus there is no sense in which something like a 'X morpheme' contributes morphosyntactic features to a clause; rather, a particular phonological sequence typically referred to as 'Past-morphology' instantiates a morphosyntactic feature array containing (among other features perhaps) the feature [+past]. As applied to questions of voice morphology, it might therefore be thought that any syntactically adequate theory of voice could ultimately be made feasible on the morphological side of things.

At one level, then, the position that a distinction should be made between questions concerning the syntactic elements effecting morphosyntactic changes and questions concerning the phonological realization of the features associated with these changes is natural. At the same time, however, it can be shown quite clearly that the level to which Aronoff takes this stance trivializes questions about the syntax/morphology interface. There is a very clear sense in which appealing to Separation without further comment constitutes an extreme and theoretically unenlightening stance: this position fails to ask how or why there should ever be any sort of systematic connections between syntax and morphology at all. Thus despite the role the Separation plays in allowing for purely syntactic and purely morphological phenomena to be distinguished from one another, the question which must be asked is whether or not Separation by itself is able to characterize adequately the manner in which syntax and morphology interact in voice phenomena, or more generally whether Separation is really ever provides a solution to any question. The answer is that Separation clearly does not amount to the final word on the question of voice morphology, or render questions about the interface theoretically uninteresting; instead, it represents one prerequisite to the proper characterization of this aspect of the syntax/morphology interface. Rather than being any sort of solution, Separation provides a framework in which further questions can be posed; but these questions are only interesting to the extent that they are directed at the question of why, given a realizational theory of morphology, correlations

between syntax and morphology are systematic.

The further question to be asked is whether Separation and a theory of what constrains Separation will suffice to provide an understanding of voice. The answer that I give is that it does not, and that something beyond a combination of syntactic treatments of voice along with Separation is required. The foundation for this position is established in the first, syntactically oriented thread of argumentation in Part II of this Chapter. It poses the question of whether approaches which treat voice morphemes as syntactic arguments are able to adequately capture the distribution of voice morphology. The first argument establishes the point that something beyond Separation is needed to account for the appearance of voice morphology in certain cases, in the sense that one cannot treat all voice alternations as involving 'syntactically active' voice morphology which effects syntactic changes. It does this by showing that approaches which treat the non-active morphology as an argument of the verb (henceforth MSA, for *Morphology as Syntactic Argument*, approaches) cannot explain the distribution of voice morphology in two specific cases.⁶ The first of these concerns the distribution of non-active voice in Modern Greek reflexives. The view proposed here is that the non-active morphology seen in such cases does not, by virtue of some inherent properties, bring about the reflexivization of the verbs on which it appears. Rather, it appears as a reflection of the reflexivity of certain verbs, with reflexivization otherwise achieved. Thus while the occurrence of non-active voice is systematic and syntactically determined, despite the fact that the non-active morphology does not itself play a syntactic role (i.e. is not an argument of the verb.) This type of analysis is based on a realizational or post-syntactic view of morphology (I will assume here a version of 'Distributed Morphology', Halle and Marantz (1993) and related work), with the presence of the verb in a particular syntactic environment triggering non-active morphology. Following the discussion of Greek, I turn to the morphosyntactic process of

⁶The argument can actually be generalized so as to include analyses in which morphology is not an argument of the verb, but effects a change by playing some other role, e.g. absorbing Case. I will continue to discuss MSA approaches as indicative of this general strategy, although actual discussion of the Case-based type of approach will not be undertaken until Chapter 3.

antipassivization, and show that a reflective analysis is required to capture the distribution of the morphology associated with this process in Yucatec Maya. What these cases establish is that voice morphology may be distinct from the syntactic element responsible for a particular voice alternation; I refer to this property as *Dissociation*, to emphasize the fact that the morphological reflex is distinct from any syntactic element which brings about the syntactic changes of the clause:

- (1) **Dissociation:** A morpheme will be called *dissociated* when the morphosyntactic position/features it instantiates are not features figuring in the syntactic computation, but are instead added in the Morphological component under particular structural conditions.

In other words, dissociated voice morphemes are not syntactically active; in particular, they do not by virtue of instantiating a node with syntactic properties correspond to a syntactic element which produces the effects of voice alternations in the clauses in which it appears.

To explicate the relationship between Dissociation and Separation, what I have in mind is the following: whereas Separation applies to the relationship between morphosyntactic features and the morphological signals which instantiates those features, Dissociation refers to the relationship between a syntactic element responsible for a voice alternation and the morphology associated with the alternation.⁷ For now I will leave Dissociation as defined and continue the elucidation of the initial theoretical background of this study; the discussion of §§2-3 concentrates on illustrating the existence of this property in empirically oriented case studies.

⁷A terminological aside is in order. I will sometimes speak of the cases in which Dissociation is argued for as being cases in which the morphology *reflects* rather than *effects* a syntactic change. However, it is not the case that all instances in which a particular morphological realization could be said to reflect properties of the syntactic environment are cases of Dissociation. For instance, the conditioning of an allomorph of Tense may result from the presence of something in the syntactic environment of the Tense node, in which case the signal resulting from the operation of the allomorphy process could be said to reflect the fact that Tense was in a certain configuration. At the same time, this would not be Dissociation, in that what is instantiated is a terminal which was present in the syntactic derivation.

1.1.4 Syncretisms and Voice Systems

In this chapter I am focussing on a particular aspect of theories of voice: the extent to which they are able effectively treat *morphosyntactic syncretisms*, situations in which clauses with distinct syntactic representations show identical verbal morphology.^{8,9}

- (2) **Voice Syncretisms:** Cases in which distinct syntactic alternations (e.g. passive and reflexive) are realized with identical morphology.

In such cases, the syntactic configurations (however they are treated) will be said to be *syncretized* in a single morphological realization. An illustration of this is provided by Modern Greek, in which the same voice morphology appears in Passives, Reflexives, Anticausative (Intransitive) Transitivity Alternation verbs, and Deponent verbs. To make this morphological point clear, I provide here the inflection of the Modern Greek verb *grapho* 'write'. Modern Greek verbs vary for Imperfective and Perfective aspects, in Past and Non-Past Tenses. In addition to this, they have Active and Non-Active forms. The active forms of *grapho* are as follows:

- (3) **Active forms of *grafo* 'write'**

⁸Of course, other questions can be raised about the adequacy of theories of voice outside of the domain of syncretism; see the syntactic discussion of Chapter 2.

⁹One question of critical importance concerns the issue of how to distinguish systematic morphosyntactic syncretisms from accidental homophonies. In the case of e.g. reflexive, passive, and anticausative morphological identity, typological considerations can play a role. However, stronger arguments can be made for particular systems. This point will be discussed in detail in Chapters 3 and 4.

P/N	IMPERFECTIVE		PERFECTIVE	
	Non-Past	Past	Non-Past	Past
1S	gráf-o	é-graf-a	gráp-s-o	é-grap-s-a
2S	gráf-is	é-graf-es	gráp-s-is	é-grap-s-es
3S	gráf-i	é-graf-e	gráp-s-i	é-grap-s-e
1PL	gráf-ume	gráf-ame	gráp-s-ume	gráp-s-ame
2PL	gráf-ete	gráf-ate	gráp-s-ete	gráp-s-ate
3PL	gráf-un(e)	gráf-ane/ é-graf-an	gráp-s-un(e)	gráp-s-ane/ é-grap-s-an

In addition to this, there is a further set of forms, the Non-Active. These forms appear in the syntactic alternations to be discussed below:

(4) Non-Active forms of *grafo*

P/N	IMPERFECTIVE		PERFECTIVE	
	Non-Past	Past	Non-Past	Past
1S	gráfo-me	graf-ó-muna	graf-t-ó	gráf-tik-a
2S	gráfe-se	graf-ó-suna	graf-t-ís	gráf-tik-es
3S	gráfe-te	graf-ó-tan(e)	graf-t-í	gráf-tik-e
1PL	grafó-maste	graf-ó-maste	graf-t-úme	graf-tík-ame
2PL	gráfe-ste	graf-ó-saste	graf-t-íte	graf-tík-ate
3PL	gráfo-nde	graf-ó-ndan/ grafó-ndane	graf-t-ún(e)	graf-tík-ane/ gráf-tik-an

The syntactic environments in which the Non-Active forms appear systematically are the Passive, Reflexive, and Anticausative, illustrated in the following:

- (5) Afto to vivlio dhiavas-tik-e xtes.
 this-NOM the-NOM book-NOM read-N/A-3S yesterday
 'This book was read yesterday.'
- (6) I Maria xtenize-te kathe mera.
 the-NOM Maria-NOM comb-N/A-3S every day

'Maria combs herself every day.'

(7) 'Anticausative' Alternations (Haspelmath (1993))

Intrans	Trans	Translation
tsakizo-me	tsakiz-o	'break'
keo-me	ke-o	'burn'
singendrono-me	singendron-o	'gather'
dhiadhidho-me	dhiadhidh-o	'spread'
aplono-me	aplon-o	'spread'
vithizo-me	vithiz-o	'sink'
xano-me	xan-o	'get lost/lose'
anaptiso-me	anaptis-o	'develop'

Finally, this morphology also appears with *deponent* verbs, verbs which only have Non-Active forms (such verbs are the topic of Chapter 3):

(8) Deponent Verbs

- a. Metaxirízo-me polí to lexikó mu ótan gráfo eliniká.
use-N/A.1S much the dictionary-ACC my when write-1S Greek
'I use my dictionary a lot when I write Greek.'
- b. To kalokéri xriazó-maste polá rúxa.
the summer need-N/A.1PL many clothes
'During the summer we need many clothes.'

The next step in the discussion is the point that the behavior of voice systems cross-linguistically show regularities to be accounted for. The existence of such patterns becomes apparent in the consideration the distribution of voice within particular languages, and, in particular, the fact that identical voice morphology often appears in morphosyntactically distinct environments. This leads to the question of whether this type of distribution is purely arbitrary, i.e. a morphological quirk, or whether it is the manifestation of some

more substantial properties of the syntax/morphology interface. The theoretical status of this type of question is addressed explicitly by Aronoff, who, speaking of putative morphological identities, takes the following position:^{10,11}

Some readers may feel that a complex morphological identity of this sort is impossible without corresponding syntactic identity. While I agree that complex morphological identity is a good heuristic for syntactic identity, nonetheless, to elevate this heuristic to a theoretical claim is both to beg an important question and to downplay the prevalence of homophony in natural language.(1994:176, Note 35)

In the case of voice systems, the position I will take is that the patterns evidenced are not the result of accidental homophonies. The justification for this is found in the fact that the same patterns of morphology associated with distinct syntactic processes are found in completely unrelated languages. To take one example, we may consider the connection between passive and reflexive morphology cross-linguistically, which has been recognized in a number of typologically oriented works. Notable in such surveys is the number of disparate languages in which this connection is found; the survey in Siewierska (1979) notes that, in addition to appearing in the major branches of Indo-European, this connection may be found in Uto-Aztecan, Turkic, Ethiopian Semitic (Tigre, Tigrinya, Amharic, Harai, Aggroba, Gurage), Australian (Lardil, Ngarinjin, Guugu-Yimidhir, Dja:bugay), and Dravidian. This is by no means an exhaustive list; examples of this correlation may be found elsewhere. The existence of this correlation in unrelated languages points to deeper questions on both typological and theoretical levels, and provides evidence for a non-accidental correlation between passivity and reflexivity which theories of voice should

¹⁰Aronoff's quote concerns the identity of English passive and perfect participles; see Chapter 2 for my own analysis of this correlation.

¹¹Beard (1990) seems to be posing similar questions in the domain of derivational morphology, but this is less than clear to me. One of the notions which figures prominently in Beard's discussions (cf. Beard (1995)) is that of a *polyfunctional form class*; I present a critique of this notion in the domain of voice in Chapter 2.

be accountable for.^{12,13}

1.1.5 Dissociation and Morphological Neutralization

1.1.5.1 Competition in Distributed Morphology

In this section I review briefly how affixes specified and inserted into syntactic terminals in the theory of Distributed Morphology. This will lead to a discussion of how syncretisms can be captured.

Distributed Morphology assumes that the syntax manipulates abstract sets of features, not words. Actual phonological material is added post-syntactically. This is in contrast to a theory in which affixes add features to the words they attach to. In one type of approach to syntax/morphology interactions, affixes actually provide features to the forms they attach to. The clearest statement of this is in the theory of Lexical Phonology and Morphology, Lieber (1980) and Kiparsky (1982). Thus to take a very simple example, the English Plural morpheme would consist of the following, along with a specification of the phonological shape (viz./-z/):

(9) [[*N*] [-z PL]]

Upon affixation to a noun, 'feature percolation' will result in the PL feature of the affix being a feature of the entire object, now a plural noun. The primary point here is that affixes or words contribute all the features found in a particular syntactic unit.

Distributed Morphology takes a *realizational* stance towards the relationship between morphosyntactic features and affixes. Affixes do not contribute morphosyntactic features to the elements they attach to. Rather, affixes *realize* features. The features themselves are present in the syntactic computation, which is assumed to be abstract; that is, the syntax

¹²The Passive/Reflexive and other related correlations have been discussed in the typological literature; see Croft et al. (1987), Geniušienė (1987), Haspelmath (1990), Kemmer (1993).

¹³Notice I am not going to make the claim that all apparent instances of identical voice morphology in any two syntactic alternations is the result of a systematic identity. This has to be shown, and I discuss the means of doing this later in the chapter. The point for right now concerns the existence of passive/anticausative/etc. syncretisms as being systematic, based on typological evidence.

manipulates features, not words and affixes. Actual phonological material is inserted into these abstract structures on the PF-branch, a process referred to as *Vocabulary Insertion*. Phonological signals are associated with morphosyntactic features, which govern their distribution. This is represented in spell-out rules of the following type, which associate a set of morphosyntactic features (and possibly additional factors of the morphosyntactic environment) with a signal instantiating those features. In the case of the English plural, the idea would be that the syntax provides a terminal node with an abstract feature [Plural] on it; this can then be realized with /-z/ during Vocabulary Insertion;

(10) [PL] ↔ -z

The interaction of affixes in instantiating these terminals is governed by *competition*. That is, the signal represented with the largest subset of the features on the terminal node instantiates that nodes. Take, for example, two hypothetical spell-out rules:

(11) X Y ↔ -a
X ↔ -b

The two signals -a and -b will compete with each other for insertion into terminal nodes. Thus, for instance, if a terminal node contains features [XYZ], the signal -a will be inserted. If a node contained [WX], however, -b would be inserted.

The realization of signals through competition allows for syncretism to arise from two sources. The first of these is *underspecification*. The second, *Impoverishment*, is a process which actually feeds underspecification. I now examine these sources of syncretism in greater detail.

1.1.5.2 Approaches to Neutralization

I will summarize here two methods for capturing systematic neutralizations in morphology, drawing on the discussion of Noyer (1995). In doing this, the goal will be to establish a foundation from which it can be determined precisely how the syncretisms found in distinct

syntactic environments relate to those found in different morphological environments. A point to be stressed is that syncretisms based on Underspecification are distinct from those based on Dissociation, as will be illustrated below.

1.1.5.3 Underspecification

The first means of capturing morphological syncretisms is through the *Underspecification* of affixes. The morphological theory assumed here is realizational, meaning that morphological affixes instantiate morphosyntactic feature matrices provided by the syntax. There is thus a distinction to be made between on one hand the morphosyntactic positions which are specified with morphosyntactic features, and the morphological signals, i.e. affixes, which realize these positions in occurring forms. The positions, which are provided by the syntax, are assumed to be fully specified. For the purposes of the realization of these positions with phonological material, i.e. affixes, realization is configured disjunctively on the basis of competition, so that the affix which is the most specified for and consistent with the features of a particular position wins out over other affixes. Within the context of this type of approach, underspecification applies to the morphological signals which realize the positions consisting of features to be instantiated, rather than applying directly to this set of features. Thus with underspecification, there is no modification of the information provided prior to the insertion of Vocabulary Items; rather, the Vocabulary Items themselves are specified for insertion in such a way that they are associated with a subset of the morphosyntactic features possessed by the positions to be instantiated.

Abstractly, this may be illustrated as follows. Consider first three sets of morphosyntactic features, where these features provided by the syntax to the morphological component:

(12) Morphosyntactic Features

Type I: [α , β ...]

Type II: [α , γ ...]

Type III: [α , δ ...]

Assume next that, on the surface, two of these three types of feature combination show identical affixes; that is, assume that there is morphological syncretism of Types II and III:

(13) Surface Forms

Type I: -X-

Type II: -Y-

Type III: -Y-

In order to capture this distribution, the following specification of affixes may be hypothesized:¹⁴

(14) $\alpha, \beta \leftrightarrow X$

$\alpha \leftrightarrow Y$

A concrete case of this may be seen in the case of adjectival agreement in Romanian, as discussed in Farkas (1990) and Lumsden (1992). Romanian has three genders, Masculine, Feminine, and Neuter. The adjectival agreement morphemes for Neuter nouns pattern with the Masculine in the singular, and with the Feminine in the Plural, in the following way:

(15) Romanian Adjectival Agreement

	Sing.	Plur.
Masculine	-Ø	-i
Neuter	-Ø	-e
Feminine	-ă	-e

In order to capture the surface distribution, the affixes may be specified with the following conditions on their insertion:

(16)

¹⁴For the purposes of illustration I am not treating -Y- here as the 'Elsewhere' case, but instead relating it to actual features.

- i [+pl +masc]
- e [+pl]
- ă [-pl +fem]
- Ø Elsewhere

1.1.5.4 Impoverishment

The notion of Impoverishment, developed in Bonet (1991) and investigated further in Noyer (1992), Halle and Marantz (1993), and Noyer (1995)), differs from Underspecification in that it involves a modification of the morphosyntactic features with which morphological signals are associated. Whereas Underspecification concerns only the relationship between the features with which a particular morphological signal is associated and the position it instantiates, Impoverishment is an operation which applies to modify the morphosyntactic features of a given position. In particular, Impoverishment acts to eliminate a feature in the context of another feature. Thus, for instance, to capture the fact that a language does not distinguish between 1st Exclusive and 1st Inclusive pronominals, the following type of Impoverishment rule could be employed:¹⁵

$$(17) \quad \alpha 2 \rightarrow \emptyset / _ 1$$

A rule of this type would eliminate any value for Second Person in a representation along with the feature 1 for First Person. The effect of Impoverishment is thus to feed the realization of underspecified vocabulary items: the impoverishment of a morphosyntactic feature complex results in its simplification, and this in turn allows for a less-specifically specified vocabulary item to instantiate the impoverished position.

¹⁵There is some question as to how Impoverishment rules should be represented, with various options having been presented in the literature. For instance, Noyer (1992) employs filters for Impoverishment, with the result that a rule like that in (17) would be written as *[1 $\alpha 2$] in his system.

1.1.5.5 Dissociation vs. Underspecification

In order to compare the effects of Dissociation with those of Underspecification, it is necessary to examine cases in which Underspecification by itself could capture a voice syncretism. This requires a particular set of assumptions about how the syntax of voice alternations operates; if abstract pronominals are assumed to be involved in both passives and reflexives, the syntax will involve the following elements:

(18) Voice Elements

Reflexive:	$\left[\begin{array}{c} \text{Affix} \\ +\text{Anaphor} \\ \theta\text{-Role Required} \\ \vdots \end{array} \right]$
Passive:	$\left[\begin{array}{c} \text{I}^0\text{-clitic} \\ +\text{Pronominal} \\ \theta\text{-Role Required} \\ \vdots \end{array} \right]$

If these two syntactic configurations were syncretized in a voice morpheme $-X-$, the following sort of (under)specification could capture the relevant facts:

(19) $\text{Arg} \leftrightarrow -X-$

The point is that syncretisms may in fact be captured through Underspecification as in (19), but if it can be shown independently that analyses invoking syntactic elements like those above are inadequate, then a morphological solution employing Underspecification is inapplicable.

Having provided this morphological overview, I now proceed to examine various approaches to the type of syncretism found in voice systems.

1.1.6 Approaches to Syncretism

1.1.6.1 Lexicalist Approaches

There are a number of difficulties which arise from Lexicalist approaches to the problem under discussion, where 'Lexicalist' applies to theories according to which (1) morphology in passives or reflexives constitutes a lexical item, whose subcategorization frame determines its distribution; and (2) the features of a verb affixed with such a morpheme are determined by feature percolation. The arguments presented here apply to any theory which does not employ post-syntactic morphology, and which assumes voice alternations to be effected by voice morphology. That is, whether or not the combination of affixes and words is brought about in the syntax or in the Lexicon, any theory which does not have underspecification but which has alternations effected by affixation will be unable to account for systematic syncretisms.

Considered in the abstract, a Lexicalist solution to the question of the passive/reflexive correlation is forced into the position that such correlations are due to accidental homophony. This reduces to positing distinct lexical entries for each of the two cases.

(20) Lexical Representations

Non-Active ₁ :	$\left[\begin{array}{c} \text{Lexical Affix} \\ +\text{Anaphor} \\ \theta\text{-Role Required} \\ \vdots \end{array} \right]$
Non-Active ₂ :	$\left[\begin{array}{c} \text{I}^0\text{-clitic} \\ +\text{Pronominal} \\ \theta\text{-Role Required} \\ \vdots \end{array} \right]$

These representations have very little in common; yet such an approach forces this type of representation. The reason for this is that on a Lexicalist approach, the syntactic

properties of the passivized or reflexivized verb would be determined (after percolation) by properties of the passive or reflexive morphology. In particular, given that the two morphemes under consideration would affix to identical verbs, all of the differences between passive and reflexive syntactic configurations would have to be encoded as features of the passive and reflexive morphemes. Despite certain similarities, passives and reflexives are clearly distinct from one another syntactically and in their interpretation. Thus in order to account for the syntax, a Lexicalist treatment would have to simply posit two identical sets of voice morphemes, one with features determining passive syntax, one with features determining reflexive syntax. In light of the nature of the correlation under discussion, such a move would be un insightful. Thus even if Lexicalist type approach could be made to appear plausible for each of the types of reflexive under discussion, any correlations between syntax and morphology are entirely accidental. The weakness of such a stance for an individual language is revealed when we consider that the appearance of non-active morphology in the reflexives is in fact systematic from a syntactic point of view. As the number of environments in which non-active morphology has systematic syntactic effects (or correlates) increases, the likelihood that an account which treats any subset of these as only accidentally related to the others decreases. This point is clear in comparing passives and reflexives. Clearly there are syntactic effects associated with the passive; just as clear, however, are the syntactic effects correlated with the appearance of the non-active with reflexives. By placing these two sets of cases in opposite categories, such a theory is in principle incapable of capturing any overarching generalizations about the appearance of the different voice forms, or for that matter even framing the question of whether such generalizations should be sought. Yet these questions are of legitimate theoretical concern. This is evident when the cross-linguistic facts are considered; given the nature of the distribution of non-active voice across passive and reflexive in unrelated languages, as noted above; it becomes difficult to regard the morphological correlation between these two syntactic environments as accidental.

Further consideration must be given to theories which assume Lexical operations, but

also appeal to a kind of underspecification to account for syncretisms. For instance, the approach of Marantz (1984) attempts to establish the connection between passives and reflexives through the use of an affix bearing the feature [-Logical Subject]; this in effect attempts to appeal to Underspecification to account for morphology common to the two distinct syntactic constructions. The problems with this approach stem from the fact that it is basically Lexicalist; this leads to a more general point, which is that underspecification is simply not an option for Lexicalist theories; this applies both to theories which treat the relevant affixation as a pre-syntactic process, and to those which treat it in the syntax. That is, the arguments against this type of approach establish that neither Lexicalist theories in the strict sense (i.e. those assuming pre-syntactic operations), nor theories assuming voice morphemes to be lexical items in the syntax can appeal to underspecification. The argument is an application of what Noyer (1995) calls the *Paucity of Marked Values* argument. In a Lexicalist approach to morphology, affixes (like words) are assumed to have subcategorization frames in addition to the features they possess; as a result, the set of possible morphosyntactic combinations is determined entirely by the combinatory properties of these affixes, and the percolation of their features to higher units. Syntactically, then, the external syntactic behavior of an affixed word would be determined exclusively by the lexically specified syntactic properties of the word in combination with the properties of the affix. If, in order to account for a syncretism, it is proposed that underspecified affixes attach to words in the Lexicon, then there is no basis for the fact that the syncretizing constructions differ syntactically. Consider the case of e.g. anticausatives and reflexives, which are clearly different in their syntax and interpretation. If the morphological syncretism shown by these two results from the combinatory properties of an underspecified affix, then there is no source for the specified features which differentiate the two; on a Lexicalist theory, the only source for such features would be in the Lexicon, i.e. through affixation and percolation. However, in order to account for the syncretism, it was assumed at the outset that the relevant affixation is of an affix which is underspecified in the required sense (however that would be implemented); the point remains that there is no possible

source for the marked morphosyntactic features which serve to distinguish the ultimately disparate syntactic properties of the syncretizing constructions.¹⁶

Considerations like those put forth in this section will also apply to treatments seeking to reduce syncretisms to operations applying at the level of argument structure. For instance, Reinhart (1997) seeks to capture the fact that reflexives and anticausatives display some properties in common by analyzing them as both involving an operation of *Reduction* at the level of argument structure. Her position is that while the same abstract operation applies in each of these cases, in the case of reflexives it removes the internal argument, and in the case of anticausatives the external argument (Reinhart assumes that Transitivity Alternation verbs are underlyingly causative.) Reinhart's account seeks to reduce the fact that reflexives and unaccusatives are (1) morphologically similar, but (2) syntactically not the same, to the effects of a generalized sort of pre-syntactic operation. If the operation truly is so generalized as to be the same in each of these cases, then the fact that they have different external syntactic behavior is unaccounted for. If there are really two distinct operations subsumed under the heading *Reduction*, then it is unclear why the morphological realization for these two operations should be the same.¹⁷ It might be argued that the application of any Reduction operation results in a feature being placed on the verb, and it is this feature that corresponds to the relevant morphology. This would be in line with the argument-structure nature of this account. Theories of argument-structure are aimed at giving an account of the initial syntactic projection of arguments. In the case of Reduction, this would result in distinct configurations, but a mark that Reduction

¹⁶For the possibility that there is a notion of Underspecification applicable to syntactic representations, to which default semantic operations are applied post-syntactically, see the discussion of §1.1.7.

¹⁷Another type of approach worth noting would involve something like Cinque's (1988) analysis of Italian *si*, which culminates in a lexical representation which specifies *si* as [\pm Arg], varying as to whether or not it appears as an argument or not; the justification for this is that it provides a 'unified' analysis of the morpheme. Again, this relies implicitly (and crucially) on a type of Underspecification incompatible with the overtly Lexicalist intentions of the account. There is a deep question which is raised by Cinque's discussion, concerning whether there are in fact cases in which a syncretism arises because the same vocabulary item realizes a set of features sometimes corresponding to an argument of the verb, and in other times not corresponding to an argument, and, if so, what this would say about the syntax of voice. See Chapters 3 and 4 for discussion.

has applied, a feature on the verb, in each case. This makes the mark of Reduction a syntactic feature. As will be discussed later in this chapter, it is undesirable to use syntactic features to encode the syncretisms I am discussing. Thus on the interpretation stated in this paragraph, Reduction is not a viable option.

1.1.6.2 Argument-Structure Treatments

A treatment of syncretisms based on an identity at the level of argument structure is presented in Lidz (1996). Lidz assumes a theory of argument-structure with two tiers, following Grimshaw (1990). The account is anti-Lexicalist in orientation, in the sense that it attempts to correlate the presence of 'verbal reflexive' morphology not with a particular set of syntactic/semantic features possessed by the reflexive morpheme, but with particular properties of the argument structure of a verb.

The discussion relies directly on the two-tiered argument structure of Grimshaw (1990), which I will summarize briefly. The first tier is *Argument Structure*, a list of thematic roles over which an ordering has been defined, as follows:

(21) (Agent (Experiencer (Goal/Source/Location (Theme))))

The syntactic realization does not correspond exactly to the hierarchy given here, a point Grimshaw notes in connection with pairs of verbs like *fear* and *frighten*. In order to account for such cases Grimshaw appeals to a second, *Aspectual tier*

(22) (Cause (other (...)))

Each of the two hierarchies operates to impose its own set of prominence relations on the arguments of a particular verb.

(23) Lidz's Formulation: Verbal Reflexives occur whenever the most prominent element on the aspectual tier is unlinked to an element on the thematic tier. (1996:11)

This formulation is meant to be universally applicable; in other words, the definition in (23) is meant to provide a universal characterization of what phenomena are at play when a morpheme associated with verbal reflexivization also appears in other syntactic configurations.

This type of account is styled as an interface treatment; upon examination, the question of what is interfacing and how this affects morphological realization is unclear. The role of the two levels of Argument-Structure representation in Grimshaw's work is to define how arguments corresponding to the roles will be projected into the syntax. That is, the relevant levels of representation provide the interface between the Lexicon and D-structure. This leads to a natural question; how is the morphological realization of the verbal reflexive sensitive to this? The most explicit statement Lidz makes about morphology is that the verbal reflexive is 'licensed' in cases with the relevant argument structure pattern, and this does not answer the question. One way in which this could be resolved would be to make the morphology equivalent to a sort of Lexical operation which removes or delinks the highest ranked element on the Aspectual Tier. This, however, is not what Lidz is attempting, as he argues explicitly against the kind of uniform semantic/syntactic notion of verbal reflexivity that a Lexical operation would provide. At the same time, Lidz also distances his treatment from the syntactic treatments to be considered in the next subsection. It seems, then, that on Lidz's model the morphological component must be sensitive not only to the properties of argument structure which are represented in the syntax, but in addition to properties which are internal to argument structure. That is, whether one accepts something like Grimshaw's approach or not, the point of it is to provide the initial mapping between the Lexicon and syntactic projection (D-structure). One of the major tenets underlying the present investigation is that the syntax serves as the input to morphology, which interprets the syntax according to its own concerns. This type of approach is more restrictive than one on which different components of the grammar have access to the internal workings of other components, and should not be discarded in favor of a less restrictive approach without considerable motivation.

1.1.6.3 Syntactic Approaches

There are in the literature discussions of voice syncretisms which seek to relate voice morphology to the syntactic environment in which the verb appears. Although these accounts are ultimately rendered unacceptable due to their syntactic assumptions and failure to explicitly and systematically consider the various possible reasons for syncretism, they share the same general outlook as the theory developed here, and I will review each of them briefly; Aspects of these accounts will be discussed again in Chapter 5, when the particulars of the Balto-Slavic and Uto-Aztecan patterns of syncretism patterns are examined in detail.

1.1.6.3.1 ‘Derived Intransitivity’ Approaches Babby (1975) (and, in a series of related works, Babby and Brecht (1975), Cranmer (1976)) argues for an effectively syntactic treatment of the distribution of the Russian morpheme *-sja*, which appears in a number of environments: imperfective passives, anticausatives, reflexives, etc. Babby’s analysis is limited to the appearance of *-sja* with transitive verbs; the main point of it is that this morpheme is inserted by transformational rule “...whenever the constituents of the direct object NP are removed either by preposing or deletion rules” (1975:331). Several of the particular assumptions Babby makes concerning the mechanics of this process are particular to a set of theoretical positions prevalent at the time his article was written, and need not concern us here. Moreover, Babby makes several syntactic assumptions that are, I will argue later, untenable. In a clear sense, however, this account comes close to treating the voice morphology as Dissociative as defined above.

1.1.6.3.2 Langacker (1976) The basis of the discussion of Langacker (1976) is the connection (diachronic and synchronic) that exists between (sometimes impersonal) passives and reflexives in the Uto-Aztecan language family. The primary theoretical claim of the work is that the morphological connections are grounded in a notion which Langacker refers to as ‘non-distinctness’. The idea underlying this notion is that in reflexives, the two nominals in a clause are referentially non-distinct, in the sense that they are co-indexed

with each other. In (impersonal) passives, the subject is unspecified, which on Langacker's assumptions means that it is neither coreferential with the subject, nor referentially distinct from it. Although the morphological mechanisms connecting the different syntactic configurations are not made explicit, Langacker seems to have in mind a treatment in which non-distinctness as a condition in a clause is a condition to which rules introducing affixes could refer. To cover the use of impersonals in intransitives (which cannot have non-distinct arguments, since they have only one argument), it is proposed that such cases arise from a diachronic reanalysis, according to which the presence of the unspecified nominal becomes sufficient to license the relevant morphology. Whatever the details of this type of analysis, the point to be made is that it links the presence of voice morphology to the syntactic environment in which the verb appears. i.e., if the verb appears in an environment in which its arguments are 'non-distinct', the relevant morphology appears. Whether or not this specific type of solution is worth pursuing is a different question. The cases Langacker discusses involve instances in which pronominals become involved in voice alternations, and there is reason to think that in terms of the syntax of the clause pronominal-like elements are actually functioning syntactically. In any case, the general outlook of Langacker's proposal is similar to what is being developed here.

1.1.7 Preliminary Conclusions

1.1.7.1 The Approach to be Taken

The specific set of concerns raised by voice phenomena is situated within a much larger set of questions concerning syntax/morphology interactions. Any theory which accepts the Separation Hypothesis must provide an answer to the question of why the relationships between morphosyntactic features and morphological signals is not completely arbitrary, i.e. why there are systematic syncretisms. This is the approach taken in Carstairs (1987) and Noyer (1992), two studies which are directly concerned with constraining Separation in the domain of inflectional morphology. In the case of voice, a point of particular interest is the fact that it is not just morphosyntactic features which figure in syncretisms, as is

the case in e.g. Person/Number/Gender systems; in addition, distinct syntactic alternations receive identical morphological realization. The investigation of such phenomena thus leads to an increased understanding of what syntactic factors the morphological component is sensitive to, along with a perspective on the syntax of voice alternations which takes a realistic attitude on voice morphology.

The question which is then posed concerns the manner in which this Dissociation is to be constrained. Morphological theories recognizing the role played by Separation are faced with the similar question of what constrains the pairing of sounds and morphosyntactic features, which is clearly not random. For voice, the question may be stated similarly: given that certain phenomena must be treated with voice morphology merely reflecting the syntax of the clause, the question is what factors determine the appearance of voice morphology, and whether or not they are systematic.

It was stated earlier that the work presented here operates on the assumption that the role of Morphology is to interpret the output of syntax, and thus embraces a specific type of modularity. This assumption plays a definitive role in the present investigation, and I will therefore examine it in detail now. In particular, I will make and emphasize the point that this constitutes a restrictive hypothesis about (among other things) the range of possible morphological realizations and thus syncretisms in natural language, departure from which should only be forced, not assumed at the outset. Consider again the account of Lidz (1996), which requires the morphological component to have access to the internal properties of other parts of the grammar in addition to syntax. The position that morphology is only sensitive to the output of syntax (and to its own properties, of course, i.e. the properties of particular vocabulary items etc.) is thus quite restrictive. At the same time, a certain number of theoretical stances are forced by this assumption. For instance, in order for a putative complex morphosyntactic identity to be analyzed on this type of approach, it must be assumed that the connection between interpretation and identical morphology is provided by a syntactic feature (or structure.) That is, the assumption that there is some aspect of interpretation to which the morphology is directly sensitive may not be made, as

morphology has access only to the output of syntax, not to the output of LF.

The interaction is, of course, not necessarily one-way. In the effort to establish and analyze apparent connections between morphology and semantic notions, it will in certain cases be necessary to posit a syntactic feature as the common link between the two interfaces. The viability and theoretical naturalness of these hypostatizations will provide further material for the assessment of the conception of grammatical architecture assumed here.

On the approach to be taken, it is thus necessary to provide syntactic analyses of all of the environments in which non-active morphology appears, along with an answer to the question of how the morphology in such forms relates to the relevant alternation. In the present context, Part II below argues that voice morphology may be Dissociative and sensitive to structural configurations rather than directly instantiating a terminal operative in the syntax.

To summarize, the project undertaken here is motivated along two dimensions. The first of these consists in the position that theories which account for the syntax of voice alternations by attributing properties to the morphology accompanying such alternations are not capable of answering questions about voice systems cross-linguistically. The second dimension is from the bottom up; this is the argument that even in particular sub-systems of voice, no syntactic role need be attributed to voice morphology in effecting a morphosyntactic alternation. This point may be seen in the analysis of particular grammatical subsystems in which voice alternations are evidenced, and it is to this that the next two sections are dedicated.

1.1.7.2 Outline of the Discussion to Come

The two arguments both employ a similar strategy in establishing Dissociation, and focus on cases in which voice morphology cannot be syntactically responsible for the voice

alternation it appears with.¹⁸

This perspective on morphology is not unique to the present proposal; there are a number of instances in which it has been shown that the morphological component is sensitive to syntactic structure/configurations (see, for instance, the treatment of contextual allomorphy in Halle and Marantz (1993)).

Part II. Dissociation

¹⁸Such cases do not exhaust the arguments for this property; others can be made based on the existence of particular syncretisms based on particular theoretical assumptions about the syntax involved. For instance, a very common situation cross-linguistically is one in which Anticausatives, the intransitive members of Transitivity Alternations like that with English *break*, appear with the same morphology found with passives. The first question to be considered is whether or not verbs participating in this alternation should be assumed to be basically intransitive or basically causative. Strong syntactic arguments in favor of the position that these verbs are basically intransitive have been presented in Marantz (1995). If this is the case, clearly no account seeking to derive the syncretism from the workings of a common syntactic operation can be plausible; in one case the operation would be required to derive a passive form from a transitive, retaining the Agent in some sense, while in the case of Anticausatives it would be required for nothing, if the intransitive form is basic. One way to achieve this effect would be to make passivization syntactic, while stipulating that anticausativization is a Lexical operation. On this type of approach, any connection between the two types of operation would be severed, given that they apply in completely different modules of the grammar; the morphological identity of the two forms could thus only be accidental. The full discussion of these issues will be presented in Chapter 2.

1.2 Non-Active Voice in Modern Greek Reflexives

1.2.1 Initial Considerations

In the following sections I will examine the distribution of non-active voice in Modern Greek reflexives;¹⁹ the argument here will demonstrate the property of Dissociation discussed in the preceding section. Specifically, I will argue that non-active voice in each case reflects a particular structural configuration which is reflexive in the syntax, and does not in any sense possess syntactically relevant properties from which the properties of reflexive clauses may be made to follow.

Modern Greek shows a type of reflexive in which an overt anaphor is used, and in which the verb in such cases show the active voice:²⁰

- (24) Vlepo ton eafto mu.
see-1s the self my
'I see myself.'

There are two distinct types of reflexives which show non-active morphology in Modern Greek. The first of these, illustrated in (25), shows a verb without a direct object in the non-active, with a reflexive interpretation:

- (25) I Maria xtenizete kathe mera.
the-NOM Maria-NOM comb-N/A-3S every day
'Maria combs herself every day.'

¹⁹I am using the term 'non-active' here to cover the morphology appearing in Greek in passives, reflexives, and other environments; I will refrain from using terms like 'passive morphology' and 'reflexive morphology', on the grounds that 'passive' and 'reflexive' refer to specific syntactic notions, and might therefore lead to confusion. In addition, I am avoiding the use of the term 'middle-voice' for fear of confusion with the type of voice systems found in archaic Indo-European languages such as Ancient Greek or Sanskrit, whose voice systems differ markedly from Modern Greek (and for that matter from each other.) The classical Indo-European languages possess what Klaiman (1992) classifies as a 'Basic Voice' system, which is argued to be a type of organization of the verbal system similar to that provided by the unaccusative/unergative distinction (see Klaiman for details.) As stressed earlier, I do not feel that subscribing to any sort of notional definition of Middle voice is at all useful in this type of investigation. Nor, for that matter, do I find classificatory terms like those provided by Klaiman to be particularly helpful, and I will not be employing them here.

²⁰The anaphor here, *ton eafton mu*, does not behave in all respects like English SELF-anaphors and has certain peculiar syntactic properties. Some of these will be discussed in the discussion to come. For a more detailed look at *ton eafton mu*, see Iatridou (1986), Anagnostopoulou and Everaert (1997).

The second type of reflexive showing non-active morphology shows a transitive verb prefixed with the element *afto-* 'self':

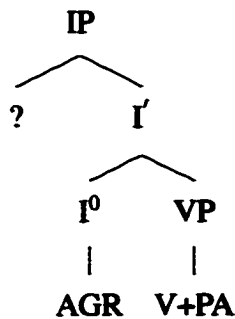
- (26) O Yanis afto- katastrafike
the Yani self destroy-N/A-3S
'Yani destroyed himself.'

The latter two types of reflexive are explicitly addressed in Tsimpli's (1989) attempt to provide a uniform analysis of 'passive' morphology in Modern Greek. This will then serve as the basis for a broader discussion of what MSA-based approaches miss when confronted by the Greek data. The analysis of MG reflexives in Tsimpli (1989) is a component of a larger attempt to analyze the properties of non-active morphology, which also extends to passives and Middles.²¹ The main point Tsimpli tries to establish is that when non-active morphology (which Tsimpli refers to as the 'PA', for 'Passive Affix') appears in each of these environments, it is a syntactic argument of the verb.²² In passives and middles, this amounts to an analysis along the lines of Baker (1988) and Baker et al. (1989), according to which the PA is a type of clitic, which is generated on I⁰ and receives the external θ -role of the verb. Tsimpli refers to reflexives like that in (25) above as 'Lexical Reflexives, and argues that the subject in such cases does not behave like a derived subject. On this basis she concludes that it is generated in subject position; this thus precludes an analysis of these cases along the lines of the analysis given for the passive and the Middle. The PA in this case is then assumed to be attached to the verb in the lexicon. This requires a further assumption, namely that when the PA is inserted in the lexicon it can only be anaphoric. In the terminology of Rizzi (1986), the lexical attachment of the PA to the verb 'saturates' the verb's internal θ -role, with the result that no structural position corresponding to this role is projected in the syntax.

(27) The Reflexive

²¹These environments do not exhaust the distribution of non-active morphology in MG, however.

²²In the discussion of Tsimpli's account to follow I will continue to use the term PA at times.



As evidence for this saturation, which amounts to detransitivization, Tsimpli notes that it is not possible to have a direct object with reflexives showing the PA:

- (28) a. *I Maria xtenistike ta malia tis
 the Maria-NOM comb-N/A-3S the hair-ACC her
 'Maria combed her hair.'
- b. I Maria xtenise ta malia tis.
 the Maria-NOM combed-ACT the hair-ACC her
 'Maria combed her hair.'

The second type of reflexive showing non-active morphology also show the prefix *afto* 'self':

- (29) O Yanis afto- katastrafike
 the Yani self destroy-N/A-3S
 'Yani destroyed himself.'

Crucially, it is the combination of the element *afto* and the non-active morphology which is responsible for the reflexive interpretation; without *afto* the result is a simple passive, and without the non-active the *afto*-prefixed forms are ungrammatical:

- (30) a. O Yanis katastrafike (apo tis sinehis apergies)
 the Yani destroyed-N/A-3S by the continuous strikes
 'Yanis was destroyed (by the continuous strikes.)'
- b. *O Yanis afto-katastrepe.
 the Yani self-destroyed-ACT-3S
 'Yani destroyed himself.'

Tsimpli approaches such cases as being essentially passives, with the PA generated under I⁰ receiving the external θ -role. The element *afto* is assumed to be under I⁰ as well, and is, for Tsimpli, a type of reflexive clitic. The presence of this reflexive clitic ‘anaphorises’ the PA by transmitting the feature [+anaphor] to it, something which Tsimpli assumes to be accomplished through coindexation. Thus it would seem that rather than being an argument itself, *afto* serves the intermediate role of making anaphoric the argument with which it is coindexed, the PA. However, Tsimpli suggests that as a further result of the coindexation noted above, the external θ -role is transmitted by the PA to the reflexive clitic. The process in question is assumed to be analogous to the manner in which the PA may ‘share’ a θ -role with a *by*-phrase under coindexation. Resulting from these operations is a configuration like that in (33), following the raising of the subject (this, of course, occurs in passives whether *afto* is present or not):²³

(33) Reflexive/‘Passive’ form with *afto*

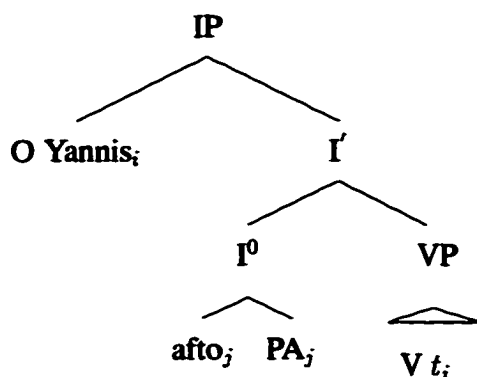
²³The subjects in such cases, which are assumed to be derived precisely as with passives, do not behave like derived subjects for the purposes of the diagnostics cited earlier. Tsimpli assumes that in such cases it is not the subject that is the controller, but instead the clitic-PA chain (they are assumed to be coindexed.) This is supposed to be analogous to the following example from English, in which the passive morpheme in I⁰ has been argued to control PRO:

(31) The ship was sunk to collect the insurance.

Diagnostics for derived subjects and control are bad because the passivity of the verb conflicts with the volitionality of the purpose clause.

Cp.

(32) John was brought to the prison to be interrogated.



It is also assumed in such cases that the reflexive clitic and the derived subject are coreferential, presumably because of the binding of the former by the latter.

According to Tsimpli's analysis, the role of non-active voice in each of these two cases is different. In the 'Lexical' Reflexives, the non-active morphology is the direct object of the verb, and an anaphoric element in need of binding. In the *afto*-cases, the morphology is the external argument of the verb, exactly as in passives. In such cases, the non-active morphology is argued to become anaphoric by virtue of its coindexation with the element *afto*, which is assumed to be generated in I^0 along with the non-active morpheme. I will begin here with a reconsideration of the *afto* cases, and move from there to a discussion of 'Lexical' Reflexives.

Reflexivization with *afto* is found in the following type of example, repeated from above:

- (34) O Yannis *afto-katastrafike*
 the Yanni self-destroy-N/A-3S
 'Yanni destroyed himself.'

Questions arise here concerning the proposed manner in which these elements interact. In particular, the 'anaphorization' of the PA by *afto* is suspect; it does not seem to be the case when two elements are coindexed that one assumes the binding theoretic properties of the other. For instance, the sharing of an index by two elements which are coreferent for the purposes of the binding theory certainly does not result in the binder becoming an anaphor. These considerations raise serious doubts about Tsimpli's analysis of the *afto*-

reflexives.²⁴ The source of these problems is relatively clear, and stems directly from the MSA strategy Tsimpli adopts. The problem is that the forms with *afto-* show two distinct elements, both of which are necessary for reflexive interpretation, and only one θ -role (in addition to that borne by the surface subject) to be assigned. In the next section, I will provide an alternative to the MSA approach, and show that it is able to capture a number of generalizations about the appearance of non-active voice. I then return to a discussion of whether any MSA-like approach could capture these same generalizations.

1.2.2 The 'Reflective' Approach

1.2.2.1 Reanalysis

I will present an analysis which reduces the appearance of non-active voice in each of these cases to the same factor. In particular, I will argue that non-active voice in each case reflects a particular structural configuration which is reflexive in the syntax.²⁵ This will provide an MSA analysis which may be contrasted directly with an MSA analysis of reflexivization,

Returning to the discussion of the 'Lexical' reflexives, there are several reasons to doubt that these are actually the result of a fully productive process of reflexivization associated with non-active morphology. First, and foremost, they do not resemble the type of reflexivization found elsewhere, e.g. in Romance. In French, for instance, *se* is used with both verbs like 'wash' and those like 'hit'.²⁶

- (35) a. Marie *se* lave.
Marie SE washes.

²⁴It will be shown in the next section that Tsimpli's conception of the 'Lexical reflexives', and with this her analysis of these forms, is also inadequate. For the moment, the discussion of the *afto-* forms suffices to provide the basis for the argument of the next section.

²⁵Referring to the relevant configurations as 'reflexive' is something of a convenience at this point; see the end of this section for discussion.

²⁶The 'clitic-based' voice systems like those involving Romance SE have been the topic of an extensive literature, which has raised some questions similar to those addressed in this study; these previous accounts have typically focussed on the question of whether there is a unified lexical representation for SE. I am not assuming any particular account here, as the point is merely to contrast a restricted as opposed to unrestricted type of reflexivization.

'Marie washes (herself).'

- b. Jean se frappe.
Jean SE hits
'Jean hit himself.'

In Greek, on the other hand, when verbs of this type verbs appear with the PA they are only passive, and never reflexive:²⁷

- (38) O Yanis katastrafike.
the Yani destroy-N/A-3S
'Yanis was destroyed.'

In fact, an examination of the cases in which reflexivity is correlated with non-active morphology reveals that Greek shows something quite different from Romance-style reflexivization. The verbs which, in Greek, are reflexive with non-active morphology are verbs like 'wash', 'comb', 'shave', 'dress', etc. These verbs form a coherent semantic class, comprising what are labelled *Body-Action* verbs in the typologically oriented study of Kemmer (1993). Kemmer argues that cross-linguistically this class of verbs distinguishes itself from reflexives per se, and forms an independent semantic class whose defining characteristic is the ability to appear as inherently reflexive. More precisely, Kemmer argues

²⁷There is a further distinction between Greek and French concerning these facts, one which suggests that Kemmer's approach is not fine-grained enough for the data it is applied to, a point which becomes apparent when we consider the manner in which it collapses Body-Action reflexives in Greek and French. In Greek, as may be seen in (36a), it is not possible for the reflexive-type predicates to have any type of object whatsoever. This contrasts with the case in Romance, where examples like the following from French are grammatical:

- (36) a. *I Maria xtenistike ta malia tis.
the Maria comb-N/A-3S the hair her
'Maria combed her hair.' (medio-passive)
b. I Maria xtenise ta malia tis.
the Maria combed the hair her
'Maria combed her hair.' (active)
- (37) Jean se lave les mains.
Jean SE washes the hands
'John washes his hands.'

that inherent with such verbs is "...the lack of expectation that the two semantic roles they make reference to will refer to distinct entities." Kemmer argues further that in languages which distinguish the marking of the middle voice from the marking of reflexives, the Body-Action verbs always pattern with the middle-marked forms, and that Body-Action verbs are thus in the middle voice.²⁸ For our purposes, it suffices to note that the class of verbs identified by Kemmer as being distinct from regular reflexivizations is precisely that which Tsimli takes to exhibit morphological reflexivization in Greek; whether we should then choose to call such verbs 'middles' is not relevant to the present approach. The conclusion to be drawn from this is that the forms in question are not truly the product of a process of reflexivization brought effected by the non-active morphology; rather, they receive a reflexive interpretation by virtue of being in some sense inherently reflexive, in the same way that English *wash* may be.

In order to examine systematic processes of reflexivization proper, one must look outside of the class of Body-Action verbs. With other verbs, there are two options in forming a reflexive: one is to prefix the verb with *afto*,²⁹ and the other would be to use an overt anaphor (the latter process being general.) The relationship of these types of reflexivization to each other will be examined below; most relevant for our present purposes is that the contrast between Greek and French, coupled with the semantic type of the 'lexical' reflexives in Greek, suggest an approach to the medio-passive morphology in these cases according to which it does not actually reflexivize predicates, but instead reflects the (otherwise accomplished) reflexivity of the predicates on which it appears.³⁰

This leaves the appearance of the non-active in *afto*-reflexives. First, it should be pointed out that reflexivization with *afto*- is not completely productive. This suggests that

²⁸Kemmer proposes further correlations concerning the relative 'heaviness' of the morphology in *Body Action* as opposed to 'true' reflexives; these are not relevant to the present approach, beyond the observation that *Body-Action* verbs pattern with the middle voice (as opposed to reflexives) when these are distinct.

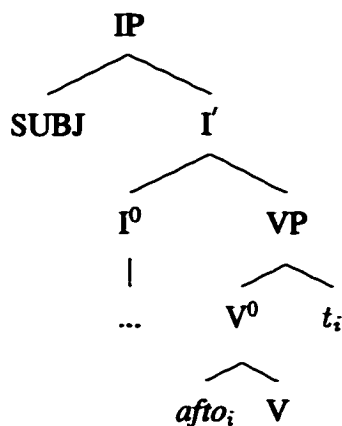
²⁹Some verbs resist reflexivization with *afto*. It is not clear to me at this point what factors determine whether or not this will be the case with any particular verb.

³⁰I do not mean to imply here that the French Body-Action verbs should be seen as 'reflexivized' by *se*. In French, the distinction between these verbs and what would be called actual reflexives is complicated by the fact that the morphological marking of middle voice is identical with that found in reflexives; both involve *se*. One cannot therefore distinguish the two possibilities in the relevant cases.

the verbs taking *afto-* in the reflexive might in fact be back-formed from *afto-* nominals

In any case, one alternative to Tsimpli's approach would be to hold that *afto* is generated as the direct object of the verb, and subsequently incorporates into the verb in order to produce a complex predicate [self-V]; this is in fact the treatment of *afto* proposed in Rivero (1992).³¹ This would then be predicated of the surface subject, which would be the external argument:³²

(39) *afto* as object



This approach has the advantage of directly associating the reflexivization of the predicate with *afto-*; that this element is in fact capable of reflexivization may be seen in the fact that nominals prefixed with it receive a reflexive interpretation:

(40) *aftotravmatismos* 'self-hitting'
aftokatastrofi 'self-destruction'

Still unaddressed is the question of why the non-active voice appears with such reflexives. Insight into this question may be gained through an examination of a further class of verbs showing *afto*, but with active morphology; this class includes verbs like *aftoktono* 'commit suicide'. The existence of this class establishes two points about the non-active

³¹Rivero (1992) nevertheless assigns a particular grammatical role to the non-active morphology found in the reflexives under consideration; this is discussed below.

³²The representation here is simplified in terms of the structure above VP, and does not take into account possible movement of the V-complex to I⁰.

voice with *afto-* reflexives. First, these verbs demonstrate that the non-active morphology is not simply a reflex of the prefix *afto-*. Second, the fact that verbs like *aftoktono*, which is effectively an intransitive verb with reflexive semantics, appears in the active shows that semantic factors do not determine the appearance of the non-active morphology.

The difference between the two cases is that whereas with the *afto-*cases discussed earlier there were regular, active transitive verbs without *afto*, with *aftoktono* there is no corresponding verb *ktono*; the following illustrates the situation with active *afto-* verbs:

(41) Active *afto-*verbs

<i>Afto-Form</i>	Translation	Transitive Form
<i>aftoktono</i>	'commit suicide'	* <i>ktono</i>
<i>aftomolo</i>	'change sides'	* <i>molo</i>
<i>aftoschedhiazó</i>	'improvise'	<i>schedhiazó</i> = 'design'

In the case of *aftoschedhiazó*, there is a form *schedhiazó*, but the former is not the reflexive of the latter. This can be seen in the fact that, as noted by Kostopoulou (1989) (as cited in Rivero (1992)), *aftoschedhiazó* does in fact take a direct object, and can be passivized:

- (42) a. O Yanis aftosxedíase ena logidrio.
the John improvised a short-speech
'John improvised a short speech.'
- b. Ena logidrio aftosxedíastike apo ton Yani.
a short-speech improvise-N/A by the John
'A short speech was improvised by John.'

This shows that non-active voice does not arise merely as a result of the presence of *afto-*; rather, it is only when *afto-* is prefixed to a verb that receives a reflexive interpretation that the non-active morphology appears.

Rather than taking the non-active morphology in the *afto-*cases to *effect* reflexivization, we may instead take the position that it *reflects* the reflexivity of its environment. Thus

instead of being an argument which, by virtue of possessing a set of properties, reflexivizes a verb, the non-active morphology in such cases is a morphological reflection of what has occurred via the incorporation of *afto*. The cases considered to this point exhibit two different ways in which a complex predicate may be reflexive. In the case of transitives with *afto* this is relatively straight-forward; *afto* reflexivizes the verb to which it incorporates from direct object position, forming the complex predicate [SELF-V].

In the cases which Tsimpli calls lexical reflexives, i.e. the medio-passive forms of verbs like 'wash', the reasoning is somewhat different, as there is no overtly incorporated reflexivizing element to produce the required reflexive predicate. Having already shown that the non-active voice present in such cases should not be taken as responsible for the reflexive interpretation of the predicate, we may assume here that such verbs are simply such that they are potentially inherently reflexive. This in turn raises a further question, concerning how precisely such inherent reflexivity should be represented. But this is in some sense independent of the question of what non-active voice is doing in such cases, as long as we focus on the fact that non-active voice by itself is incapable of reflexivizing a verb. By treating the verbs in the *Body Action* class as reflexive in and of themselves, the appearance of non-active voice in such cases may be seen to be the result of the same considerations governing its appearance in reflexives with *afto*.³³

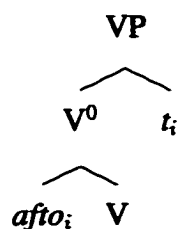
One point which must be stressed is that the interpretation of reflexive predicates in the morphological component, which is argued here to be responsible for the obligatoriness of Non-Active morphology in such forms, is restricted to only the 'inherent' and the *afto*-types of reflexivization. As noted above, it is also possible to form reflexives in Greek with overt anaphors, as in the following:

- (43) Vlepo ton eafto mu.
see-1s the self my
'I see myself.'

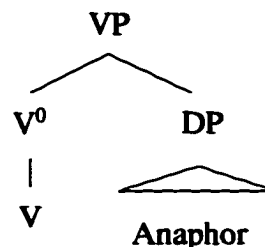
³³The exact structure corresponding to the 'inherent' reflexives here requires elaboration; see the end of this section for further discussion.

Crucially, such forms show active morphology.³⁴ This, however, is not surprising when we consider how the predicate is reflexivized in this case, as compared with the other two under consideration. With Body-Action verbs and *afto* reflexives, reflexivization is manifested in the overt syntax; in the former case, the verb itself may be taken to be inherently reflexive, and in the latter, incorporation produces a predicate which is reflexive in the overt syntax. In the cases with overt anaphors, however, the reflexivization of the predicate would occur in the LF component (whether by simple function/argument composition, or by the mechanisms proposed in Reinhart and Reuland (1991, 1993)).³⁵ The significance of this is that, for the purposes of the morphology, the predicate in question would in this latter case be simply a transitive structure; the reflexivization of the predicate would occur on the LF branch. For purposes of comparison the (PF) structure of an *afto*-reflexive and that of a reflexive with an overt anaphor would be as follows:

(44) *afto*-reflexive



(45) overt anaphor



The conditions on the appearance of the non-active here thus follow from considerations on the structures in which the verbs to be inflected are found; in the former case, one in which the object has incorporated, and in the latter, one in which it has not. The generalization about the system as a whole is that non-active voice appears on the verbal

³⁴More precisely, verbs which appear with active morphology as (non-reflexive) transitives continue to show active morphology as reflexives with an anaphor; deponent verbs, which appear exclusively with non-active morphology, remain non-active when they have an anaphor as complement.

³⁵According to Reinhart and Reuland's definitions, verbs with nominal anaphors would be reflexive-marked by virtue of the presence of the anaphor. With verbs of the body-action and *afto*-classes, the predicates would also be regarded as reflexive-marked. Thus reflexive-marking per se cannot be identified as the determinant of non-active voice in the reflexive system. Furthermore, it is not simply the case that 'inherently reflexive' verbs receive non-active voice, given the existence of the two classes of *afto*-verbs. The conclusion to be drawn from this is that reflexive-marking may not be appealed to as the factor responsible for the presence or absence of non-active voice.

head when the predicate is reflexive in the overt syntax. To instantiate this, the mechanisms for the appearance of voice here are similar to those proposed for Agreement (as well as for case) morphology in Marantz (1992a).

I am referring to the configuration in question as 'reflexive' for the purpose of this analysis. However, given that the broader goal in the investigation of a system of non-active morphology is to examine the range of syntactic environments (i.e. beyond just reflexives) in which non-active morphology appears, this is something of a convenience. That is, non-active morphology also appears elsewhere in the verbal system (for instance in passives), and I am not addressing the question of what conditions the appearance of non-active morphology in those cases. What is of importance is that the relevant environments differ structurally from those which are not provided with non-active morphology. If there is in fact a way of unifying the appearance of non-active morphology, the property relevant to this will be more general than reflexivity; see §1.1.5.2 for discussion.

1.2.2.2 The Role of Non-active Morphology in Rivero (1992)

As noted earlier, Rivero (1992) also analyzes *afto*-reflexives as involving object incorporation. However, the account of the role played by non-active morphology differs significantly in her account from that given here, warranting a comparison of the two treatments. Rivero's suggestions concerning the obligatoriness of non-active voice with *afto*-incorporation are based on the manner in which empty categories are identified. Rivero begins by noting that the clitic *ton* can double either an anaphor or a pronominal, as in the following examples:

- (46) a. O Yanis ton ktipise ton eafto tu.
the John CL hurt the self his
'John hurt himself.'
- b. O Yanis ton ktipise afton.
the John CL hurt him
'John hurt him.'

In cases in which the clitic appears and is not doubling an NP, as in the following

- (47) O Yanis ton ktipise.
the John him hurt
'John hurt him.'

Rivero holds that there is an EC in object position which is unambiguously identified as *pro* through the combination of two factors: first, Case assignment, which is transmitted through the clitic; and, second, through the features of the clitic itself, in particular the ϕ -features and not a feature like [+pronominal]. Within the context of this set of assumptions, Rivero's argument concerning the presence of non-active voice is then as follows. If the verb were to assign Case to the empty category left by noun incorporation, this empty category would be identified as *pro* by the reasoning given above. The empty category in cases of anaphor incorporation is, however, assumed by Rivero to be itself an anaphor, meaning that the assignment of Case and corresponding pronominal interpretation must somehow be avoided. This is achieved, she argues, by the non-active morphology, which absorbs the accusative Case of the verb. Rivero notes that on her analysis the non-active morphology receives Case but no θ -role, and behaves as do clitics on some approaches to clitic doubling. The treatment outlined in the last paragraph is meant to extend to non-active voice only as it occurs with incorporated *afto*-. In cases in which the non-active is found on reflexives without *afto*-, Rivero holds that the non-active morphology is truly anaphoric, and that it receives accusative Case as well as the verb's external θ -role.

A number of objections can be raised against Rivero's treatment. For one, on an extremely general level, it assigns varied grammatical and referential properties to the non-active morphology, and as such treats its distribution as effectively accidental. Rivero seeks to provide her account of Case-absorption with further appeal by suggesting that in all cases in which non-active voice is found in Modern Greek, it absorbs Case. That is, whether it is functioning as an argument or not, this one property is alleged to remain constant. That this is clearly not the case is evident from the behavior of deponent verbs, transitive verbs which assign Accusative case and yet appear with non-active morphology

(see Chapter 2 for extensive discussion.)

On a more specific level, this account extends no answer to the question of why only certain verbs have reflexive interpretations with non-active morphology alone. That is, as it stands there is no explanation for why certain verbs require *afto-* to be reflexivized while others do not; i.e., there is no explanation for why the language does not allow for the Argument version of non-active voice in all cases, so that all verbs could be reflexivized by non-active voice.

1.2.2.3 Reciprocals

The situation with respect to non-active voice in reflexives in Greek is mirrored by the behavior of reciprocals. Certain verbs in the non-active voice receive a reciprocal interpretation, as the following shows:

- (48) to zevgari filithike
the couple kiss-N/A
'The couple kissed.'

Paralleling the cases discussed above with *afto-*, there are reciprocals in which the verb appears prefixed with the element *allilo-*, and appears with non-active morphology.³⁶

- (50) allilo-peirazomaste
RECIP-tease-N/A
'We tease each other.'
- (51) peirazomaste
tease-N/A
'We are [easily] teased.'

³⁶The reciprocal meaning can be emphasized with *metaksu tous* 'between/among them'; thus:

- (49) Peirazomaste (metaksi mas)
tease-N/A-1PL among us
'We tease each other.'

The alternative is to employ the reciprocal *o enas ton allon* 'the one the other'; exactly as with reflexives with an overt anaphor, the verb shows active morphology:

- (52) *koitakse o enas ton allon*
look the one the other
'The looked at one another.'

Once again as in the case of the reflexive prefix *afto-*, there are cases in which *alilo-* appears, but in which the verb shows active morphology (the following examples come from Rivero (1992)):

- (53) Active *allilo-* Verbs

alliloepidroun 'interact'

allilographo 'correspond'

Examples like the following, however, show that this is not in fact a case of *alilo-* functioning as a reciprocal:

- (54) *I Maria allilographi me to Yani.*
the Maria corresponds with the John
'Mary corresponds with John.'

As Rivero notes, *allilo-* cannot be functioning reciprocally here (i.e. is not a reciprocal anaphor), as can be seen from the fact that the subject is Singular.

1.2.2.4 Summary: The Possibility of an MSA Approach for Greek

Before examining further cases in which voice morphology reflects various types of reflexivization, I will pause at this point to review the discussion of Modern Greek, and summarize why the argument above is an argument for Dissociation. Stated simply, the problem is that there are more elements associated with reflexivization than there are θ -roles to be assigned. In the abstract, the question which must then be addressed is how the two elements required in the reflexive actually contribute to the reflexive interpretation,

or if 'contribute' can be used felicitously here at all. Tsimpli approaches this difficulty in a way consonant with her general approach to non-active morphology: by making the non-active an argument of the verb, and treating *afto-* otherwise. As was demonstrated above, however, this type of approach is problematic on a number of levels. This does not necessarily mean that the non-active morphology in such cases cannot be treated as an argument of the verb, and I will now consider MSA approaches distinct from Tsimpli's.

For the two types of reflexive under discussion, the assumption to be examined is that the non-active morphology represents an argument of the verb in each case in which it appears. With the *afto*-reflexives this allows for two logical options: the non-active morphology may either be the external argument of the verb (as on Tsimpli's account), or the internal argument. In either case, this requires that the non-active morphology be treated as a kind of reflexivizer, more precisely an anaphor. However, as noted above, non-active morphology by itself is simply not capable of reflexivizing any verb on which it appears. The cases of 'Lexical reflexivization' are restricted to a typologically uniform class whose members are capable of being interpreted reflexively when used without objects, as in English. Thus irrespective of the syntactic question just posed, the conclusion which must be drawn is that the non-active does not actually reflexivize anything. If the non-active is the internal object (absorbs the object θ -role), then *afto* must be regarded as a non-argument, given the presence of the surface subject. For instance, one could hold that these cases are in fact formally identical to the cases with *afto-* incorporation, but that the 'Lexical Reflexive' verb realizes the complex 'SELF-V' rather than this being realized as '*afto-V*'. However, it is unclear how closely these types of reflexivization should be tied to one another. In English, for instance, body-action verbs may appear with a reflexive interpretation and no overt object as in *John washed*, but there is no analogue to *afto*-incorporation in the verbal system, with the exception of the (back-formed, as the stem shows) verb *self-destruct* (and perhaps a few others like *self-disclose* and *self-regulate*.)

Finally, it must be stressed that what the arguments in this section have shown that it is surface reflexivity which is correlated with the appearance of non-active voice in

MG reflexives. This leaves open the question of what aspect of the reflexive syntactic configuration is correlated with the NA morphology; this is discussed in detail in §1.5.

1.2.3 Non-Active and Reflexive Elsewhere: Fula

The argument for the role played by non-active voice in Greek identified the verbal morphology found in certain reflexives to be the reflection of a certain syntactic configuration. In particular, the non-active morphology did not in any sense reflexivize the verbs to which it attached. In this subsection, I examine a number of other cases in which a verbal morphological pattern called 'reflexive' or 'non-active' or whatever patterns similarly in not being capable of effecting reflexivization.

A case which may be used to establish points similar to those made for Greek may be found in Fula (West Atlantic, Niger-Congo); in the following discussion I draw on the work of Arnott (1956), (1970), as well as the discussion of Klaiman (1991), (1992).

Fula has a three way voice system, with endings for what Arnott classifies as Active, Middle, and Passive voice. Within a class of verbs pertaining to bodily action, the middle form has a reflexive interpretation; thus for the verb *wash*, the three voice forms are as follows:

- (55) a. o loot-ii biyiko 'she washed her child' (Active)
b. o loot-ake 'she washed herself' (Middle)
c. o loot-aama 'she was washed' (Passive)

Outside of this class of verbs, it is not possible to form reflexives by simply applying middle-voice endings to transitive verbs; instead, the Reflexive suffix *-t-/it-* appears on the verb, along with the middle voice:³⁷

- (56) a. Wara
kill-ACT
'kill'

³⁷Contrasting verbs of this type with those discussed immediately above, Arnott (1970:342) notes that these refer to "...actions which it is unusual for a Fulani to perform on himself."

- b. War-t-o
kill-REFL-MID
'commit suicide'

The following chart shows a number of verbs which behave in the same way:

(57) Further Reflexives

Verb	Trans.	Reflexive	Trans.
femmba	'shave'	femmb-it-o	'shave oneself'
moora	'dress hair'	moor-it-o	'dress one's own hair'
ndaara	'look at'	ndaar-t-o	'look at oneself'
ta'ya	'cut'	ta'y-it-o	'cut oneself'
'yama	'ask'	'yam-it-o	'ask oneself'

It should be noted that with verbs of this class it is possible to form middle-voice forms without the reflexive suffix *-t/-it*; in such cases, however, the interpretation is not reflexive, but what Arnott refers to as 'causative reflexive':³⁸

- (59) mi-femmbii-mo 'I shaved him' (Active)
mi-femmbake 'I got myself shaved' (Middle 'Causative Reflexive')
- (60) mi-moorii-mo 'I dressed her hair'
mi-moorake 'I got my hair dressed'

The point which must be emphasized, however, is that the reflexive interpretation is only possible for these verbs with both *-t/-it* and the middle voice. The class of verbs which appear in the middle voice with reflexive interpretations are parallel to the MG verbs with the same behavior in being verbs capable of appearing as 'inherently reflexive'. Parallel

³⁸These seem to be related to a further role of the middle, the Stative; according to Arnott (p.257), this is used '...if the emphasis is on the state and not the means':

- (58) ma66- 'shut'
yolnde don-ma66ii 'the door is shut' (Stative-Middle)

to the *afto-* forms of Greek, but more general in Fula, are the reflexives formed with the reflexive suffix *-t/-it*.³⁹ Fula, then, exhibits a second case in which voice morphology does not actually reflexivize predicates, but appears on predicates which are otherwise reflexivized.

1.3 A Second Case: The 'Linking' Antipassive

1.3.1 Antipassivization and Noun Incorporation in Yucatec

In this section I will present an argument for a 'Reflective' approach to voice morphology similar to that discussed for reflexives above, but for the morphosyntactic process of antipassivization. The discussion will be based on Yucatec, a Mayan language.⁴⁰

³⁹One final point concerns an area in which Greek and Fula differ. According to Arnott (1956: 134), the reciprocal suffix appears only with active endings:

(61) *6e-tokkootiri* 'they followed each other'

I will not investigate the reasons behind this difference here.

⁴⁰Some general notes on the Yucatec verbal system are in order. I will begin with the system of verbal agreement. Yucatec has two sets of agreement morphemes for subject and object agreement, which I will refer to following Mayanist practice as 'Set A' and 'Set B':

(62) The Yucatec Agreement System (from Bricker (1981))

Pers	Set A		Set B	
	Sing	Plur	Sing	Plur
1st	iN(w)-	k-	-en	-6?on
2nd	a(w)-	a(w)-...-é?eš	-eč	é?eš
3rd	u(y)-	u(y)-...6?ob'	-Ø	-6?ob'

The appearance of these sets of agreement markers on the verbs is determined by the aspect of the verb; this is shown in the following:

(63)

Aspect	AG	SUB	PAT
Incompletive	A	A	B
Completive	A	B	B

} AG = Agent of Transitive
SUB = Subject of Intransitive
PAT = Patient of Transitive

The resulting pattern is one of split-ergativity. In the incompletive aspects, the agents of transitive verbs as well as the subjects of intransitive verbs are marked with a pronominal from Set A, while the objects of transitives are marked in Set B, making a Nominative/Accusative pattern. In the completive aspects, Set A markers are used for the subjects of transitives, but affixes from Set B mark both the objects of transitives

The following examples show transitives and their corresponding antipassives in Yucatec, first in an ERG/ABS and then in a NOM/ACC aspect. In the former case, the morpheme *-n-* is regarded as the 'antipassive' morpheme; in the latter, there is no overt antipassive suffix (examples from Bricker (1978)):⁴¹

- (64) a. t in hek'-ah-Ø
 COMPL 1S(A) break-TRANS-3S(B)
 'I broke it.'
- b. hèek'-n-ah-en
 break-AP-VAL-1S(B)
 'I broke'
- (65) a. k in kīin- s- ik- eč
 INCOMP 1S(NOM) kill CAUS TRANS 2S(ACC)
 'I kill you.'
- b. k in kīin- s- ah- Ø
 INCOMP 1S(NOM) kill CAUS TRANS Ø
 'I kill'

Yucatec also shows cases of noun incorporation, and when it does, the antipassive suffix may be seen to be obligatory in the ERG/ABS aspects:⁴²

- (66) a. t in č'ak-ah če? ičil in kòol.
 COMPL 1S(B) chop-TRANS a-tree in my cornfield
 'I chopped a tree in my cornfield.'
- b. čak- če?-n-ah-en ičil in kòol.
 chop wood-AP-1S(B) in my cornfield
 'I chopped wood/trees in my cornfield.'
- (67) a. t in wek-ah ha?
 COMPL 1S(B) spill-TRANS water
 'I spilled the water.'

and the subjects of intransitives, forming an Ergative/Absolutive pattern. In addition to the above uses, pronominals from set A are used for the possessors of nouns.

⁴¹I have modified Bricker's glosses slightly, and removed several null elements from the examples.

⁴²In Mayanist terminology this type of construction is referred to as the 'Incorporating Antipassive', and, according to Dayley (1981), occurs in Chuj, Jacaltec, Mam, Tzotujil, and K'ekch' in addition to Yucatec. I will retain this terminology to refer to cases in which noun incorporation is accompanied by a morpheme otherwise appearing in antipassives.

- b. *wek-haʔ-n-ah-en*
 spill-water-AP-TRANS-1S(B)
 'I spilled water.'

In addition to the cases in which incorporation takes place in ERG/ABS aspects, there are similar examples in the NOM/ACC aspects:

- (68) a. *k in č'ak-∅-ik čeʔ ičil in kòol.*
 INCOMP 1S(A) chop-3S(B)-TRANS(N/A) tree in my cornfield
 'I chop a tree in my cornfield.'
- b. *k in č'ak-čeʔ ičil in kòol.*
 INCOMP 1S(A) chop tree in my cornfield
 'I chop wood/trees in my cornfield.'

As Bricker notes, one cannot tell from these examples whether or not the object has incorporated into the verb because there are no suffixes in the NOM/ACC pattern as there were in the ERG/ABS cases seen above. However, further examples given by Bricker suggest that the object here has in fact undergone incorporation. The relevant cases involve what Bricker calls 'retransitivization' of verbs: the addition of the suffix *-t* to intransitives with object incorporation to form a verb in which an oblique seems to be the structural direct object. This seems in fact to be a type of applicative, in which an incorporated preposition accounts for the oblique becoming a surface direct object.⁴³ In these forms *-t*

⁴³When there is no oblique to ascend to the status of structural direct object, Bricker notes that there is an implication that such an object exists; this is exhibited in the following trio:

- (69) a. *k in wek-∅-ik haʔ*
 INCOMP 1S(A) spill-3S(B)-TRANS water
 'I spill the water.'
- b. *k in wek-haʔ*
 INCOMP 1S(A) spill-water
 'I spill water.'
- c. *k in wek-háʔa-t-ik*
 INCOMP 1S(A) spill-water-CAUS-TRANS
 'I throw water [at him].'

(as well as the suffix *-ik*) being added *after* the noun in (70b), which is derived from the (68b) above:⁴⁴

- (70) a. k in č'ak-če? ičil in kòol.
INCOMP 1S(A) chop tree in my cornfield
'I chop wood/trees in my cornfield.'
- b. k in č'ak-če? -t -ik in kòol.
INCOMP 1S(A) chop-wood CAUS TRANS my cornfield
'I chop wood/trees in my cornfield.'

This suggests rather strongly that the nominal is in fact incorporated to the verbal complex here, exactly as in the ERG/ABS cases seen above.

The situation with respect to the antipassive morpheme here provides for an interesting comparison with the non-active morphology in Greek reflexives. Antipassivization is often analyzed (following Baker (1988)) as involving incorporation of the direct argument of the verb, with the 'antipassive morpheme' on the verb being the realization of this argument. The presence of the antipassive morpheme with Noun Incorporation makes for a direct parallel with the *afto*-reflexives of Greek; in each case, both an element seemingly responsible for a morphosyntactic change and a change in voice morphology are evidenced. Noun Incorporation is also analyzed as involving the incorporation of the direct object of the verb into V⁰. With the antipassive morpheme occurring along with an incorporated noun, we have once again a situation in which there are more putative arguments of the verb than there are θ -roles to be assigned. In the case of antipassivization, this situation has been addressed in the literature; Baker (1988) notes this pattern, with examples like the following from Nishga, a Tsimshian language:

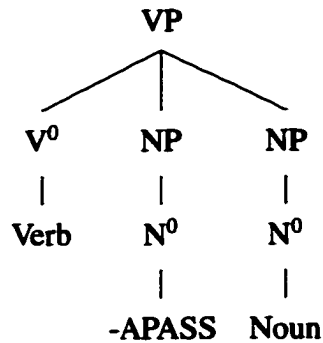
- (71) a. simiyeeni-sgu-m-hoon
smoke-AP-ADJ-fish
'to smoke fish'
- b. lits'il-sgu-m-daala
count.up-AP-ADJ-money

⁴⁴Bricker does not mention the role that these forms may play in determining whether or not there is incorporation in the NOM/ACC pattern.

'to keep track of money (donations)'

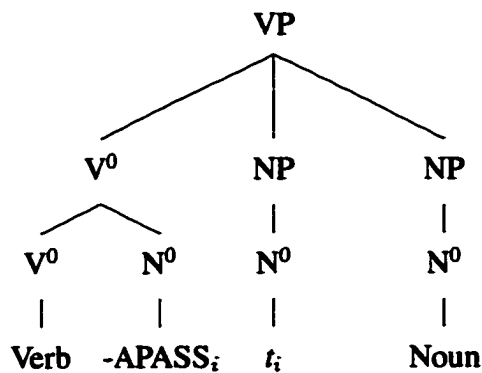
The treatment for such forms suggested by Baker involves three steps. First, there is the following structure, in which the antipassive suffix, which is the object of the verb, is taken to be 'thematically related' to the full NP patient, which is for Baker an adjunct:

(72)



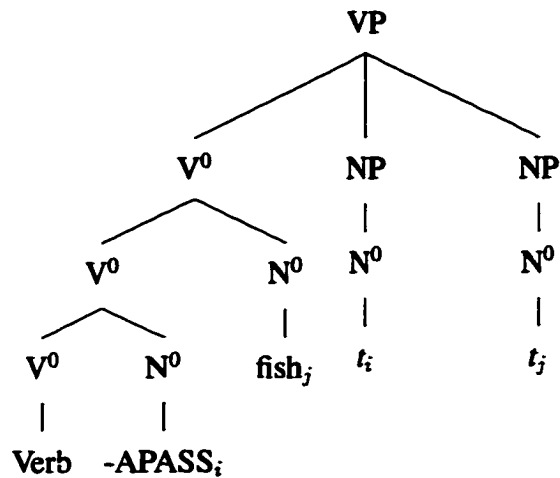
The antipassive morpheme then incorporates into the verb, as in straightforward cases of antipassivization in the Incorporation theory; this produces the following structure:

(73)



According to Baker, the incorporation of the antipassive suffix into the verb results in a situation in which the adjunct NP receives its θ -role from the verb-complex, because it receives this role from the antipassive suffix, which, via incorporation, has become part of the verb. Thus, Baker (1988:138) argues, the full NP is "...both a structural sister of the complex verb and is theta-coindexed with it." Accordingly, the NP may then itself incorporate into the verbal complex without incurring a violation of the ECP:

(74)

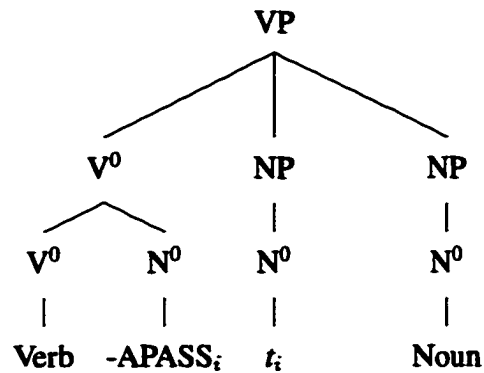


Baker summarizes this account by stating that the role of the antipassive morpheme is that of a 'linking' morpheme in the following sense: it provides the thematic link required to make the Noun Incorporation possible.

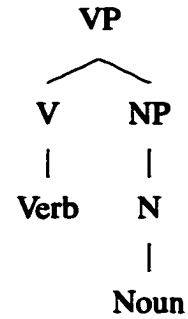
This treatment raises both theoretical and empirical questions. The first of these concerns the nature of the link which is taken to be created by the incorporation of the antipassive morpheme into the verb. The second is based on questions concerning the proposed function of the link.

If noun incorporation is possible when the antipassive morpheme is present because in such cases the oblique NP is θ -marked by the verbal complex and a structural sister to it, then the question arises as to why it is not possible when the noun in question is simply the structural object of the verb. That is, if NI depends on a structural configuration in which the incorporating noun is counted as the θ -marked sister of the verbal complex, then why is the additional structure induced by antipassivization required at all? If the structure in (75) is able to license the initial noun incorporation of the antipassive morpheme, then it is unclear why the structure in (76) would not license the incorporation of the object as it stands:

(75)



(76)



It is not possible in such a case to claim that the difference lies in the fact that only antipassive morphemes may incorporate from direct object position. Such statements are independently necessary in certain cases, given the existence of languages with antipassivization but no noun incorporation. In the present case, however, Baker's argument relies on the idea that the incorporation of the antipassive morpheme places the nominal in the oblique PP in a structural relationship which is indistinguishable from that found with direct objects.⁴⁵ A difference between the AP morpheme and full nouns may not be appealed to, then, because the Linking argument relies on the position that nouns should

⁴⁵This position could also be objected to, but I will not discuss it further here.

be able to incorporate from direct object position irrespective of their status.⁴⁶

⁴⁶At the same time, however, it can be shown that cases of noun incorporation do not behave exactly like regular antipassives. In addition to making the morphological distinctions outlined above, Yucatec has a class of transitive verbs which differentiate between antipassivization and noun incorporation. The 'root transitive' class of verbs shows a CVC pattern in the active, and shows various stem forms depending upon different morphosyntactic environments. In the abstract, the pattern for such verbs is as follows:

(77) The Root Transitive Pattern:

Syntactic Type	Stem Form
Root Transitive	CVC
Passive	CV?VC
Antipassive	CVVC
Middle	CVVC

To illustrate, the underlined stems in the following transitive and antipassive show the contrast which characterizes Root Transitives:

- (78) a. t in hek'-ah-Ø
COMPL 1S(A) break-TRANS-3S(B)
'I broke it.'
- b. hèek'-n-ah-en
break-AP-VAL-1S(B)
'I broke'

This behavior makes for a diagnostic which differentiates antipassives from verbs with noun incorporation. Rather than showing the CVVC stem form *č'ak*, verbs with incorporated nouns continue to show the basic transitive CVC *č'ak*:

- (79) a. t in č'ak-Ø-ah če? ičil in kòol.
COMPL 1S(B) chop TRANS a-tree in my cornfield
'I chopped a tree in my cornfield.'
- b. č'ak-če?-n-ah-en ičil in kòol.
chop wood-AP-1S(B) in my cornfield
'I chopped wood/trees in my cornfield.'

This seems to be in contrast to the stem form seen in cases of antipassivization in which there is an oblique corresponding to the object of the verb; compare the following pair:

- (80) a. má?alob' ?a t'an-ik màayah.
well 2S(A) speak-TRANS Maya
'You speak Maya well.'
- b. má?alob' ?a tàan ?ič màayah.
well 2S(A) speak in Maya
'You speak Maya well.'

1.3.2 The Yucatec System

1.3.2.1 Separating the Phenomena

In the class of verbs discussed above antipassivization was accompanied by both stem allomorphy and (in certain aspects) suffixation. Before a full analysis of the Yucatec facts can be given, these phenomena must be distinguished from one another.

Beginning with stem allomorphy, the following examples show that for verbs in the root transitive class, the variation in stem form occurs in both the NOM/ACC and ERG/ABS aspects:

- (82) a. k a šok-ik
INCOMP 2S(A) study-TRANS
'You study it.'
- b. k a šòok.
INCOMP 2S(A) study
'You study.'
- (83) a. t a šok-ah.
COMPL 2S(A) study-TRANS.
'You studied it.'

In this pair the second example, which contains an oblique phrase containing the object of the verb in the first, shows a verb stem in the pattern C \bar{V} VC, as in other antipassives. The form here is not CVC (as in the transitive (80a)), which is unexpected from Baker's perspective when we consider that, according to the 'linking' approach to Noun Incorporation with antipassivization outlined above, forms like (80b) are the source for the cases showing noun incorporation.

Further differences between NI and antipassivization might exist as well. For instance, Sullivan (1984) and Dayley (1981) note that it is not possible for Noun Incorporation to occur outside of the set of CVC root transitives. Nevertheless, these verbs which seemingly disallow incorporation allow for antipassivization. Noun incorporation is, however, attested in the *s*-causatives of the related Yucatecan language Itzá (examples from Hofling (1991); the 'antipassive morpheme' is *-n* in the ERG/ABS aspects (as in Yucatec), and is glossed here as DETRAN in accordance with Hofling):

- (81) a. (ah/ix) kin-s-ä-b'alum-n-ah-een
(MASC/FEM) die-CAUS-DPM-jaguar-DETRAN-DIST-1S
'I was a jaguar hunter.'
- b. kin-s-ah-n-ah-een
die-CAUS-DPM-DETRAN-DIST-1S
'I butchered.'

- b. šòok-n-ah-eč.
 study-AP-TR-2S(B)
 'You studied.'

Outside of the class of root transitives, the role of *-n* in antipassivization can be seen separated from any kind of stem allomorphy. The first class of transitive verbs to be considered are those which are derived from intransitives by means of the morpheme *-s-*. The antipassive forms for these three aspects are illustrated in the following, in which it is evident that the *-s-* morpheme remains:

- (84) a. táan u lúuʔ-s-ah
 DUR 3S(A) fall-CAUS-TRANS
 'He is felling.'
- b. lúuʔ -s -ah -n-ah -ih -Ø
 fall CAUS TRANS AP TERM 3S(B)
 'He felled'.
- c. káʔah lúuʔ -s -ah -n -ak -Ø
 IRR fall CAUS TRANS AP SUBJ 3S(B)
 'He might fell.'

The second coherent class of non-root transitive comprises a set of verbs derived from nouns with the suffix *-t*. Unlike the *s*-causatives, which maintain *s-* in the antipassive forms, the majority of the verbs formed with causative *-t* do not have *-t* in the antipassive; thus:

- (85) a. táan in tz'íib' -t -ik -Ø
 DUR 1S(A) writing CAUS TRANS 3S(B)
 'I am writing it.'
- b. táan in tz'íib' -Ø
 DUR 1S(A) write 3S(B)
 'I am writing.'

This class of verbs, does, however, resemble the *s*-transitives (and for that matter the root transitives) in showing antipassive *-n* in the ERG/ABS antipassives, and having no such marking in NOM/ACC aspects (see (85b) for the latter cases):

- (86) a. tz'íib' -n-ah -en
writing AP 1S(B)
'I wrote.'
- b. káʔah tz'íib' -n -ak -en
IRR writing AP SUBJ 1S(B)
'I might write.'

The situation is thus as follows. Suffixation appears throughout all verb classes in the ERG/ABS aspects. Stem allomorphy occurs independently of ERG/ABS vs. NOM/ACC specification, but only in the root transitive class. And, finally, stem allomorphy (unlike suffixation) distinguishes between noun incorporation and antipassivization in failing to occur with the former process.

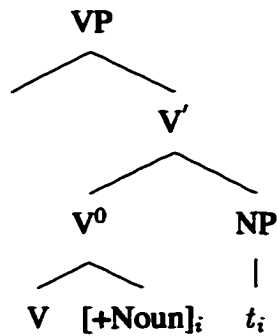
1.3.2.2 The 'Antipassive Morpheme'

Following the approach outlined in the discussion of Greek earlier, in the case of Yucatec the presence or absence of $-n/\emptyset$ can be reduced to the verb appearing in a particular structural configuration.⁴⁷ The actual structure uniting NI and AP would be one in which the structural direct object has been incorporated, whether or not it corresponds to an abstract nominal (antipassivization) or to an actual noun (Noun Incorporation).⁴⁸

(87) Antipassive and NI

⁴⁷One potential treatment of $-n$ to be considered would be one in which it is not dissociated, at all, and in which the cases given as Noun Incorporation above are actually compounding. Under these circumstances, one might argue that the co-occurrence of NI and the AP morphology is due to the fact that the relevant examples simply involve antipassivized transitive verbs, where the verbs happen to be compounds. The problem with such a treatment is that there is nothing to require that the compound verbs appear antipassivized, and examples like 'John cut-tree DP' do not, to my knowledge, occur.

⁴⁸A further option would involve identifying the AP-suffix with the presence of a trace within the VP. However, this would require that the morphology distinguish between the types of traces left by different types of movement, given that in other cases in which objects seem to appear outside of VP for pragmatic reasons $-n \sim \emptyset$ does not appear (see Durbin and Ojeda (1978) for word-order variations in Yucatec.)



The presence of the 'antipassive morpheme' is to be accounted for by a morphological rule concerning the realization of [V-N] structures (or objectless verbs); the following suffices:⁴⁹

(88) [V-N] → [V-N]-AP

The actual realization of the morpheme given as AP will then be determined by aspect:

(89) Antipassive Morpheme Spell-out

$$\left[\begin{array}{c} \text{AP} \\ \vdots \end{array} \right] \leftrightarrow \left\{ \begin{array}{l} \emptyset / _ \text{Gov. by NOM/ACC} \\ n / _ \text{Gov. by ERG/ABS} \end{array} \right.$$

Notice here that what I have called the antipassive morpheme is of course not specifically that; rather, this is a cover term used for the morphology which is sensitive to the status of the object. Furthermore, a number of points remain to be made concerning the manner in which the node labelled AP is actually attached to the verb in the first place.⁵⁰

⁴⁹Clearly a full-fledged account of Yucatec morphology would be required before this process could be stated with absolute precision, as the position of other affixes is not addressed in the rule given here. Nevertheless, the analysis as it stands gives a representative treatment of reflective voice morphology, and this would not be altered in a more detailed treatment of the Yucatec verb.

⁵⁰As discussed above in Fn.46, Yucatec has a pattern of CVC roots which show the form C \hat{V} VC in antipassives but remain CVC with noun incorporation. Capturing the fact that stem allomorphy is triggered by antipassivization but Noun Incorporation is a bit more involved (however, that this is in fact a systematic *morphological* difference between NI and AP remains to be seen, given that I have not excluded the possibility that Noun Incorporation prevents the relevant allomorphy for phonological reasons.) One option would be to reduce the difference to a difference between pronominals (if that is what is assumed to be incorporating in antipassives) and full NPs. This would amount to holding that stem allomorphy was not

1.4 Summary

The cases discussed above illustrate instances of voice morphology which cannot be analyzed as an argument of the verb. The analyses I gave of the distribution of voice in these cases was based on a post-syntactic conception of voice operations. However, this treatment does not follow automatically from the argument showing that morphology-as-arguments treatments are incorrect. Other options are in principle possible.

Part III. Syncretism and Voice Systems

1.5 Syntactic Configurations and Voice Morphology

1.5.1 Aims and Issues

In this section I discuss the possibilities for defining the process that assigns Voice nodes in syntactic configurations. I will focus on the properties of the Greek system, as discussed above. I begin by presenting the full argument for why systems like that found in Greek must be treated with Voice features appearing post-syntactically. I then turn to the precise

purely structurally conditioned in the way that the *-n* 'antipassive' morphology is, but would instead relate the stem pattern to the nature of the incorporating element as well as to the incorporated structure itself.

As an alternative, one could capture the difference in stem-form in antipassivization and NI would by holding that in the former case the altered version of the stem realizes the complex [V-N], whereas in the latter case the stem realizes only the verbal head. This could in turn be motivated by the fact that in cases of noun incorporation, the incorporated N-head must be spelled-out separately. This approach to the root transitives would leave open the question of what happens in antipassives in the other two classes of verbs. With the *-s* and *-t* transitives, there is no difference in the stems appearing in antipassives and those appearing in normal transitives. However, it could be argued that there is no specific V+N stem form for these verb classes, with the result that such verbs never show stem allomorphy.

It seems that given the current set of facts, neither option is forced within the context of a theory which allows for both Fusion and contextually-determined allomorphy. More generally, it seems that in any case in which one could analyze a morphological signal *-a-* as the result of the Fusion of nodes *X* and *Y*, an alternative account is possible according to which e.g. *Y* is realized as \emptyset , and an allomorphy rule converts *X* to *Z* (which is realized as *-a-* during Vocabulary Insertion) in the context of the features of *Y* (or, similarly, the conditions on the insertion of *-a-* could be modified so as to include the presence of *Y* in its environment.) Perhaps the only way of settling the issue would be if the apparently fused terminal allowed for independent realization of one of its features; i.e., in cases in which the insertion of *A* did not bleed the regular affixation associated with *Y*, an account in terms of contextual allomorphy rather than Fusion would be forced.

nature of the process assigning the morphological feature [NonAct].

Before I discuss the arguments for dissociation in the Greek system, one additional set of facts must be presented. This concerns the existence of classes of *deponent* verbs in Modern Greek. Such verbs appear with the Non-Active set of inflections, but can be shown to have the syntax of normal, transitive verbs. As I will show, they must be treated as possessing the voice feature [NonAct] inherently. The behavior of these verbs will be discussed in Chapter 3. For the time being, the point to be emphasized is that these verbs have Non-Active inflection, but do not otherwise behave distinctly from normal, alternating verbs:

- (90) Metaxirízo-me polí to lexikó mu ótan gráfo eliniká.
use-N/A.1S much the dictionary-ACC my when write-1S Greek
'I use my dictionary a lot when I write Greek.'

There are two types of argument for dissociation in voice systems: one set involving only syntactic alternations, and one involving these plus deponent verbs. The first of these two holds that, given a syncretism between passive, anticausative, etc., there is no reasonable syntactic feature underlying the morphological syncretism; this is discussed in §1.5.4.2. This argument, however, simply shows that there is no good reason for treating the syncretism as stemming from a syntactic feature; it may show such analyses to be un insightful, but it does not make a syntactic account impossible. This is where the deponent verbs come in to the picture. The most powerful argument for a post-syntactic treatment of voice in Greek is based on the following point:

- (91) Voice morphology in the syntactic alternations and the voice morphology in deponent verbs are related to the same morphological feature.

That is, the voice morphology found with deponent verbs and the voice morphology found in syntactic alternations is identical in terms of the features conditioning its insertion. The identity of the features underlying these two cases is shown in the following section. I then show that on Lexicalist or Minimalist/Lexicalist conceptions of syntax/morphology interactions, the correlation between the two types of morphology can only be accidental.

1.5.2 Feature Identity

The first point to be made is that deponent verbs and verbs in specific syntactic configurations in Greek are both related to the same morphological feature [NonAct]. Demonstrating this point is more difficult in certain cases than in others. In cases in which there is (effectively) a single signal at issue the question of underlying identity is difficult to answer. The situation is different in the voice system examined here, in that it is entire sets of signals which are identical in deponent and syntactically determined cases of voice morphology. The argument hinges on the fact that there is a set of signals correlated with the non-active voice, and the fact that inherently specified verbs are identical for this entire set with verbs in the Non-Active syntactic environments. On the analysis I have presented, there is a single feature, [NonAct], which is assigned in particular syntactic configurations, and in addition is possessed inherently by certain verbs. If the behavior of deponents and non-active verbs were not analyzed in this manner, the fact that there are entire sets of signals patterning identically in each of these two cases would be accidental.⁵¹

1.5.3 Lexicalist(Minimalist) Approaches

On a Lexicalist treatment, in which Voice morphology must be checked against a syntactic feature, the parallel inflection of syntactic passives and of deponents cannot be captured. In cases in which it is accompanied e.g. syntactic passivization, the Voice morphology must be checked against a specific syntactic feature, which is correlated with specific syntactic properties (non-thematic subject position, etc.) Transitive deponents will have this same morphology, but syntactically will not possess a feature against which the Non-Active morphology can be checked. The fact that certain verbs are inflected in the same way as verbs in e.g. verbs in passive syntax is thus completely coincidental on this approach. I will illustrate this first with a Lexicalist treatment involving affixation and feature percolation, as the argument presented here will also apply to syntactic treatments of voice morphology

⁵¹This is one type of argument for the identity of morphological features in inherently specified verbs and syntactic configurations. As discussed in Chapter 3, different types of arguments may be made for different systems.

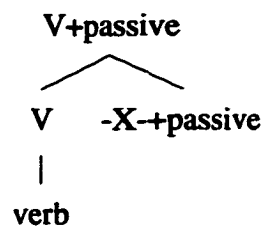
in which the goal is to achieve a unified Lexical entry for voice in distinct syntactic structures. I then show that the relevant facts are impossible to capture on the Lexicalist version of Minimalism, along the lines of Chomsky (1995).

In standard Lexicalist treatment, the relevant forms, the voice morphology would play a role in defining the external syntactic behavior of the verb. Specifically, the passive/non-active affixes would contribute through percolation features making the entire verb+affix unit syntactically passive/non-active. That is, the voice morphology would be specified with features as follows (I am ignoring details of subcategorization for the moment):

- (92) -X- = [[v] +passive +1]
 -Y- = [[v] +passive +2]

Affixation produces a 'passive verb':

- (93) Passive Verb

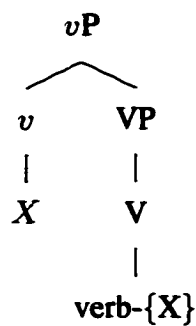


Affixation on this treatment determines external behavior. However, in the case of inherently specified verbs, the external behavior is not that of a passive verb. The affixes found with inherently specified verbs must therefore be differently specified. As a result, this theory posits two sets of identical affixes, with these contributing distinct features (or possessing distinct subcategorization frames). The relationship between the two cases is entirely severed, contrary to the results established above.⁵²

⁵²The same argument may be made if the 'passive morphology' is specified so as to be subcategorized for a 'passive verb'; in this case 'passive morphology' will subcategorize for both syntactically passive verbs, and inherently specified syntactically active verbs. But the fact that each particular affix subcategorizes for 'passive verbs' if and only if it also subcategorizes for a diacritically specified set of active verbs is entirely accidental.

The Minimalist/Lexicalist treatment along the lines of Chomsky (1995) differs in implementation, but is subject to the same type of counterargument. On this type of account, morphology, in particular voice morphology, corresponds to features in the syntax which determine the syntax of voice alternations. Assuming for concreteness that *v* is the locus of such effects, the verb would, by virtue of having ‘passive morphology’, have a specific type of feature, here *X*, to check in *v*:

(94) Minimalist/Lexicalist



The actual implementation is unimportant (at this point; see §6 for questions of implementation that matter.) What is crucial, however, is the fact that the voice morphology corresponds to a syntactic effect, i.e. a voice alternation, with this being encoded through the checking relationship. In a case in which *X* syntax is present, but the verb does not have *X*-morphology, the derivation will crash. This will also be the case in which the verb has *X*-morphology but *X*-syntax is not present; i.e., the case of an inherently specified verb.

If inherently specified verbs had the same feature that was correlated with the syntactic voice alternations, the derivation would crash. The only way for this type of morphology to be present on the Minimalist/Lexicalist treatment is for it to be correlated specifically with a syntactic effect. In the case of inherently specified verbs it is not. Hence it must be concluded on this type of treatment that the relationship between the morphology found in inherently specified verbs and that found in syntactic alternations is entirely accidental. In light of the arguments presented here, this position is clearly inadequate.

1.5.4 The Process

1.5.4.1 Issues

The arguments of the last section show that both syntactic configurations and individual verbs are related to the same feature associated with non-active morphology. I now present an analysis of the Greek voice system based on this fact. In the discussion to come I will refer to the morphological feature associated with non-active morphology as [NonAct]. The role of [NonAct] in morphological spell-out is that it conditions the insertion of the non-active set of Person/Number endings (as well as figuring in the realization of the 'passive formant' involving *-thik-*.)

In the first case to be dealt with, that of deponent verbs, individual verbs are simply specified for this feature inherently:

(95) V[NonAct]

The other case to address is that in which non-active morphology appears in syntactic alternations. The basic idea I will develop is that voice morphology in some cases results from the fact that the verb is in a particular structural configuration. In such configurations, the Morphology targets the verb with a morphological position which encapsulates information about the syntactic environment. The morphological process stated abstractly is as follows:

(96) Dissociated Voice Assignment

V → V-VOC[NonAct]/___ SYNTACTIC ENVIRONMENTS

I will now discuss three ways in which the notion of 'Syntactic Environment' involved in this process may be stated.⁵³

⁵³The manner in which this type of condition is stated below should be taken as relative to the Greek voice system; typological variation in voice systems could be captured with different types of conditions on Dissociated voice assignment. I will not discuss this further here, however.

1.5.4.2 Possibilities

1.5.4.2.1 The [Non-Act] as a Syntactic Feature The morphology cannot simply check the same syntactic feature, as this leads to serious difficulties. Suppose non-active morphology corresponds to (i.e. must be checked against) a feature F in the syntactic computation. On the scenario sketched above F is a feature of v , to be checked in the overt syntax. If deponent verbs are to be treated as identical morphologically with verbs in non-active syntax, then these verbs too must have the feature F . But the insertion of a deponent verb post-syntactically amounts to the reintroduction of a (strong) syntactic feature on the PF branch, after the workings of the syntax. Such a derivation should therefore be impossible. On this type of account, then, the reasonable stance would be to have the (checked) syntactic feature still visible in morphology, for the purposes of the following operation:

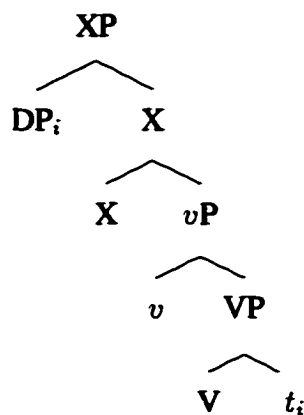
$$(97) \quad V \rightarrow V\text{-[NonAct]}/__ F$$

A further point is that this amounts to making the features involved in the syntactic derivation visible for the workings of Morphology. An option would be to posit a process which converts this syntactic feature into one that can be dealt with in the morphology; that is, to hold that syntactic features after being dealt with in the syntactic computation are visible for morphology. The problem then is with the status of this feature. The feature in question would presumably be a feature of v . However, it is not need to attract the verb to v , as this is assumed to occur anyway. If this is a feature that needs to be checked, then it should be possible to associate a coherent syntactic property with its distribution. Moreover the content of v in the relevant environments is heterogeneous; in passives and reflexives v is Agentive, whereas in anticausatives it is crucially non-agentive. That is, there is a common factor underlying these three syntactic configurations, but it is not a semantic property, unless it is stipulated that 'lacks an external argument in some sense' is a feature relevant for interpretation. The conclusion that is then forced is that non-active morphology checks an uninterpretable feature of v . This, however, is superfluous, given

that the verb will move to *v* anyway. The presence of this additional uninterpretable feature on *v* must simply be stipulated.

1.5.4.2.2 [Non-Act] via NP-movement A second possibility is that the voice morphology is sensitive to a configuration in which an internal argument has undergone NP movement. The syntactic configuration in question is as follows, with XP here standing for the target of NP-movement:

(98) Relevant Structure



According to this approach two facts are involved in the assignment of the [NonAct] feature, involving the presence of a VP-internal argument and its NP-movement.

There are two points to consider here. The first is if it is the actual NP-movement that is associated with the assignment of the [NonAct] feature, or whether this is a secondary effect. There is reason to believe that it is the latter. This can be seen in the fact that the logical object need not appear in the raised position in unaccusatives; the following illustrates with the Transitivity Alternation verb *spread*.⁵⁴

(99) aplo-thik-e o lekes
 spread-N/A the stain
 'The stain spread.'

Similarly with passives:

⁵⁴I thank Alec Marantz for pointing out the relevance of this type of example in determining how the conditions on voice assignment should be stated.

- (100) Xtes folgoni-thik-e o Athanasiadhis apo tin 17 Noemvri
 yesterday assassinated-N/A the Athanasiadhis by the 17th November
 ‘Yesterday Athanasiadhis was assassinated by 17th November.’

This shows that a formulation in terms of actual movement from a VP-internal position is not what is at work; the next (and final) formulation takes account of this.

1.5.4.2.3 Localized Information On the alternative view, the information required for the realization of non-active morphology is more localized, and has to do with a property of *v*. Specifically, when *v* is not in a local relationship with a DP external argument, the [NonAct] feature is assigned.^{55,56}

- (101) $V \rightarrow V\text{-VOC[NonAct]}/___ \text{No external DP argument}$

The point to be stressed is that while this process is localized to *v*, it does not correspond to a syntactic feature of that head. The syntactic features involved in the syncretism are heterogeneous with respect to *v*, in some cases being Agentive (e.g. Reflexives, Passives), in other cases non-Agentive (Anticausatives.) This is evident in the fact that the condition on the application of this rule may potentially be met in various ways. In unaccusatives it will, for instance, be met because there is no external argument to begin with. In passives or reflexives on the clitic-type analysis noted above, the condition will be met by virtue of the fact that the external argument has ‘cliticized’ in the syntax.⁵⁷ Finally, Raising verbs like *seem* also meet the relevant conditions.

Like the approach discussed immediately above, this treatment is configurational. However, what is relevant does not involve a VP-internal argument, but instead merely whether or not *v* is in a particular structural relationship with an externally projected argument (or the trace of one.) In cases in which no such argument is present (for one of

⁵⁵The relevant object here is actually the *V-v* complex, which I will refer to simply as *V* for simplicity.

⁵⁶I will again stress the fact that this is meant to capture the situation in Greek, and that I am not addressing the various dimensions along which voice systems will vary.

⁵⁷The notion of ‘cliticization in the syntax’ remains somewhat vague. The basic idea involves an XP adjoining to a head in the syntax; in doing so the element no longer counts as an XP for certain processes.

the reasons noted above), the possibility for NP-movement will arise.⁵⁸

1.6 Voice in Syntax/PF/LF and Dissociation

The points concerning how dissociative and non-dissociative treatments of voice morphology relate to one another can be posed in a somewhat more abstract fashion. For convenience in exposition, I will assume in illustrating the non-reflective approach that passive syntax results from the presence of a 'deep clitic' in one of the clause's functional projections, along the lines of Baker (1988) and Baker et al. (1989).⁵⁹ This may be represented in the syntax as some type of nominal, as follows:

(102) 'Passive Morpheme'

$$\left[\begin{array}{c} +N \\ I^0 \text{ clitic} \\ \vdots \end{array} \right]$$

On the assumption that accepting the existence of entities like that in (102) suffices to capture the behavior of passive clauses, it would be the case on both non-dissociative and dissociative approaches that (102) would affect interpretation, and thus be present on the LF branch. The difference would come on the PF branch, and would concern the relationship between the set of morphosyntactic features in (102) and the morphological signal which would be labelled 'passive morphology'. On a direct treatment, the morphological expression of passivity would be the realization of the set of nominal features which above was called the Passive Morpheme:

⁵⁸On the account of reflexivization and passivization which appeal to the 'cliticization' of the external argument in the syntax, it must be assumed that this operation does not leave a trace.

⁵⁹This does not mean that I endorse this type of syntactic treatment for e.g. the English passive. The point here is merely to illustrate two types of treatments of the same facts.

$$(103) \left[\begin{array}{c} +N \\ \vdots \\ \vdots \end{array} \right] \leftrightarrow PM$$

On a dissociative account, the morphological signal of passivity is correlated not with the syntactic passive morpheme (which would presumably remain abstract), but is instead associated with a node (labelled here 'Voice') which is supplied to the verb in the morphological component. The features of the node are then provided by the syntactic structure in which the verb appears:

$$(104) \text{ a. } V \rightarrow V\text{-VOICE}$$

$$\text{ b. } \text{PASSIVE SYNTAX} \leftrightarrow PM$$

Thus while on the direct approach the passive morpheme would correspond to an identifiable piece of surface morphology, on the dissociative treatment the connection would be less intimate. The presence of the passive morpheme in the clause acts to bring about particular syntactic changes, which in turn determine the realization of non-active morphology on the verb.

In the discussion of passivization immediately above, it was assumed that the two treatments under consideration were identical as far as the syntax of passivization is concerned. A major difference between the two approaches may be seen in the treatment of the role of non-active voice in reflexivization, where this assumption may not be made. On an account like Tsimpli's, this will involve the presence of a special nominal in the clause, one which is adjoined to the verb in the Lexicon. This element would be represented as follows:

$$(105) \text{ 'Reflexive Morpheme'}$$

$$\left[\begin{array}{c} +N \\ +Anaphor \\ \text{Lexical Affix} \\ \vdots \end{array} \right]$$

This set of features would be present at LF, where it would be responsible for the reflexive interpretation of the predicate. Moreover, it would correspond at PF directly to the non-active morphology seen in 'Lexical' and *afto*-reflexives.

In the analysis of a situation involving something like the distribution of non-active voice in Modern Greek reflexives, the dissociative approach would not necessarily have a reflexive morpheme like (105) in the syntactic derivation. Rather, as discussed earlier, reflexivization would be seen as resulting from other elements in the clause (or from the ability of a verb to appear as 'inherently reflexive', however this is to be instantiated.) What would be present on the LF branch, then, would be something with a set of features like similar in some respects to those in (105), but corresponding on the PF branch to the prefix *afto*-. In such cases the non-active morphology would, as with passives, be a morphological reflection of the syntax of the clause, and as such it would not correspond directly to any element on the LF branch.

1.7 Syncretism and Syntax/Morphology Interactions

1.7.1 Questions to be Pursued

In the chapters to come I will be pursuing two primary questions. The first concerns the nature of the syncretisms found in voice systems, and centers on how the conditions underlying these are to be stated both syntactically and morphologically. That is, the range of voice syncretisms found in natural language must be analyzed in terms of (1) the syntactic analyses relevant to voice operations, and (2) the statement of the rules covering the assignment of voice features. The syntactic issues to be addressed are covered in

Chapter 2.

The second set of questions concerns the nature of the syntax/morphology interface, addressing what constrains the Separation between syntax and morphology is subject to, and what a theory of the interface must be accountable for. There are two separate means of approaching this question. The first is syntactic in nature, and concerns the possible types of syntactic configurations that could be related to a single dissociated morpheme; this set of questions follows directly from the discussion of the last paragraph. In the next section I offer a concrete hypothesis about syncretism and morphological features, one which takes into account the existence of dissociation. An additional set of questions concern cases in which particular vocabulary items are *inherently specified* for voice features; these are the *deponent* verbs of traditional grammatical description. Cases of this type provide further insight into the nature of the interface as seen from the perspective of voice systems, in providing cases which show clearly that morphological voice is in some cases very clearly of a post-syntactic nature. Questions of this type along with a theory of possible inherent specifications are addressed directly in Chapter 3.

1.7.2 Syncretism

1.7.2.1 Questions about Syncretism

The basic question concerning syncretism in voice systems is why it exists, and if it gives insight into substantive linguistic universals. If, for instance, the cases in question were to be handled with voice morphology as a syntactic entity, then the statement of this would be simple: UG provides as an option a certain bundling of features which allow (in combination with others) for passive, anticausative, and reflexive interpretations. In light of the present treatment, this is not possible. The fact that unrelated languages display the property of expressing these syntactic configurations in the same way is in turn reducible to two distinct components. The first covers the fact that languages choose to encode this information at all. That is, what is being expressed in rules like that adding [NonAct] to certain verbs in Greek is a very specific property concerning the relationship between a

head and a local nominal (or the lack thereof.) Two questions follow. The first concerns why this information is being expressed in the first place. By this I mean why a language should choose to express information about structures; this is not a question about e.g. the mechanics of such systems. The second covers the possible range in which information of this type may be expressed. That is, given that a particular morphological system encodes information of this type, what are the constraints on what may be expressed in that manner? I address each in turn.

1.7.2.1.1 Why Dissociated Voice Morphology? The answer to the first question above is, I think, not interesting for synchronic theories of grammar, although it may be of interest diachronically. The simple fact is that languages express information about the status of external arguments. Various types of functionalist explanations for the 'why' of the matter might be proposed, but from the perspective of the present work these are not of interest. An analogy may be made with agreement of various types. This is, again, typically expressive of a very specific structural relationship between two linguistic entities. Although theories of this relationship may be given, the question as to why one linguistic unit agrees with another is obscure. Questions about this fact relate to the structural relationships in which this agreement is manifested, and so on. But the wider question is not one that I will have anything more to say about.

1.7.2.1.2 The Properties of Voice Systems The second question posed above concerned constraints on the information that could be expressed in a system with Dissociated features. Essentially this is concerned with the pairing of syntactic structures with inflectional morphemes. This is not absolutely direct in a theory with intermediate morphological diacritics, like the feature [NonAct] noted in the discussion of Modern Greek above. I will thus discuss the nature of such diacritics in situations in which distinct syntactic/semantic configurations receive identical expression morphologically, i.e. when there is a morphosyntactic syncretism.

In framing the questions about syncretism there are two points to consider: first, as

discussed before, the syncretisms in question are systematic, i.e. non-accidental; second, the syncretisms are not 'necessary' in the sense that certain languages can and do realize the relevant syntactic environments with distinct morphological signals. From this perspective, morphosyntactic syncretisms may be framed as involving a deficiency of resources: syntactic/semantic structures are associated with morphological material, i.e. diacritics and signals, but the materials in question are a limited resource. In certain cases, there are not enough inflectional morphemes to differentiate formally every syntactic/semantic structure. This is one component of the issue: the fact that syncretisms arise only under duress, i.e. due to a paucity of resources.

The arguments I am presenting show that syntactic configurations can be related to morphological features indirectly, i.e. dissociatively. In principle, given the fact that there are cases in which distinct configurations are associated with the same morphological feature it would be possible for all sorts of disparate syntactic configurations to be associated with such features. This, however, is not the case. I hypothesize that when such intermediate features are employed, the syntactic configurations relating to them are uniform; that is, they share properties (e.g. no v-external DP, as in Greek) which allow for the statement of a simple process. Combining the considerations of the previous paragraph with this statement of uniformity, I suggest the following:⁶⁰

(106) **Resource-Optimal Encoding:** Only sets of coherent syntactic configurations relate to rule for dissociated morphemes, i.e. syncretize.

This is, in effect, a sort of anti-polyfunctionality principle. It allows Dissociated features to be associated with only one set of syntactic conditions. An example will illustrate this clearly. Consider, for instance, a hypothetical language in which unergative verbs and the passives of transitive verbs showed a 'voice' morpheme $-x-$. Suppose further that it is possible to prove that this is not accidental homophony. This could

⁶⁰Other properties of morphological diacritics are revealed in the study of inherent specification, the topic of Chapter 3.

be shown if, for instance, the signal $-x-$ had an allomorph $-z-$ conditioned (non-phonologically) by e.g. Tense, and if both unergatives and passives surfaced with $-z-$ in the relevant tenses. In principle one could posit an abstract feature [X] for this case, assigned to verbs under a disjunctive set of conditions: either (1) in unergative syntax; or, (2) in passive syntax. The identity of passives and unergatives at the level of the morphological feature [X] would account for the identical allomorphy manifested in each case.

The feature [X] here defines a *polyfunctional form class* comprising unergatives and passives, non-uniform syntactic configurations which are nevertheless identical for the purposes of morphology due to the mediating feature. If syntactic configurations were arbitrary associated with mediating morphological features, the implications for any theory of the interface would be profound; in particular, morphology could potentially give very little insight into syntax. If the principle posited above holds, this is not the case. Syntax and morphology are mediated by diacritics related to syntax, but this relationship is tightly constrained.⁶¹

In addition to presenting syntactic analyses of voice systems, the chapters to come will discuss the possibilities that arise when Dissociated voice features are accepted. The strategy is as follows. It cannot actually be *proven* that there are no polyfunctional form classes of the type given above. It can, however, be shown that cases crucially involving Dissociated voice features do not lead to polyfunctionality.

⁶¹ Another question about constraining Dissociated processes concerns the locality of operations assigning Dissociated features. To some extent this does not arise in the domain of voice, as we are concerned typically with relationships between a verb and a DP closely related to it syntactically. This is not the case in all systems, and there are examples of apparently 'long-distance' voice operations. In Latin, for instance, the verbs *begin* and *stop* appear as passive when they are followed by passive infinitives (example from Lindsay (1915)) (there are in fact other patterns found with *coepī*, but I will concentrate on this one):

- (107) *urbs coepta est aedificari*
 city began is build-PASS-INF
 'Construction of the city was begun.'

Literally, this is something like *The city was begun to be built*.

Although this would require further research, I think the apparent lack of locality with verbs like *begin* and so in Latin results from the fact that they are Restructuring verbs.

Part IV. Voice Systems, Abstract and Concrete

1.8 Diacritic Classes and Systematic Identities

1.8.1 Syncretisms without Dissociation

1.8.1.1 Underspecification

1.8.1.1.1 Past Tense and Counterfactuality Particular applications of Underspecification in the analysis of complex morphosyntactic identities may in some cases involve very abstract features. This may be seen in something like the analysis of correlations between counterfactual and past-tense morphology presented in Iatridou (1997). Iatridou argues that this connection arises from what is in some sense a semantic commonality. The semantics of the past tense, according to the approach taken, involves *exclusion*, in particular the exclusion of the topic time (in the sense of Klein (1994).) from the time of utterance. In the case of counterfactuals, it is argued that the semantics of exclusion are similarly at work, excluding the topic world (in a possible worlds analysis of counterfactuality, in the style of Lewis (1973)) from the sphere of worlds containing the world of utterance, and rendering the statement counterfactual. The point to be made is that the same semantic operation is taken to apply irrespective of whether the domain over which it operates is temporal or modal. In other words a common morphosyntactic feature with the interpretation given in (108) has the realization in

(108) [[Excl]]

(109) Excl ↔ -Y-

The analysis is of interest because there a sense in which the abstract treatment of counterfactuality and past tense effects a kind of underspecification in the semantics. That is, the syntax is still fully specified, in the sense that it carries the feature [Excl] which receives a semantic interpretation. However, the semantics of this element are such that it

is not particular as to the domain over which it operates; if the clause is modal, it operates over world-spheres, if temporal, over the time line. On this analysis, the conditions for the insertion of morphology appearing in the past tense and in counterfactuals need to refer only to the [Excl] feature, as above. In principle, however, different signals could appear in each of these syntactic contexts, with spell-out rules like the following being involved:

(110) [Excl Modal] ↔ -Z-

or

[Excl] ↔ -Z-/ _ Modal

1.8.1.1.2 Mayan Antipassives One point worth examining in detail concerns how MSA and reflective approaches to voice answer the question of which aspects of voice are relevant on the PF branch, and which on the LF. The discussion of Greek reflexives above proposed a modification of the syntactic analysis of 'Lexical' and other reflexives, and in addition took a reflective approach to the question of when non-active morphology is realized. However, in other cases, revision of the actual mechanisms for morphosyntactic derivation not necessarily required. For instance, in Yucatec incorporation as a syntactic mechanism may be seen as underlying both the antipassives and the cases of noun incorporation, with the addendum that an appeal to a 'linking' function of antipassive morphology is no longer necessary.

Illustrations of various possibilities along these lines may be found elsewhere within Mayan. I will consider the languages Tzeltal and Tzotzil, both from the Tzeltalan group, Greater Cholan Branch, Western division of Mayan languages. According to Dayley (1981), the language Tzotzil has an antipassive suffix *-wan* which is (virtually) fully productive:⁶²

(111) n-i-mil-wan
 T-B1-kill-AP
 'I killed.'

⁶²Dayley also notes the existence of two less-than-productive antipassive suffixes, *-(o)maj* and *-Vwaj*; cognates of these morphemes also appear in Tzeltal.

At the same time, there is no noun incorporation. Similarly, the closely related language Tzeltal (Kaufman (1971)) shows a fully productive antipassive with *-awan*. Once again, there is no noun incorporation in Tzeltal. According to both of these descriptions, then, there are no other environments in which the suffix *-(a)wan* (covering Tzotzil and Tzeltal) appears.

A second type of deviation from the situation seen in Yucatec may be found in Chuj (classified as Chujean, Greater Kanjobalan branch of Western Mayan). According to Dayley, Chuj has both antipassivization and noun incorporation. In addition, it shows the so-called 'Incorporating Antipassive', i.e. the appearance of a morpheme associated with antipassivization in noun incorporation structures. However, Chuj, unlike Yucatec, shows distinct suffixes in these two cases; *-w* with noun incorporation, but *-waj* with antipassivization:⁶³

(112) ?ix-ach-mak'-w-i ?anima.
 T-B2-hit-AP-M people
 'You hit people.'

(113) ?ix-Ø-mak'-waj ?ix Malin (t'a waj Xun).
 T-B3-hit-AP she Mary to he John
 'Mary did some hitting (to John)'

(114) AP and NI Morphology in a few Mayan languages

Language	Antipassive	N ⁰ Incorp.
Tzotzil	-wan	-
Tzeltal	-awan	-
Chuj	-waj	-w
Yucatec	-n	-n

⁶³In all of the languages in Dayley's survey with antipassivization and noun incorporation, the 'antipassive' morpheme appearing with the noun incorporation structures is either identical with or a reduction of the morpheme found in the antipassive. Dayley does not comment on this pattern, but elsewhere (1981:58) posits a Proto-Mayan antipassive with **-w*, and suggests further that this Proto-Mayan suffix also appeared with noun incorporation structures.

With the type of distributions seen in Tzotzil/Tzeltal and Chuj, there is nothing which necessarily contradicts analyzing the morphology in antipassives as an argument of the verb. To the extent that we are willing to accept the position that antipassivization should be analyzed as involving object incorporation, there is nothing in Tzotzil, Tzeltal, and Chuj which would prevent an analysis of the 'antipassive morpheme' as spelling out the features of the incorporated nominal itself. Or, from a slightly different perspective, if the MSA treatment of such cases also represents the null hypothesis of the language learner, nothing will force the learner to analyze the relevant suffixes as anything other than arguments of the verb.

1.8.1.2 Homophony

The English Possessive and Third Person singular may be used to illustrate. Each of these is underlyingly /-z/, with no non-morphophonological allomorphs. In this case there is no reason to posit an abstract morphological identity. At the level of the signal, i.e. at the level of the phonological piece involved, these two are the same. But there is no reason to suggest that something more complicated than accidental identity is involved.

1.9 Diacritics and Syncretism

1.9.1 Overview

The existence of diacritic classes in morphology allows for the possibility that syntax may relate to morphological realization in ways that are unpredictable. Numerous studies in morphology have discussed in connection with inflectional classes the notion of a *polyfunctional form class*, a set of morphological forms with no uniform syntactic or semantic basis. As it will turn out, some fairly restrictive criteria must be met before a system may qualify as showing such a class; part of the point I would like to establish here is that these criteria must be presented and scrutinized before a number of empirically

decidable questions about syntax/morphology interactions may be meaningfully posed, and that earlier treatments of polyfunctionality have not met the appropriate standards. In the context of a study of voice, the elucidation of polyfunctionality has direct consequences for the discussion of the extent to which voice systems operate with a diacritically mediated syntax/morphology interface, and points to the importance that aplastic verbal classes may play in defining diacritic classes.

There are two types of identity to be concerned with. The first involves distinct syntactic configurations with identical morphology. The second, deriving from the discussion of this chapter, involves an identity between a syntactically assigned feature, and a feature borne inherently by certain Vocabulary Items. The criteria developed in the section are applicable to both kinds of identity, and are applied to cases of inherent specification in §3.9.4. The syntactic questions are previewed in §1.10, and are addressed directly in the next chapter.

1.9.2 Syncretisms

1.9.2.1 A Note on Notation

The discussion will proceed at a certain level of abstraction, and I will use the following conventions. Upper-case Greek letters represent morphosyntactic entities, i.e. syntactic structures and the features which define them. Lower-case Greek letters in brackets (e.g. [ζ]) are diacritics which figure in the conditions on insertion of Vocabulary Items; such a diacritic will define class ζ. Upper-case roman letters in between slanted lines (e.g. /-V-/) are morphological signals.

1.9.2.2 Syncretism by Stipulation

Care must be taken at the outset to distinguish the notion we are attempting to define from the types of syncretisms which arise from other means, and which have a different basis. In a theory in which the input to Vocabulary Insertion is subject to Impoverishment, and

in which the morphological signals competing for insertion may be underspecified, there are sources for syncretism which have nothing to do with the type of polyfunctionality we are interested in. This may be illustrated with reference to underspecification. A relevant case found in a discussion of English Passive and Perfect morphology, as encapsulated in Aronoff's (1994) F_{en} . Proceeding from the assumption that the Passive and the perfect are syntactically unrelated to one another, Aronoff accounts for the morphological covariance shown by the two by mapping both passive and perfect to a single morphological function, which he signifies as F_{en} . For Aronoff, the function F_{en} exists on a purely morphological level of analysis, as it acts on lexemes and, in terms of the syntax, its effect is to "...erase any possible distinction between the two syntactic elements in their realizations on the verb itself..." (1994:25). Although this is not stated in the terms of the present discussion, it is clearly a manifestation of the idea that syntactic features or representations are 'collapsed' in the mapping between syntax and morphology.

1.9.2.3 Syncretism by Specification

Concretely, we may consider the following disjunctive block of rules from the analysis of Halle and Marantz (1993), which seems to achieve the same effects without an appeal to an intermediate inflectional class.

(115) Spell out for English I^0 (fused Tense and Agr)

[+participle,+past]	↔	/-n/ / X +__
		X = <i>hew, go, beat, ...</i>
[+past]	↔	∅ / Y +__
		Y = <i>beat, drive, bind, sing</i>
[+past]	↔	/-t/ / Z +__
		Z = <i> dwell, buy, send, ...</i>
[+past]	↔	/-d/
[+participle]	↔	/-ing/
[3S]	↔	/-z/
	↔	∅

This type of system accounts for the morphological patterning, but does not specify the syntactic basis of the syncretism. That is, there is no notion of what the feature given here as [+participle] means in relation to syntactic contexts and configurations, or whether or not it is a primitive morphosyntactic feature or a derived notion, etc.; this is an issue I will address in Chapter 2, in a discussion of English participles. The point is that an account of what syntactic properties are relevant to the feature [+participle] will not necessarily be the sort of collapsing operation Aronoff envisions.

As things stand, if one accepted this type of approach then no appeal to the collapsing of syntactic structures/features would be necessary; the identity of passive and perfect participles would result from the specification in (115), with an appeal to intervening inflectional classes being unnecessary. The syncretism would result not from the mapping of distinct syntactic representations to an identical inflectional class, but instead from the manner in which the feature (under)specifications in (115) relate to elements which are common to both passive and perfective participles.

1.9.2.4 Syncretism by Signal Elsewheres

It is also, of course, of critical importance to demonstrate that the case under discussion is not the elsewhere case. In some cases, an apparent syncretism will arise because an Elsewhere affix in the system has a wide distribution. This, of course, does not point to an abstract morphological feature underlying the syncretism, but simply the fact that a particular signal is the default.

1.9.2.5 Identifying a Systematic Syncretism

Without the precautions laid out above, the question of whether or not there are polyfunctional form classes somewhat misguided; it cannot be answered in an interesting fashion. Either there is a complex morphosyntactic identity, in which case Underspecification or Impoverishment are appealed to; or there is not, in which case the relevant form either (1) has an Elsewhere distribution, or (2) is in distinct syntactic structures as a result of simple homophony.⁶⁴

In cases in which a unifying morphosyntactic factor cannot be found, and the Elsewhere analysis is not an option, one could, as just noted, very easily appeal to homophony. However, this claim could itself be subjected to further scrutiny through an investigation of whether or not the putatively accidental correspondences behaved identically in all contexts. That is, if it could be shown that the homophones showed identical allomorphs in identical contexts, etc., the treatment of the correlation as accidental might be doubted; at the same time, however, it is not clear whether such considerations should ever be regarded as conclusive. The type of allomorphic variation attested would certainly influence the extent to which one would take arguments of this type seriously. For instance, allomorphy correlated with phonological properties of the stem could be treated as stemming from a consistent morphophonology rather than having a basis in a form class defined by

⁶⁴Concerning the scope of the criteria applied here, the safest course would be to consider the discussion of this section as applying to affixal realization; this follows the lead of Carstairs (1987). Whether or not similar considerations apply to stems is unclear.

a morphological diacritic. On the other hand, if the allomorphy were conditioned by syntactic or morphological factors, a generalization would be missed on the homophony-based approach (at least in the absence of a diachronic explanation for the conditioning.) This argues that identical behavior under morphological or syntactic conditioning must play a defining role in the notion under discussion. I therefore offer the following definition:

Definition A *polyfunctional form class* ζ is defined when morphosyntactically unrelated categories Δ and Γ show identical inflectional realization $/-X-/$, $/-X-/ \leftrightarrow [\zeta]$, with allomorphy, conditioned by morphosyntactic factors, occurring identically in each of Δ and Γ .

On the assumption that the case to be dealt with meets the other relevant criteria outlined above, the kind of allomorphy to be sought could presumably take a number of forms.⁶⁵ For instance, assuming for simplicity that $[\zeta]$ is realized as a single morpheme (and does not figure in an entire array of endings, as in the discussion of §3.8.1.0.1 above):

(117)

$$[\zeta] \leftrightarrow /-V-/$$

Assuming the existence of some other feature to serve as that which conditions allomorphy (take [Perf] for perfective), spell-out rules of the following type would be of interest:

(118)

$$[\zeta] [\text{Perf}] \leftrightarrow /-U-/$$

$$[\zeta] \leftrightarrow /-V-/$$

If we assume here that the two syntactic configurations Δ and Γ are something like Passive and Causative, then the surface effects in the above situation will be that verbs

⁶⁵Impoverishment of this feature under identical circumstances would count as well:

(116) $[\zeta] \rightarrow \emptyset / _ [\text{Perf}]$

in passive and causative syntactic environments will always be realized with the morphological signal /-U-/, except in the context of the feature [Perf], in which case both will be realized as /-V-/.

Other patterns would also provide evidence for the existence of such classes. Notably, if particular morphological operations could be shown to be driven or inhibited in the case of two syntactically distinct objects, this would provide evidence for a unified analysis of these two at the level of morphological diacritics; this is the case with the formation of the Latin perfect, as discussed above.

Instances of this sort would suffice to show that (1) Δ and Γ map into a polyfunctional form class (defined by the diacritic) [ζ], or (2) that the morphosyntactic treatment differentiating Δ and Γ is incorrect. As the latter possibility is one that can only be conclusively dispensed with in the context of a concrete syntactic/semantic analysis, I will ignore it for the purposes of the present discussion.

One final note. In the discussion below I will refer to deponent verbs, which are not discussed in detail until Chapter 3. The main point concerning these verbs is that they are specified for voice features on a purely morphological level. This will suffice for the discussion to come.

1.10 Voice Systems

1.10.1 Mediation and Voice Systems

The question which is directly relevant to the present investigation concerns the conditions under which a mediated syntax/morphology interface is justified. The most restrictive possible hypothesis concerning such classes would be that they simply do not exist. As noted above, this can be replaced by the hypothesis which I called *Resource Optimal Encoding*: diacritics exist, but they are only associated with uniform syntactic environments.

At this point, I will classify possible systems according to whether or not they have aplastic verbs, and whether or not they satisfy *Resource Optimal Encoding*. To begin with,

with e.g. transitive deponents is not going to be the same as that which is found with other instances of the relevant morphology, the syntax is in some sense non-uniform. The way in which I have stated the question allows for the property 'Syntax Uniform' to be answered in the positive as long as the *syntactically motivated* cases conditioning the diacritic are uniform. Notice that this means that the syntactic behavior of the verbs within the class of diacritically specified deponents need not be uniform. For instance, in the languages discussed above, both transitive and intransitive verbs were seen to be deponent. This does not make a diacritic class necessarily polyfunctional, in that by virtue of being a property of particular vocabulary items, the diacritic in such cases is systematically unrelated to the syntax.

(121)

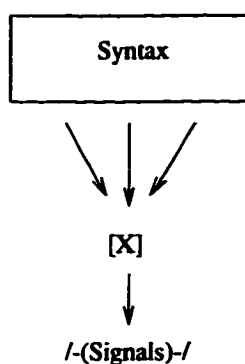


Figure 1.2: Type I System

The Type II system is that which is found in the systems discussed in this chapter; both Vocabulary Items and uniform syntactic configurations are related to diacritics conditioning the insertion of voice morphology:

(122)

Finally, Polyfunctional Form Classes as defined above are as follows, with the defining characteristic being the existence of disparate syntactic configurations mapping to the same

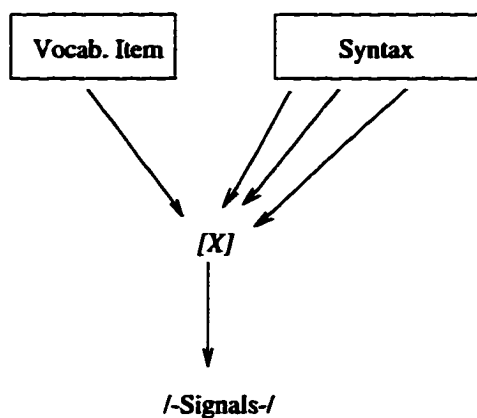


Figure 1.3: Type II System

diacritic:⁶⁶

(123)

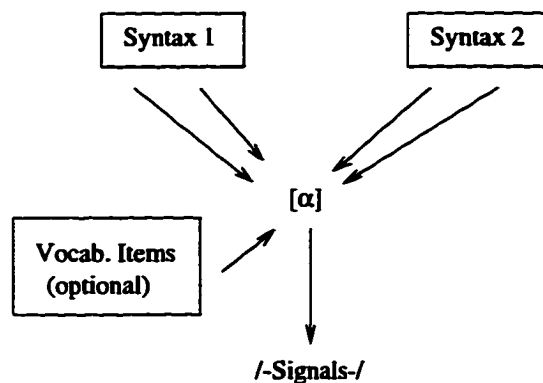


Figure 1.4: Type III/IV System

An important question to address concerns what the difference is between systems of Type II and systems of Type III/IV. That is, there is a sense in which the morphological feature found in Type II is non-uniform in its syntax, in that the syntax of deponent verbs bearing this feature will differ from the syntax of the configurations in which the feature is

⁶⁶Types III and IV from the chart above are collapsed here, because the existence of a class of deponent verbs is not *a priori* necessary for a Polyfunctional Form Class.

assigned systematically. The difference between these two types of systems is not that the feature in question has a uniform provenance in one case but not the other. Rather, it lies in the distinction between the assignment of a feature systematically by a configuration, and the possession of a feature inherently by a Vocabulary Item. In a Type III/IV system, the same morphological feature is assigned by two distinct sets of syntactic configurations. Here what must be learned is that the actual *assignment* of the same feature is associated with two disparate sets of syntactic environments. In a Type II system, although a number of syntactic environments are associated with the verbs that possess the feature inherently, it is not the case that these are structures in which the feature is assigned systematically. Rather, the presence of the feature in such cases is completely orthogonal to the syntax. The other set of syntactic environments associated with the feature is coherent.

The discussion above clarifies the possible interactions between syntactic configurations and morphological features.⁶⁷ I will conclude with a few comments on how deponent verbs fit into the picture. There does not seem to be a connection between the existence of deponents and the existence of morphological diacritics for voice, but this is somewhat unclear. One might, for instance, hypothesize that a morphological diacritic class could *only* exist in a system in which diacritics are required for deponents; that is, the presence of a plastic verb would constitute a necessary (though perhaps not sufficient) condition for the existence of a diacritic class.

That this is unwarranted is seen in languages like Yucatec, in which 'antipassive' morphology is dissociated. In Yucatec there is not, as far as I know, a class of deponent verbs with this morphology. However there is an interesting question here. This is raised by languages that have passive morphology that appears uniquely in the passive. In the next chapter, I will discuss the example of Yucatec Maya. For this system, I suggest that based on what must be said about the syntax of the passive, the voice morphology in even that case should be treated as dissociated. That is, even in a case in which passive morphology is unique, it should not necessarily correspond to an argument of the verb.

⁶⁷This will be added to in the discussion of Romance SE below, however.

But this is not entirely conclusive. The most interesting arguments against this type of analysis of voice morphology come from precisely the opposite kinds of cases. So it is not clear what would constitute convincing evidence here.

Perhaps more convincing would be a case in which voice morphology was found in the Transitivity Alternation, on intransitive verbs. Here one could argue that, because these roots are fundamentally intransitive, the voice morphology could not be syntactically active. However, like Marantz (1984), I am not aware at present of a good case of purely Anticausative morphology on which this argument could be based. So I will leave this discussion as it stands.⁶⁸

1.10.2 Remarks on Romance

1.10.2.1 Data

The status of SE in Romance has been addressed in a voluminous literature, which is in many cases attempting to answer the question of how (or if) a *unified lexical entry* for this morpheme can be provided. Much of the focus of previous accounts has been on reflexive and impersonal SE, which are illustrated in the following (examples from Mendikoetxea (1994)):

- (124) a. Los niños se lavan.
the children SE wash-3PL
'The children wash.'
- b. Se lava a los niños.
SE wash the children
'One washes the children.'

In addition SE appears in a number of other environments; for instance, Reciprocals:

- (125) Las hermanas se abrazaron.
the sisters SE hugged
'The sisters hugged each other.'

⁶⁸The question considered here can be considered in reverse: does deponence require dissociation? I discuss this point in Chapter 3.

There is also ‘Spurious SE’, which appears as a dative argument when there are third-person dative and accusative clitics together (see Bonet (1992), Halle and Marantz (1994)):

- (126) *Maria se lo dio.*
Maria SE it gave
‘Maria gave it to him/her.’

Some Anticausatives also show SE in their intransitive forms:

- (127) *El barco se hundió.*
the ship SE sank
‘The ship sank.’

In addition, some verbs only appear with SE, and have no transitive forms (these are sometimes referred to as *reflexiva tantum*):

- (128) *Maria se desmayó.*
Maria SE fainted
‘Maria fainted.’

Finally, there is an ‘Aspectual’ use of SE; the following example is complete in way that a similar example without SE is not:

- (129) *Juan se comió las manzanas.*
Juan SE ate the apples
‘Juan ate up the apples.’

1.10.3 Analysis

As noted, previous discussions of SE have focused on a notion of ‘unified lexical entry’. Within the context of Distributed Morphology, this is not the question to ask. Rather, it is whether or not there is way of capturing the distribution of SE without appealing to homophony. I will now show that the distribution of SE can be made to follow from the fact that it is a default clitic. Its distribution can be accounted for if we assume that the

morphology sees nodes like CL for ‘clitic’, and if these nodes may either (1) package features active in the syntax, or (2) be licensed through dissociation.

The discussion immediately above speaks of diacritics like $[\alpha]$ only as morphological elements distinct from syntactic features. However, it is not necessarily the case that the features licensed in systems with Dissociation will be only morphological features. This leads to a further range of possibilities to consider, in which the feature licensed post-syntactically through Dissociation is in fact a feature otherwise present as a syntactic feature.

If we consider the voice systems involving pronominals, this becomes clear. Consider, for instance, a syncretism between Reflexive, Anticausative, and Passive. Perhaps Passive and Reflexive involve the workings of a pronominal-like element, while Anticausative does not. The situation in (130) is one in which the feature X is *involved* in the syntax of the members of Syntax 1, but *assigned* post-syntactically either by (a) Syntax 2, or (b) individual Vocabulary Items:

(130)

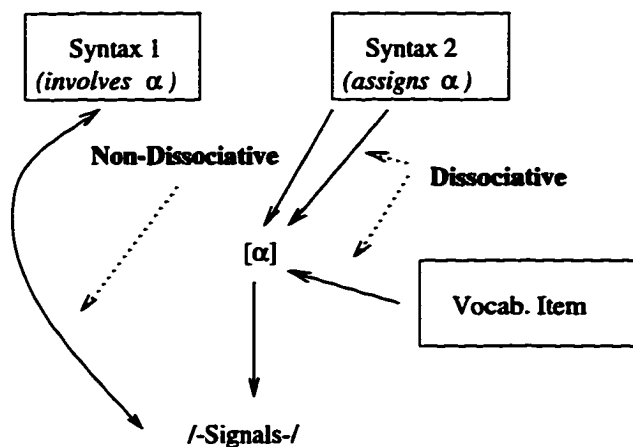


Figure 1.5: Mixed System I

Syntax 1 is directly associated with the set of morphological signals because its syntax crucially involves the morphosyntactic feature associated with these signals; that is, the

syntactic computations of Syntax 1 crucially involve a feature identical to α . Syntax 2 is a set of syntactic configurations which license the feature α in the Morphology; in the same way, α may be possessed inherently by certain Vocabulary Items. The problem here is that if two sets of syntactic configuration are related to a morphological feature, we have in effect *de facto* polyfunctionality. Moreover, the assignment of a syntactic feature in the Morphology makes very little sense. Derivations involving unchecked strong features at PF are assumed to crash. Conceptually, then, inserting a syntactic feature on the PF branch is on very uncertain ground.

Another related possibility involves what I will refer to as similarity in *packaging*; by the latter term I mean essentially the basic form of morphological expression. Consider, for instance, the analysis of Romance clitic reflexives according to which the reflexive clitic corresponds to the external argument of the verb, which has undergone syntactic cliticization (let us assume further for the moment that we can make sense of the idea of cliticization in the syntax.) In this scenario, certain syntactic configurations will crucially involve an element which is packaged as a clitic, CL. If we suppose further that a morphological object of this type, a node CL, can be inserted by a Dissociative process (under typical conditions), then we have the following situation:

(131)

The syntactic configurations in which the element realized as CL are involved might be somewhat varied, especially if the element in questions is a sort of abstract pronominal or D element. This results in a particular type of syncretism, in which the element CL would sometimes correspond to an argument, sometimes not (cf. Cinque's 'argumental and non-argumental' analysis of Italian *si*, discussed in the next section.) This is syncretism at the level of *signal type*, rather than e.g. syncretism at the level of an abstract morphological feature.

Specifically, there is one process assigning the CL node dissociatively, in e.g. anti-causatives:

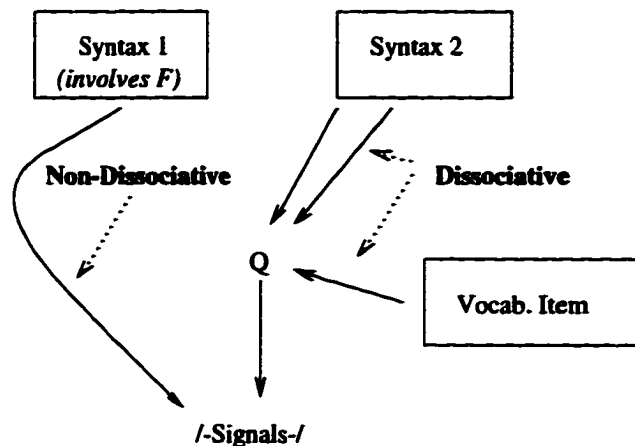


Figure 1.6: Mixed System II

(132) $V \rightarrow V\text{-CL/}_\text{SYNTAX}$

In addition, there are syntactic operations involving elements which are packed as clitic nodes of the appropriate type:

(133) Syntactic Environments Involving CL:

Impersonal

Reflexive

In cases in which the clitic shows agreement with the surface subject in terms of Person or Number, this results from Concord copying features onto the otherwise empty CL node.

This is not simple homophony at the level of the signal. The difference is this. Simple homophony could be called 'syncretism at the level of the signal'. That is, the syncretism in such cases is established through phonological identity, and not at a more abstract level of syntactico-semantic or morphological identity. What I am considering for Romance is slightly more abstract than this: syncretism at the level of *signal type*. This assumes, of course, that there exists a sort of positional typing of morphological terminals, and that Clitic is an appropriate terminal type. This is consonant with the behavior of syntax in phonology/syntax interactions. In some cases, the behavior of an element as a clitic is not

predictable from considerations of metrical weight (or the lack thereof), and must simply be specified for an individual vocabulary items.⁶⁹

1.11 Conclusion

This chapter centered on the property I call Dissociation, and the role it plays in analyzing syntax/morphology interactions in the domain of voice. One of the primary points is that the interface is mediated by morphological features that are systematically related to syntactic environments. In place of a theory in which the interface is unmediated, I proposed a principle according to which morphological features may only be related to coherent sets of syntactic environments: there is no polyfunctionality at the level of morphological features.

⁶⁹The work of Zwicky (e.g. Zwicky (1985)) is replete with definitional approaches to the nature of clitics. For a more recent discussion of such questions from the perspective of Distributed Morphology, see Embick and Noyer (1997).

Participles and Passives

Part I. Concerns

2.1 Introduction

Voice alternations, and especially the relationship between active and passive, have been central to many research programs in theoretical linguistics, and are the subject of a voluminous literature. In this Chapter I analyze two specific aspects of grammatical voice. I begin with a discussion of participles, and discuss a number of interactions between voice and aspect in the formation of these. This provides the foundation for the second topic, the English passive. I provide a compositional analysis of the English passive, based on the idea that the English passive involves *be* and a small-clause complement. I will now outline the line of argument in more detail.

I begin with the question of what *participles* are. Traditionally they are regarded as possessing both adjectival and verbal characteristics. I argue that this is a result not of a category-changing lexical operation, but instead from the syntactic environment in which the root ultimately realized as a participle appears. This follows the insights of Marantz's (1995) analysis of English nominalizations, in which categories like Verb, Noun, etc. are morphological labels applied to roots in certain syntactic configurations. In the domain of participles, the relevant property is that the root does not relate to Tense in the correct way to be a Verb.

This approach to participles is applied to two distinctions from Wasow's (1977) discussion of the English passive. These are the distinctions between adjectival and verbal passives, and lexical vs. semantic derivations of the passive. I replace the adjectival/verbal distinction with a distinction between stative and eventive passives; specifically, I hold that participial phrases may denote either states or events semantically, and the different types of passive results from these. The justification for this distinction is provided (1) from Pesetsky's (1995) discussion of the relevance of aspect (as opposed to category) in the behavior of passives and participles, and (2) from the approach to categories defined earlier. Following this I give an explicit analysis of the morphosyntactic and semantic features of the English participle. This occurs again in the analysis of the passive, which is the topic of the second major part of this chapter.

I begin discussion of the passive with a review of Baker, Johnson, and Roberts (1989) analysis, which I argue to be effectively construction-specific. I then form an analysis based on the analysis of participles outlined above, in combination with *be* in its normal syntactic role. Specifically, the analysis of the passive then presented is one in which *be* takes a small-clause complement, as it does elsewhere. I argue that the participial component of the passive may supply agentivity, eventivity, and so on to the predication with *be*. This follows from the analysis of participles presented. The analysis relies on the further idea that in the participial phrase, the head syntactically licensing agents is found, but there is no projected DP corresponding to the actual agent. This position is justified in terms of the 'special' status of external arguments, implemented in an approach stemming from Kratzer (1993) and Marantz (1984). I then show how the auxiliary and the participial phrase relate to one another in forming the passive, and discuss remaining issues concerning the impersonal passive, and the interactions between 'passive morphology' and passive syntax.

Part II. Participles and Voice

2.2 The Participle I: Category and Derivation

2.2.1 Preliminaries

2.2.1.1 Goals

The discussion of participles has two goals. First, I will address questions of syncretism in participles. This part of the analysis is focused on how participles are specified morphologically for aspectual and voice features, and how this relates to syntactic configurations.

Second, the analysis of participles here plays an important role in the analysis of the passive presented in Part III of this chapter. The account of the passive I will develop is one in which the verbal root appears in an adjectival syntactic context, and is thus realized as a participle.

2.2.1.2 An Approach in Outline

In traditional terms a *participle* is (or, at least, is derived from) a deverbal adjective.¹ This is a position that I endorse. In saying this, however, I would like to be somewhat cautious about what it means to be 'adjectival'. As far as I am concerned, if there is a relevant notion 'Adjective' at play in the discussion of participles and voice, it is entirely derivative. I do not mean 'derivative' in the sense that it necessarily involves a syntactic projection A, or the affixation of a head A to a head V, or something along those lines. Rather, in a sense to be made explicit below, adjectives are simply predicates which are not realized as verbs morphologically. The basic idea then is that the term 'adjective' can be used to describe any number of predicative structures. Correspondingly, 'Verb' basically then means one of two things. It can refer to our basic conception of a root as an argument taking thing, such as when a participle like *arrested* is referred to as 'deverbal' (as opposed to e.g. 'denominal'.) On the other hand it may refer to a root in a syntactic environment related in certain ways to Tense. This latter definition is simply morphological. Roots which are

¹See, for instance, Wackernagel (1920) (who does in fact make a distinction between deverbal adjectives and participles.)

typically classed as verbs, e.g. ARREST, may appear in a syntactic context which makes them, on the surface, 'adjectives'. But being an 'adjective' in this sense does not mean that there cannot be eventivity, agentivity, etc. present in the relevant syntactic object.

There is good reason to dwell on the definition of categories. On the sort of theory I am assuming, labels like 'verbal' and 'adjectival' refer to morphological properties (see below). In and of themselves, they are not responsible for the different behaviors shown by passives. This is a departure from a certain conception of the passive, according to which the Verbal vs. Adjectival distinction is of great importance (see Wasow (1977); this will be discussed in detail below.) The analysis of the passive that I develop will rely in part on a distinction between participles distinct from that provided by the 'verbal' and 'adjectival' distinction of Wasow and his successors. The dichotomy between types of passive is between *eventives* and *statives* (see Pesetsky (1995), Marantz (1995).)

I begin in the following section with a discussion of a Root-based approach to categories, which focuses on what it means to be a 'deverbal adjective'. I then discuss two possible ways in which a root may be realized as a participle. After presenting a justification for the stative/eventive distinction in passives, I turn to Wasow's distinction between verbal and adjectival passives, and show how the approach to categories and the stative/eventive distinction replace it.

2.2.2 Roots and Syntactic Environments

2.2.2.1 Nominalizations

Marantz (1995) develops an analysis of nominalizations applicable to the relationship between verbs and participles; this is based in many respects on the analysis of Chomsky (1970). The analysis has two related components relevant to the discussion of participles. The first is that the workings of derivational morphology, specifically category-changing operations like nominalization, are syntactic. That is, what it means to be a nominalization is to be in a certain syntactic structure, and in a certain relationship to the 'nominalizing' functional category D.

The second point, which serves to implement the first, is that the (open-class) vocabulary of a language consists of category-neutral *roots*.² Roots like the root DESTROY may be neutral or underspecified with respect to the syntactic environments they appear in. Thus DESTROY may appear in either 'nominal' or 'verbal' syntactic environments; this is determined by the functional categories in the syntactic environment of the root. In the verbal environment, perhaps defined in terms of a relationship with T, DESTROY is realized as *destroy*. In a nominalization, an environment that is defined when a structure containing DESTROY is dominated syntactically by a determiner, DESTROY appears as the nominalization *destruction*. It is in relation to functional heads such as D and T that morphological categories like Noun, Verb, etc. are defined.³

Taking this type of theory as a starting point, I turn in the following sections to an analysis of participles.

2.2.2.2 Application to Deverbal Adjectives

2.2.2.2.1 Outline of the Argument I begin with some of the morphological properties of participles. Following this I address the syntactic structures in which participles appear. As I demonstrate, there is more than one sense in which a verbal root may be participial. There is (1) a participle which could not be anything else, i.e. one which is syntactically precluded from being a morphological verb; and (2) a type of participle which in principle could be realized as a verb, but is instead realized as an 'adjective' for morphological reasons.

2.2.2.2.2 Morphological Characteristics

²Pesetsky (1995) also makes related assumptions concerning roots, but with a different take on derivational morphology. The basic idea underlying this, involving roots interacting with syntactic contexts, is present in Sapir (1922).

³If there are actual category labels N, V, etc., they are added to roots in the morphology; see Marantz (1995) for discussion.

2.2.2.2.1 Morphosyntactic Features The morphological definition of participle is straight-forward. In terms of morphosyntactic categories subsumed, the following definition seems to suffice (without, of course, saying exactly why this should be the case):

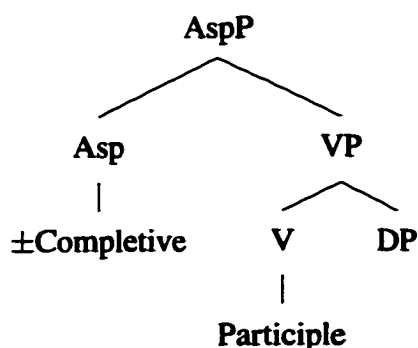
- (1) **Participle:** Verb related to Aspect or Voice, but not Tense

This subsumes the fact that, in certain languages, there will be ‘adjectival’ (that is, nominal) morphology.

‘Related to’ here subsumes more than one notion; it subsumes what Marantz calls Morphological Merger (e.g. Lowering of T to V in English), as well as head-movement. The aspectual component of the definition is required to capture the difference between notions such as Progressive and Resultative, as in e.g. *beating* as opposed to *beaten*. The inclusion of Voice is relevant to capture the distinction found in e.g. Modern Greek between Present Active and Present Passive participles (this will be discussed in detail below.)

Voice in certain systems will correspond to nodes added through Dissociation in Morphology. I will assume here that the features for Aspect are present on a higher head, on the grounds that this, like Tense, is basically a feature in the syntax which is interpreted:⁴

- (2)

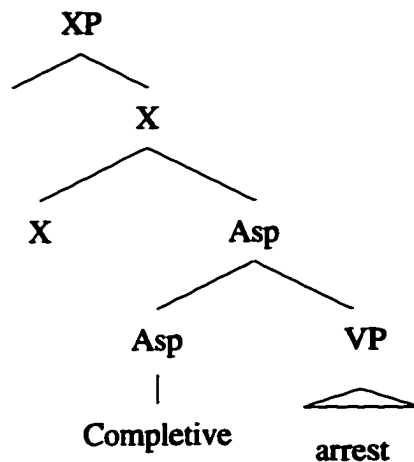


2.2.2.2.2 Category-Defining Functional Heads In the case of verbs, Tense is identified as a sort of defining element. We may therefore ask if there is a similar

⁴At this point I am not taking any stance as to what sorts of aspectual features English possesses. I will get more specific about this question below. A further question concerns whether aspectual features like [Perfective] etc. relating to completion or resultative in participles are related to aspectual features like perfective, etc. on finite verbs.

functional category involved in determining what would be called Adjectives. That is, is an Adjective defined when a root appears in the following structure, with X being a head analogous to D:

(3) Adjective?



Rather than restricting this question to participles we can also extend it to adjectives. Specifically, is there reason to think that an adjective like *sick* only appears in a syntactic structure with a specifically 'adjectival' functional projection? In the work of a functional projection identified as DegreeP appears above adjectives, and is the locus of semantic effects associated with the degree to which a state holds of an NP.⁵ One therefore might attempt to generalize this type of Degree-denoting functional head so as to define the entire class of adjectives. I will not attempt this here, however, as extending this to the domain of participles is somewhat uncertain.⁶

⁵I would like to thank Roumyana Izvorski for pointing out the potential relevance of Degree phrases.

⁶That is, unless one is willing to accept an analogy between Degree in Adjectives and Aspect in participles. An alternative would be to hold that there is something like a Degree P above the aspectual phrase in participles, and that this is responsible for the 'adjectival' status.

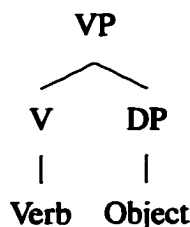
2.2.3 Derivation of Participles

2.2.3.1 Two Ways of Being a Participle

2.2.3.1.1 Syntactic Basics The syntactic/semantic nature of a participle is more involved. At issue is the relationship between verbs and adjectives. On a syntactico-semantic level, these two category types share the feature of being Predicative.⁷

As a first step towards a treatment of the syntax of participles, I will lay out some basic elements about the verbal structure involved. The basic syntactic structure to begin with is simply the verb and its object (which could be PRO or a variable of some type):

(5) The Beginning



⁷Cross-linguistically there is considerable variation as to whether predicates are expressed adjectivally (i.e. in the nominal pattern) or verbally. This type of variation has been addressed within the context of a configurational approach to argument structure. Hale and Platero (1996) discuss a theory of this type in which a few basic structural relations (e.g. head-complement, subject/predicate, and so on) suffice to characterize the full set of thematic relationships in language. At the same time, they identify variation in the realization of roots in these environments. They discuss Navajo (Athapaskan) and English with respect to the point that subject/predicate relationships are only realized as 'verbs' in Navajo, unlike English. Thus in Athapaskan what go as 'adjectives' in many languages are realized in the verbal complex, and are as such indistinguishable from other types of verbs (except perhaps in taking prefixes different from those taken by 'verbs' in certain positions.) I illustrate here with data from Hupa (Golla (1970); intransitive verbs are given along with causatives to show the 'verbal' behavior of these roots):

(4) Adjectival forms and Transitives

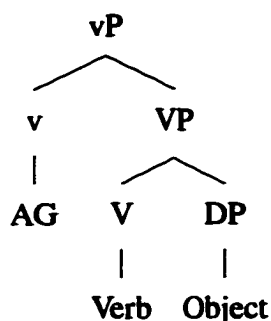
Intransitive	Transitive	Translation
ni ... Won	O ni ... † Won?	'be good/cause to be good'
†i ... Guč	O ... † Guč	'be lacking/cause O to disappear'
ni ... †-cay	O ... † cay?	'be dry/dry'

In Hale and Platero's terms, Navajo and English differ in terms of how these structures are realized 'morphosyntactically', i.e., in terms of the categorial status of the elements involved in these structures; the Subject-Predicate relationship is realized adjectivally in English and verbally in Navajo.

For a recent typological study of the 'verbal' or 'adjectival' status of roots in predicative syntax, see Wetzler (1996).

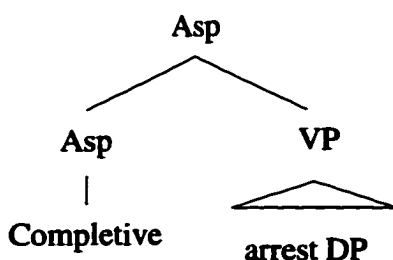
Participles may be Agentive for roots which need to have their Agent licensed syntactically. Thus Transitivity Alternation verbs like *open* have Agentive participles, as in *The door [opened by John]...* Thus the structure above will also contain the head AG in some cases:

(6) The Agent



The next component, as noted above, is the Aspectual specification:

(7) Adjective?

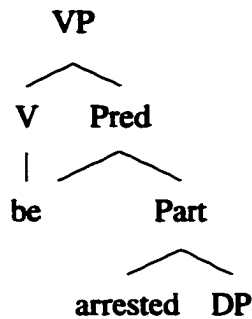


Having thus laid down some very bare essentials, I will discuss the two distinct ways in which participles may arise, and then return to the question of what syntactico-semantic components a participle may have.

2.2.3.1.2 Two Ways of Becoming a Participle Extending beyond the very basic structure discussed in the last section, I will now show that there are two ways in which a root is realized as participle. In one type of participle, the syntactic structure is such that the root could not possibly relate to Tense and become a morphological verb. In the second type of participle, a relation to Tense is syntactically possible, but is morphologically precluded.

2.2.3.1.2.1 The Strict Syntactic Sense The first type of participle is what I have in mind for the English passive. As I will show below, the syntax of the passive involves *be* taking a complement in which the ‘passive participle’ is a predicate:

(8) Rough Sketch of the Passive



Here the thematic verb is realized in the participial phrase, i.e. within the complement of *be*. There is simply no way for it to relate to Tense from here syntactically; the structure is already quite different from what is found in a ‘normal’ verbal clause.⁸ Thus the realization of the verbal root as a participle does not involve added morphological factors.

2.2.3.1.2.2 Morphology Gets in the Way The second case is somewhat more involved. The idea, though, is that based on an argument I present for Latin in Embick (1997) (see also the discussion in the next chapter), the possibility exists that verbal roots may realized as participles when they are unable to combine with Tense. However, the syntax is such that the verbal root could in principle be combined with Tense; but there is a morphological effect which presents any form with the diacritic [Pass] from being combined into a synthetic Perfect. Thus the Perfect forms of Passives and the Perfects of deponent verbs are always analytic, as the following shows:

(9) Normal verb: *laudō* ‘praise’

a. Active Perfect: *laud-a-v-ī* ‘I (have) praised’

⁸Notice that I am saying that in English there is no way for the root in the second argument to be realized as a morphological verb; whether or not this is always the case is a different question.

b. Passive Perfect: *laud-ā-t-us sum* praise-PRT be-1S 'I was praised'

(10) Deponent verb: *sequor* 'follow'

a. Perfect: *secū-t-us sum* follow-PRT be-1S 'I (have) followed'

The argument is relatively simple, and relies on two assumptions. First, it assumes Late Insertion. Second, it assumes that (certain) transitive deponent verbs are just like other regular transitive verbs, except that they bear a morphological voice feature [Pass] inherently (this is established in the next chapter). The idea then is that the information relevant to the formation of an analytic or synthetic Perfect is available only after Vocabulary Insertion, as it may depend on a feature borne by a verb inherently.

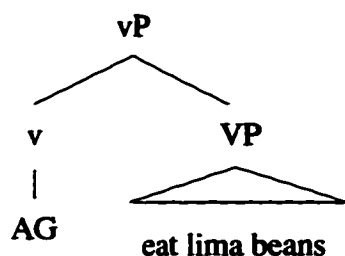
This point has potentially interesting implications. It would seem that appearance of a participle with *be* in a passive does not necessarily diagnose a passive with the syntax of the English passive. That is, this could be a non-predicative structure, in which *be* and a participle are realized for morphological (as opposed to clearly syntactic) reasons.

2.2.3.1.3 Syntactic/Semantic Features The discussion above shows that the English passive makes use of a participial form of the verb because of syntactic considerations. In addition to this, however, it is necessary to provide an explanation for why certain syntactic structures are the types of things that can appear in predications with *be*, and why some cannot. This is important in the present context because my claim in deriving the passive will be that [arrested by the police] is a well formed predicate, and a candidate for the second argument of *be*'s complement.

There is a sense in which VPs (or, updating this slightly, vPs) are predicates; see the discussion of Marantz (1984), for instance. I will now show why *ate lima beans*, though in some sense a predicate, cannot appear in the *be* predication, while *eaten by John*, also a predicate, can.

To illustrate this, begin with the following syntactic structure, basically *v* and its VP complement:

(11) A basic structure



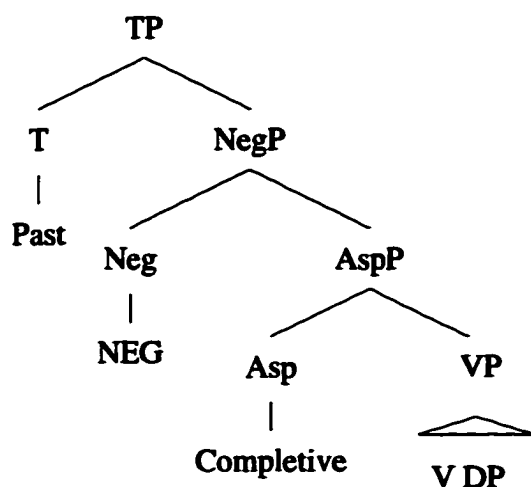
The reason is actually fairly simple. It is this bare structure that is relevant when we speak of *ate lima beans* as a predicate. But the surface string *ate lima beans* involves more than this; it involves Tense.

2.2.3.1.4 Something Infinitely More Complicated Although this case with Tense assumed to be on the verb can be handled directly, there is another related environment which is somewhat tricky. This would be in cases in which Tense cannot combine with the verb because of Negation. Here the verb is morphologically bare:

(12) Bill did not [eat the lobster].

The point is that if there were an aspectual head here with a feature like [Completive] on it, the resulting morphological spell-out would have a participle rather than a bare verb appearing after Negation. That is, take the following tree:

(13) Negation + Past



In this case Tense cannot be lowered to the verb because of the presence of Neg; *do*-support is required. However, if the structure beneath Neg contained the aspectual feature [Completive], which in the passive participle is realized with *-en/-ed...*, then we would expect the following:

(14) * Bill did not eaten the apple.

There is, of course, a way to make this problem disappear. This is to hold that there simply is no Aspectual projection in the English simple past tense. The syntactic objects then capable of serving as acceptable predicates, i.e. the objects in which the Progressive and Perfect participles are realized, can then be characterized as having Aspectual phrases in them.

Two extremely important questions are highlighted in making this sort of move. The first concerns aspectual specification in finite and non-finite forms: does a finite Perfective verb contain the same aspectual features as a non-finite participle? For English, the treatment above answers this negatively.

The second question is closely related to this first one. The basic interpretation of the English past tense is aspectually Perfective. The analysis above goes through if there is no Aspectual head in the syntax. A default semantic mechanism must be appealed to in order to capture the Perfective interpretation. This amounts to a type of semantic

underspecification.

The questions here revolve around two distinct kinds of underspecification. They are of critical importance, so I will belabor them somewhat. To begin with, let us review underspecification on the morphological side. Distributed Morphology assumes a fully specified syntax. Underspecification on the morphological side results when the conditions governing the insertion of affixes allow for existing features in the syntax to be ignored. However, the assumption is that these features are actually present in the syntactic computation, but simply not realized on the PF-branch.

This can be illustrated with a simple example. Suppose some language has a morphological distinction associated with interpretations *X* and *Y*; e.g. there are different affixes in each case. Suppose now that these two interpretations are possible in English, but that there is no accompanying morphological difference. Then what can be said about this? Given the two notions of underspecification discussed above, either (1) that English has distinct morphosyntactic features corresponding to interpretations *X* and *Y*, but these are not manifested in the morphology; or (2) there are operations capable of distinguishing *X* and *Y* at LF in English, but the syntax in each case carries identical morphosyntactic features. Under the latter scenario, there is in effect semantic underspecification. That is, if a semantic analysis dictates that an interpretation results not from simple features present in the syntax (or from their interactions), then there is underspecification in the input to LF as well. This is still perfectly compatible with the position that Distributed Morphology takes on full syntactic specification. The point is that in certain languages certain syntactico-semantic features are simply not present, so the syntax does not move these around. But the syntax is fully specified for all the features that are interpreted on the LF branch, despite the fact that certain interpretations will result from operations at LF, and not syntactico-semantic features.

Under option (1), according to which there is a morphological neutralization, there are two possibilities. The first is that the relevant feature exists, and is impoverished in a particular environment. Thus, say, [Completive] in English is neutralized when in a

specific relationship with tense. Imperfective and Perfective verbs will then come out looking the same. Or, without Impoverishment, English could simply have its affixes specified so as to make no distinction. The result is the same.

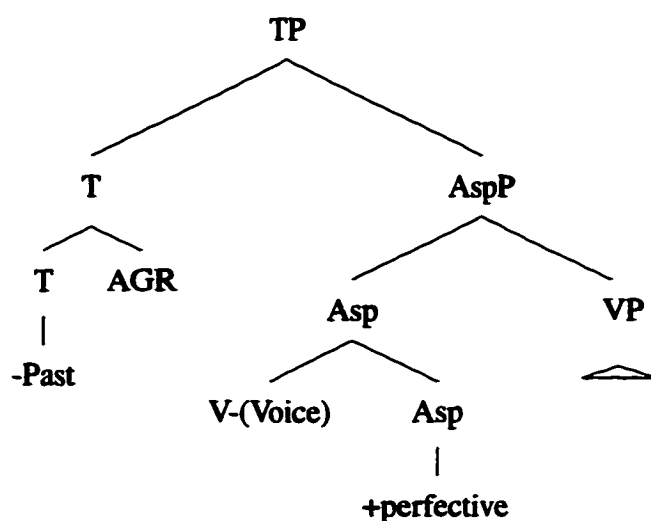
So let us review where we are with this line of inquiry. I pointed out that (1) the notion of what can serve as a predicate in the relevant environments in English can be restricted to structures headed by Aspect, and (2) this holds only if we hold that there is no Aspectual specification for English finite verbs, period. That is, in finite clauses English verbs are underspecified on a syntactico-semantic level.

We can compare this lack of specification in English with a case in Modern Greek. The Perfect (passive or active) in Modern Greek is analytic; it contains a form of *echo* 'have', along with a particular form of the thematic verb. Morphologically, the verbal root not united with Tense is marked for Aspect and Voice. Specifically, it is identical with the Third-Person non-past Perfective form of the verb.⁹

The morphological identity of the 'participle' and the relevant forms of the Perfective can be made to follow from the following. In the non-past, it may therefore be argued that the Tense feature, along with the feature corresponding to a Third Person subject, simply do not receive signalization; i.e., the form appearing in the frame Third Person Singular Non-Past Perfective there is overt morphology realized which corresponds to the voice feature [Non-Act] and the Aspect feature [Perfective], but nothing corresponding to the other components. Consider then a hypothetical syntactic derivation for the analytic passive in which the main verb raises only as far as Aspect:

(15)

⁹Historically it is not derived from this. But this is beside the point.



The verb here consists only of features relating to Voice and Aspect. However, the surface realization of this will be the same as that found in the finite form united with Tense and AGR, because the latter two features (whatever are present) do not receive signalization. There is therefore a syncretism between two objects which are morphosyntactically quite differently constituted.

Phrases headed by the 'Perfect Participle' in Greek do not form well-formed predicates. It is not possible to use this to say e.g. *the letter written by John*. Here a distinct participial form, with the suffix *-menos*, appears on the verb:

(16) grafo 'write', gra-menos 'written'

Thus the fact that the 'Perfect Participle' behaves as it does can be attributed to the manner in which aspectual features are realized. Specifically, one only gets the perfective forms like the ones notes above in a particular relationship with Tense. In the environment without Tense, i.e. in the reduced relative, a different affix instantiates the aspectual features.

2.2.3.1.5 Conclusions The notion of predicate we are after here is thus something like 'predicate without Tense'. This lets in a lot of other things: Aspectual features, eventivity, and so on. For English, the notion of what defines a well-defined predicate of this type can be stated in terms of Aspect Phrases. We have thus have an answer for what constitutes

a good predicate of the relevant type in English, although not necessarily why this is the case.

2.3 The Stative/Eventive Distinction

2.3.1 The Relevance of this Dichotomy

As noted, passives are typically divided into 'verbal' and 'adjectival' variants. I will hold that the distinction to be made between types of passive is in terms of *stative* vs. *eventive*. This follows the leads taken in Pesetsky (1995) and Marantz (1995), as will be discussed below, and stands in place of the distinction between verbal and adjectival passives, argued for in Wasow (1977) and assumed in much subsequent work.

The adjectival/verbal distinction is implicit in many discussions of the passive. By itself it does not do a great deal.¹⁰ However, in Wasow's work it is coupled with a theory of how the two types of passive must be derived. If a passive is verbal, the derivation must be syntactic; if adjectival, then the derivation is Lexical. It is this distinction that has no place in the present account.

The justification of the stative/eventive approach has two parts. First, I will review briefly the discussion of Pesetsky (1995), in which the relevant difference between types of passive is captured in terms of the distinction between stative and eventive. Pesetsky still speaks in terms of adjectival as opposed to verbal passives. However, his arguments show clearly that where distinctions are required, these must be stated along the stative/eventive difference. This component of the argument shows that an appeal to category is not necessary. The second part of the argument is undertaken in §2.3.2. I review the reasons Wasow presented for the distinction between verbal/adjectival and Transformational/Lexical passives, and show that the arguments need not be interpreted as requiring anything Lexical

¹⁰This is perhaps overstated. The distinction is invoked to explain certain facts about the syntactic structures in which *un*-prefixed participles may appear, and, in addition, certain facts about degree modifiers. See below.

in the passive.

2.3.1.1 Pesetsky (1995)

Pesetsky (1995) presents a discussion of passives in which the relevant distinction is between stative/eventive, not verbal vs. adjectival. One of Pesetsky's arguments involving the eventive/stative distinction is against Belletti and Rizzi's claim that the passives of ObjExp verbs like *affascinare* 'fascinate' and *preoccupare* 'worry' are necessarily adjectival. This is supposed to explain why these verbs cannot appear in the passive with the auxiliary *venire* 'come', which they claim allows only a verbal passive interpretation:

- (17) a. La porta viene chiusa alle cinque.
the door comes closed at five
'The door is closed at five' (Eventive only)
- b. * Gianni viene affascinato da questa prospettiva.
Gianni comes fascinated by this perspective
'Gianni is fascinated by this perspective.'

As Pesetsky demonstrates, the use of *venire* as auxiliary in examples like (17) does not in fact relate to the categorial status of the participle, but instead to considerations of stativity and eventivity. First, it is noted that SubjExp predicates are grammatical with *venire*-passives:

- (18) Gianni viene apprezzato dai suoi concittadini.
Gianni comes appreciated by his fellow citizens
'Gianni is appreciated by his fellow citizens.'

With ObjExp predicates like 'fascinate' and 'worry' the *venire*-passive is apparently degraded. However, this effect is only apparent. Pesetsky notes that the SubjExp *venire*-passive is interpreted eventively. Moreover, ObjExp *venire*-passives become acceptable when interpreted as more eventive. Thus the relevant distinction has to do with aspect, not category.

A further observation made by Pesetsky concerns the use of an idiosyncratic preposition in the passive. This occurs, he notes, when the passive is 'adjectival', as the ungrammaticality with the adverb shows:

- (19) a. Sue was continually being scared by sudden noises.
b. * Sue was continually being scared of sudden noises.
- (20) a. Bill was often being enraged by totally innocent remarks.
b. * Bill was often being enraged at totally innocent remarks.

The pattern is thus as follows: the idiosyncratic preposition goes with the stative passive, and this is incompatible with the adverb *continually*. Once again, there is no need to classify the difference in terms of category. The aspectual distinction is what is relevant.

In both cases, where there is a distinction to be made it is made solely in terms of aspect, not in category. As I show below, an explanation in terms of category is not required to explain the cases originally adduced by Wasow either.

2.3.2 Two Types of Passive

2.3.3 Wasow's Dichotomies

Wasow (1977) argues for two distinctions which are often noted in discussions of participles and passives. The first is in the set of participles, which Wasow argues to be divided into Adjectival and Verbal categories. The second distinction concerns passivization, which is divided into Lexical and Transformation versions.

2.3.3.1 'Adjectival' and 'Verbal' Participles

Wasow argues that while some 'passive participles' are adjectives, others are clearly verbs. I review here his arguments for this distinction.

The first argument is based on double-object verbs, in examples like the following:

- (21) John was given an ear of corn.

Wasow's first problem with the adjectival analysis is that it makes it difficult to state subcategorization requirements:

- (22) a. The United Fund was given *(\$10).
- b. \$10 was given (to the United Fund.)

This is taken in conjunction with the following:

- (23) a. Someone gave the United Fund *(\$10).
- b. Someone gave \$10 (to the United Fund).

The argument here is based on the fact that the selectional restrictions of the participle are the same as those of the verb. On Wasow's assumptions, this only follows if there is a transformational relationship between the two, i.e. if the participle is a verbal passive.

The second argument comes from the complement-taking status of certain participles:

- (24) a. John is considered a fool.
- b. Mary was elected President.
- (25) a. * John is obvious a fool.
- b. * Mary was happy President.

The argument is that if *considered* and *elected* are adjectives here, then the element coming afterwards should be possible with 'normal' adjectives as well. But NPs appear after verbs, so if these participles are really verbs there is no problem.

Wasow takes these contrasts to show that all passive participles are not adjectives. His reasoning is as follows: canonical adjectives like *obvious* do not take complements like *a fool*. Thus because *considered* takes this kind of complement, it cannot be an adjective.

2.3.3.2 Wasow's Lexical vs. Transformational Passives

The basic idea behind Wasow's (1977) discussion of the passive hinges on a set of criteria differentiating Lexical from Transformational processes.

Specifically, Wasow's Criterion 3 is at issue:

(26) Criterion 3 (Wasow (1977:331))

Lexical: "local"; involve only NPs bearing grammatical relations to items in question

Transformational: need not be "local"; formulated in terms of structural properties of phrase markers

The notion of Locality at play here is stated in terms of deep-structure relations. Returning to the case with the passives of ECM verbs, these must be transformational because the surface subject is not in a Local deep-structure relationship with the ECM verb.

(27) Wasow's Prediction

Passives whose derived subjects are not their underlying direct objects should be unable to exhibit adjectival behavior.(1977:342)

The relevance of this to the passives of ECM verbs involves the fact that an expletive subject may appear with such passives:¹¹

(28) There is believed to be a monster in Loch Ness.

On the assumption that *there* cannot originate as the direct object of *believe*, Wasow's criteria force the position that this type of passive is necessarily transformational, i.e. verbal.

In taking this position, Wasow presents three arguments against Freidin (1975), who took *believed* in such cases to be adjectival. These are as follows. First, it is noted that all verbs taking an 'accusative subject' allow *there there* passive. Wasow argues that on Freidin's analysis it does not follow that the adjectives corresponding to the 'accusative subject' verbs appear with Raising.

¹¹Further facts concerning *un*-prefixation with ECM-passives will be addressed in the following section.

The second objection is based on restrictions found with the complement of ECM verbs. Wasow argues that the restrictions in the active and adjectival forms are the same, and that this contrasts with the pattern found with regular Raising constructions:

- (29) a. We believe John to be lazy.
b. ?? We believe John to avoid work.
- (30) a. John is believed to be lazy.
b. ?? John is believed to avoid work.
- (31) a. John is likely to be lazy.
b. John is likely to avoid work.

The third criticism, which Wasow takes to be the most damning, concerns the external distribution of *believed to be*. He argues that if it is indeed an adjective it should behave like one, but that according to his tests it does not. The full set of examples is as follows:

- (32) a. There is believed to be corruption in high places.
b. * There seems believed to be corruption in high places.
- (33) a. Mary is thought to be a genius.
b. * Mary appears thought to be a genius.
- (34) a. John is considered to be a scoundrel.
b. * John sounds considered to be a scoundrel.
- (35) a. Nixon was found to be not guilty.
b. * Nixon acted found to be not guilty.

I will address each of Wasow's arguments in turn as a means of illustrating aspects of the present approach.

The first argument concerns an implication which is not predicted by the adjectival analysis: all ECM verbs allow for *there*-passives. Specifically, this objection says that the

fact that adjectives related to ECM verbs allow Raising, and not some other set, is not predicted. That is, the point here is about Raising: why is it that only ECM verbs have 'Raising-passives'? The answer is that the generalization does not seem to hold. Verbs not appearing in ECM structures have 'passives' of the Raising variety:

- (36) a. *Historians said Caesar to be a charmer.
b. Caesar was said to be a charmer.

As I will show below, the structure here is the same as that for the passive of an ECM verb like *believe*.

The second argument has to do with selectional restrictions. The judgments here are somewhat less clear than Wasow's examples show. For instance, the following seems grammatical:

- (37) We believe John to avoid work whenever possible.

Thus although there may be factors influencing the acceptability of certain such cases, it is not clear that there is a clear difference in selectional properties at issue.

Wasow's third argument is based on the fact that phrases like [believed to be corruption in high places] do not behave like adjectives in terms of the syntactic frames they appear in.

Even within the class of recognized adjectives there is heterogeneous behavior. Thus some may appear in secondary predication, while some may not:

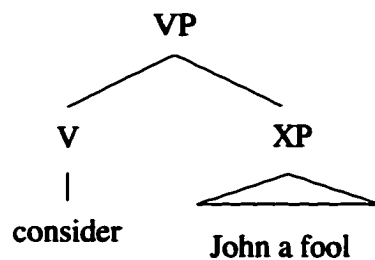
- (38) a. John entered the room [naked].
b. *John entered the room [intelligent].

In this case the differences are reducible to the stage/individual-level distinction. The point is that the failure of these roots to distribute in exactly the same manner does not make one or the other any more or less adjectival.

2.3.3.2.1 The Counterarguments Wasow's arguments for the adjectival/verbal and the lexical/transformational distinctions above are both of the same type. They only make sense if conversion of a verb to an adjective is a process which occurs at the level of the Lexical Item. That is, a category-changing operation can only be Lexical for Wasow. If this is the case, then the fact that the syntactic properties of the Adjective are the same as the syntactic properties of the Verb are accidental. Wasow is correct. The Lexical account fails to account for clear syntactic patterns. His response to this is to regard the relevant cases as necessarily Transformational, which precludes regarding the participle as anything other than a verb; Transformations cannot change categories, in the system he assumes.

Objections of this type dissolve if one assumes a theory of categories like that which I am assuming here. The important point is that there a common component to the derivation of the ECM and ECM-passive structures, which is given as follows:

(39) Common Component



More than one thing can happen to this object. One of them is that it may be further modified aspectually to become a participial phrase, what I am calling an adjective. Alternatively, it may be expanded into a finite clause, e.g. *We consider John a fool*. Thus the fact that 'adjectives' have the same complement taking properties as 'verbs' follows directly. Up to a certain point the structures involved are very similar. Adjectivalization, which really does not mean all that much, occurs higher in the structure, by virtue of an aspectual specification. The verb at the bottom of this does not have to be altered in the Lexicon at all. Thus despite the fact that it does not surface as a morphological verb,

something like **CONSIDER** can have (up to a certain point) the same syntactic properties in each of the relevant environments.

This same line of reasoning applies to Wasow's argument that adjectives do not take arguments, but (verbal) participles do. Recall the following pair:

- (40) a. John is considered a fool.
b. *Mary is obvious a fool.

Up to a certain point the structure involves **CONSIDER** and its complement. It is by virtue of appearing in a structure in which this root cannot be verbal that the participle *considered* appears. But simply because some roots can appear in this non-verbal context, in which they are realized as 'adjectives' in the loose sense I am employing, it is not predicted that all 'adjectives' will do so.

2.3.3.3 A Note on *Un-*

Consider the following contrast, based on examples from Wasow:

- (41) a. John is known to be a fool.
b. *John is unknown to be a fool.

From the perspective taken here, the contrast results from the following facts. *Unknown* appears in a simple predicative structure, i.e. the structure of an 'underived' adjective:

- (42) [unknown]

The conditions on the prefixation of *un-* are thus statable in terms of this basic structure. That is, *un-* prefixation is only possible in the 'simple' structure, not in the deverbal adjectival structure found with *known* in *known to be a fool*. However we state this condition, the point is that *un-*prefixed things just do not go in complement-taking structures.

Known in (41a), on the other hand, is in a projection dominated by *be*, in which there is a further aspectual projection:

(43) [Asp [know [to be a fool]]

It appears as *known* by virtue of appearing in this structure. It takes the clause [to be a fool] as complement, but because of what happens above it in terms of additional aspectual projections, it is realized as a participle *known*.

2.3.4 Conclusions

2.4 Participle II: Aspect and Voice

2.4.1 Overview

In the following section I analyze a number of phenomena surrounding the behavior of participles.¹² One of the goals here will be an implementation of the stative/eventive distinction, provided through an analysis of the aspectual composition of English participles. In addition, I will analyze the relationships between participial forms and voice alternations.

The basic point that will be established is that voice and participles are related in both morphological and syntactic ways, and that these relationships are distinct from one another.

2.4.1.1 The Relevance of Voice

Voice is relevant in participles in two ways. In one case, the particular morphological signals that appear in a participle may be sensitive to voice features. That is:

(44) Pass X Y ↔ -x-

In such cases, the x-participle is of a particular voice-type by virtue of the signals involved in it.

¹²Terminologically I will often refer to the participle as being related to certain aspectual features, syntactic environments, etc.. This is simply shorthand for saying that the signals involved in the formation of the participle have the distribution in question.

The second way in which voice may figure in participles is syntactic. Certain languages will allow the modal/aspectual features involved in a participle to appear in only a certain type of syntax. That is, a participle of a particular aspect may be found to appear only in particular voice environments, i.e. either subject-oriented (active) or object-oriented (passive). To give a specific example, English allows for the completive participle to appear only in passive syntax in reduced relatives, but not in active syntax:

- (45) a. The apple [eaten by John] was green.
 b. *The man [eaten the apple] was green.

2.4.2 Participles and Syncretism

A common syncretism in participles, at issue in languages like English, is between the Perfect, Adjectival Passive, and Passive Participles:

- (46) a. John has arrested Bill.
 b. Bill is arrested.
 c. Bill was/got arrested

As noted earlier, the identical allomorphs of the participial affix are found in each of these three environments, suggesting a systematic connection. Although compelling, this fact does not in and of itself indicate what is going on. In the absence of an analysis of the syntax associated with these various participles, nothing can be concluded.

That there is syncretism at play here is evident from languages which distinguish the participles found in each of these environments.¹³ In addition, the difference between stative and eventive passives is clear in cases in which there a synthetic passive form, such

¹³In addition, some languages may show a mixture of synthetic (i.e. verbal) and participial forms in these environments. For instance, Modern Greek shows the following forms:

- (47) a. Perfect Participle (Active): *grap-s-i* (with *have*)
 Adjectival Passive: *gra-menos* (with *be* for Stative Passive)
 Past (Perfective) Passive: *graf-tik-e* (synthetic form)

as in Chichewa. Thus as Dubinsky and Simango (1996) discuss, Chichewa has an eventive passive with the affixes *-idw/-edw*, and a stative with *-ik/-ek*:

- (48) a. Nyemba zi-na-phik-idwa
beans AGR-PAST-cook-PASS
'The beans were cooked.' (Eventive)
- b. Nyemba zi-na-phik-ika
beans AGR-PAST-cook-STAT
'There beans were cooked.' (Stative)

The first of these, the eventive passive, refers to the beans having been cooked by some agent, whereas the stative only describes the state of the beans, without reference to an agent.

2.5 Participles and Voice Orientation

2.5.1 Issues

2.5.1.0.1 Overview In this section I show that Aspect and Voice interact in participles on two levels. The first I discuss is morphological. Some participial affixes are specified for voice features. Thus they are restricted to cases in which there is a voice feature present in the morphology. This may lead to gaps in what kind of participles may be available for a given verb. The second type of interaction between Aspect and Voice is syntactic. Descriptively, languages will sometimes simply not have a syntactic configuration in which e.g. Perfect Aspect is combined with Active syntax. I discuss each of this briefly in turn now, and then present a more detailed discussion below.

2.5.1.0.2 Two Types of Interaction In some cases, a language will have participles for both voices for a given aspectual feature. Thus Modern Greek has a Present Passive participle, with the suffix *-omenos*:

- (49) schedhiaz-o 'I design'; schedhiaz-omenos 'being designed'

There is no connection between the aspectual feature [Prog] and a voice environment. There is also a Present Active affix *-ondas*. Thus both voice environments, active and passive, appear with the Present set of aspectual features.

Cases in which there are restrictions in voice/aspect combinations are not difficult to find, however. Thus Latin has a Present Active Participle, formed with the suffix *-ns*:¹⁴

(50) *laud-ō* 'I praise'; *laudā-ns* 'praising'

At the same time, there is no Present Passive participle. Cross-classifying voice and aspect, we thus find distributions like the following:

(51) Present Participles

Lang/Voice-Aspect	Present Active	Present Passive
Modern Greek	<i>-ondas</i>	<i>-menos</i>
Latin	<i>-ns</i>	*

Distributions of this type result from two types of interactions relating voice-related features and participial morphology. One type of interaction is at a purely morphological level. Certain participial forms will involve affixes which are specified for voice features. Thus, for instance, the Modern Greek Present Participle with the affix *-omenos* noted above appears only in passive syntax or with deponent verbs. The specification for the affix crucially involves the voice feature:¹⁵

(52) *-omenos* ↔ [Prog][NonAct]

This second manner in which voice and participles interact is clearly syntactic. In some cases, a language will simply lack (descriptively) a participle of a particular voice type in a particular syntactic environment. Thus English, for instance, does not have an active completive participle, though it does have a passive completive participle, in the reduced relative environment:

¹⁴This is the nominative citation form; the inflection will actually vary, in the manner of an adjective of the third declension.

¹⁵I will discuss this case in greater detail below.

- (53) a. *The man [eaten the apple] turned green.
 b. The apple [eaten by the man] was green.

The morphological interactions are captured with a specification of a voice feature in the spell-out rules for the participial affix. Thus, for instance, the Present Passive affix *-omenos* in Modern Greek is as follows:

- (54) *-omenos* ↔ [Pres NonAct]

In some cases, the specification of the affixes in this way restricts the verbs that can appear in the relevant syntactic environment. One case of this type is from Latin, which has a restriction on Perfect Participles that derives solely from the manner in which the Perfect participial affix is specified morphologically. Normal verbs simply do not have a Perfect Active participle. Thus for *laudō* 'praise', the only Perfect Participle is *laudā-t-us* '(having been) praised.' With deponent verbs, there is an active participle: thus for *sequor* 'follow', there is *secu-t-us* 'having followed'. This is the same kind of 'voice reversal' with deponents that is expected from their behavior in finite contexts. The point is that, because of the way the Past Participle affix must be specified, only the deponent verbs may appear in Active Past Participial syntax.

The syntactic correlations between Aspect and Voice are more difficult to analyze. Below I will simply highlight the kinds of effects that are found, in the hope that this will clarify what is at issue.

2.5.2 Aspect/Voice Interactions at a Morphological Level

2.5.2.1 Latin Participles

The interaction of syntax and morphology in determining the voice behavior of participles can be illustrated clearly in the system of Latin participles. On the surface Latin shows a pattern in which different participles show different voice properties with deponent and regular verbs. Thus the so-called 'Past Passive Participle' appears only in passive

syntax with normal verbs, but in active syntax with deponent verbs. This by itself is relatively straight-forward, and does not differ from the behavior of finite deponent forms. The complication is with other participles. The ‘Gerundive’, a participle with a kind of necessitative interpretation, is exclusively passive with both normal and deponent verbs.¹⁶

2.5.2.1.1 The Past Participle and the Gerundive One case involves apparent voice irregularities in the participles of deponent verbs. To begin with, active Latin verbs like *laudō* ‘praise’ have a “Past Passive Participle” in *-t-us/a/-um*, *laudā-t-us* ‘(having been) praised’.¹⁸ I demonstrate that there is a clear difference between (1) appearing in passive syntax, and (2) appearing only with the [Pass] morphological feature. The Latin ‘past passive participle’ is ‘passive’ in the latter sense; it is sensitive to a morphological feature, and not (directly) to syntactic environments. The following example illustrates the use in a relative:

- (55) *Mānlius Gallum cae-s-um torque spoliāvit.*
 Manlius-NOM Gaul-ACC slain-PAST.PART neckchain-ABL strip-PERF-3S
 ‘Manlius slew the Gaul and stripped him of his neckchain.’

L, VI.42,5

That is, ‘Manlius stripped the slain Gaul of his neckchain.’

The following illustrates with the deponent verb *cōnsector* ‘hunt down’:

- (56) *nam singulās [nāvīs] nostrī cōnsectātī expūgnāvērunt*
 for one-by-one ships our hunt-down-PART-PL take-by-storm
 ‘for our men, having overtaken them [i.e. ships] one by one, captured them by boarding.’

Caesar, B.G.iii.15

¹⁶The discussion to come is based on the works of Gildersleeve and Lodge (1895), Allen (1931), Ernout and Thomas (1951).

¹⁷I have included the ‘(having been)’ here, but, as noted earlier, this use would involve Ablative case endings rather than the Nominative ones cited here.

¹⁸Some verbs are exceptions. This is observed in most traditional discussions of Latin participles for the verbs *cenātus* ‘eaten’, *potus* ‘drunk’, which may also mean ‘having eaten’, ‘having drunk’ (i.e. intoxicated). Cp. also *prandeō* ‘eat lunch’, *pransus* ‘having lunched’. Wackernagel (1920) suggests that this phenomenon is more widespread in Latin than typical descriptions indicate.

There are other syntactic environments in which the participle appears show this voice orientation. When used as an absolute (in what is called the *Ablativus Absolutus* ‘Ablative Absolute’ construction), the participle appears in the Ablative case (as does its argument), and is still exclusively passive syntactically:

- (57) Caesar, acceptīs litterīs, nūntium mittit.
 Caesar received-ABL letter-ABL messenger send-PR
 ‘the letter having been received, Caesar sends a messenger.
 Caesar, B.G.v.46

With deponent verbs, those lacking active forms, this “Past Passive Participle” is active in interpretation.¹⁹ For normal verbs, there simply is no Active Perfect Participle.²⁰

Thus for the deponent verb *aggredior* ‘attack’, the relevant form *aggress-us* ‘having attacked’. The problem is that this difference in behavior in the “Past Passive Participle” is not found in certain other participial forms; notably, the form called the Gerundive is syntactically passive in orientation (i.e. object-oriented) for both normal and deponent verbs. The reasoning would be as follows: deponent verbs, unlike their active counterparts, have an active participle; superficially this might lead to the expectation that other participles that are passive for normal verbs will be active for deponent verbs. One such form is the Gerundive, whose meaning involves future necessity (as with the use of ‘Modal *be*’ in English; I will refer to it as ‘Necessitative’ when necessary.) However, the Gerundive formed from roots of both types is passive in orientation, meaning in each case ‘(one) to be V-ed’:

- (58) a. laudō ‘praise’

¹⁹Although there are instances of this form being used passively as well; see the discussion of the Gerundive below.

²⁰This point is noted in Varro’s grammar of Latin, from the 1st Century B.C.; having noted that there is no past active participle for normal verbs, Varro observes:

In these verbs which have not both voices, such as *loquor* ‘I speak’ and *venor* ‘I hunt’, we none the less say *loquens* ‘speaking’ and *venans* ‘hunting’, *locuturus* ‘about to speak’ and *venaturus* ‘about to hunt’, *locutus* ‘having spoken’ and *venatus* ‘having hunted.’

(Translation from the Loeb Varro.)

lauda-nd-us '(one) to be praised'

b. aggre^{dior} 'attack'

aggre^{die}-nd-us '(one) to be attacked'

The expectation noted above follows only if the participle found in the perfect passive of normal verbs really is a single monolithic syntactic entity, the 'Past Passive Participle', which happens to be active for deponent verbs.

The so-called 'Past Passive Participle', the form in *-t-us/-a/-um*, is capable of appearing in both passive and active syntactic environments, as the perfect tense forms of transitive deponents shows. The reason it only appears in Passive syntax with normal (i.e. non-deponent) verbs follows from the fact that the verb merges with the T/AGR complex in the active perfect, resulting in a synthetic form (this is discussed in greater detail in Chapter 3, and in even greater detail in Embick (1997).) The [Pass] morphological feature, as discussed above, prevents the construction of the synthetic perfect, whether with normal verbs in passive syntax or with deponent verbs in active syntax. The appearance of the "Past Passive Participle" is thus determined by voice features, and voice syntax only indirectly, in the sense that it is at the level of the signal that the participle is passive, not at a syntactic level.²¹ The specification of the signal is as follows (I am ignoring allomorphy here):

(59) Part Anterior Pass ↔ -t-

The fact that the feature [Pass] is available in active syntax as a property of deponent verbs makes for a pattern in which the distribution of the forms affixed with *-t-* are mixed syntactically. It thus follows that there is no reason to expect a reversal in voice orientation in the participles of deponent verbs. In effect, any verbal root appearing in the Gerundive will be passive; there is simply a correlation between the modal/temporal value and the

²¹This analysis of the *-t-* in the Participle is at odds with the analysis of Aronoff (1994), who claims that Latin verbal forms with *-t-* are based on a particular Stem (the *supine* or 'Third Stem' descriptively) which has no coherent morphosyntactic content. See the discussion of Aronoff's position in Chapter 1.

object orientation.²² The question of interest raised by the appearance of deponent verbs in the Gerundive concerns the override of the normal tendency for deponent verbs not to appear in 'passive' syntactic environments. Traditional accounts of Latin (e.g. Draeger (1878)) note that this occurs much more frequently in non-finite (i.e. participial) as opposed to finite verbal environments.

The conclusion concerning these two affixes, *-t-* (and its *-s-* allomorph) and *-nd-* is thus that voice is significant with each. However, this is manifested in different ways. With *-t-*, the signal itself is related to the morphological feature [Pass]. Syntactically, however, Latin allows for the combinations consisting of both active perfective and passive perfective. But, due to the manner in which the signal for the perfect participle is specified, only certain verbs may appear as active perfect participles. In the case of *-nd-*, the only syntactic environment for a necessitative participle is passive (recall the Gerundive above); there simply is no combination of this interpretation with active syntax. Thus the signal *-nd-* need not be specified for voice at all. The only conditions on its distribution relate to the modal/aspectual features determining the necessitative interpretation:

(60) *-nd-* ↔ [Part Nec]

2.5.2.1.2 Other Participles Other participial forms in Latin have an exclusively active distribution. The 'Present Participle' in *-ns-* and the 'Future Active Participle' in *-ūr-* both appear only in active syntactic environments. This is irrespective of whether the verb is active or deponent:

(61) Normal Verb

- a. *ama-ns* 'loving'
- b. *amā-tūr-us* 'about to love'

(62) Deponent Verb

²²Haspelmath (1994) notes that in his study of participles, modal/necessitative interpretation was invariably correlated with passive orientation.

- a. *seque*-ns ‘following’
- b. *secu*-t-ūr-us ‘about to follow’

Once again, the relevant signals here have no specification for voice, but only for aspect:²³

- (63) a. -ns ↔ [Pres Part]
 b. -tūrus- ↔ [Imminent]

The discussion above illustrates the fact that different aspectual features, and the different participles formed with these, correlate with particular voice environments.

(64) Summary of Participle Affixes: Syntax

Name	Active	Passive
Perfect	+	+
Present	+	
Gerundive		+
Fut. Act.	+	

Only in the case of the so-called Perfect is there the possibility of both active and passive syntactic environments. In the other combinations of aspectual features, there is simply no possibility of a given voice orientation with a given aspect. There is thus no need to specify the signals with features for voice. Not coincidentally, these participial forms do not show ‘reversals’ with deponent verbs, as the ‘Perfect Passive’ does.

2.5.2.1.3 Comparison with a Syntactic Treatment The restrictions on the Latin participle relate to Anagnostopoulou et al.’s (1997) syntactic discussion of the relationship between Auxiliaries and Participles in the Perfect. They posit specific conditions on when a participle can be interpreted as a Perfect in a reduced relative, as follows:²⁴

²³The morphosyntactic features involved here are simply a convenient shorthand; that is, I do not propose to analyze the exact status of something like [Imminent] here.

²⁴This hypothesis also contains a component concerning whether or not the participle will agree with the surface subject; I will not address this here.

- (65) a. A Reduced Relative can contain a Perfect if the missing auxiliary is BE.
- b. A Reduced Relative cannot contain a Perfect if the missing auxiliary is HAVE.

In terms of the Latin facts, this generalization holds. In active syntax, only deponent verbs have Perfects with *be*. Correspondingly, the perfect participle of a deponent may appear without *be*. The question now is how this relates to the discussion above, in which I argued that the same facts showed the *-t-* participial affix to instantiate [Pass]. Are these two treatments actually saying the same thing?

In the theory I am assuming, particular forms do not create syntactic possibilities. Rather, the forms instantiate syntactic structure. Generalizations like those above cannot be about *participles* per se, but only about the syntactic structures in which participles are realized. In the case of Latin, there is a clear argument that the pattern seen on the surface does not result from any deep syntactic properties. Given the manner in which the forms of the Latin perfect are derived, the auxiliary *be* is incidental. Its presence or absence is dependent upon the post-syntactic feature [Pass]. Moreover, (this is a crucial part) the formation of the operation forming the synthetic perfect is equally incidental. There is no reason to think that it should not be, given that it is once again sensitive to the presence of features available only after Vocabulary Insertion. By this reasoning, there is nothing in principle that prevents 'normal' verbs from having an active perfect participle with *-t-*. This is the role played by the morphological specification, as argued above.

It might be possible to alter the correlations above so as to make them sensitive to whether a pattern seen with participles results from syntax, or from morphology. One way of reworking this (and I am not suggesting that Anagnostopoulou et al. would endorse this) would be to say that *be*-Perfects are those in which all the relevant syntactico-semantic information relevant to the Perfect is localized in the structure instantiated by the participle. Recall now the two means (syntactic and morphological) of becoming a participle that were discussed above. The generalization about *be* can then be restated as follows:

- (66) A Reduced Relative can contain a Perfect if the Perfect Participle is a participle for morphological reasons only.

That is, the appearance of a participle in a Reduced Relative is the result of the auxiliary being, in a sense, incidental. The restriction here to Perfect participles is required to distinguish the Perfect from the Passive, in which *be* may appear because of the predicative structure involved. Effectively, this would be a theory about the localization of morphosyntactic features. Languages with *be*-Perfects are those in which the participle instantiates a structure with all relevant grammatical properties (in terms of Case, Aspectual interpretation, etc.) However, the thematic verb prevented from associating with Tense, but only for morphological reasons. In any case, the point is for Latin that the effects in the participles result from a morphological specification. Whether deeper correlations can be made between the appearance of *be* and the morphological status of participles remains to be seen.

2.5.2.1.4 'Filtering' The analysis of the Latin completive participle leads to the conclusion that there is a certain kind of filtering on the PF branch. The argument is as follows. On a purely syntactic level, Latin allows for the possibility of a perfect, active participle. However, this can only be seen with deponent verbs, because the signals involved in realizing this participle must be specified for the morphological feature [Pass]. Normal transitive verbs thus cannot be inserted in this environment.²⁵ However, normal transitive verbs and (certain) transitive deponents are syntactically the same; this will be established in detail in Chapter 3. The question of which verbs are and are not allowed to appear in the perfective active participial syntax thus reduces to the presence or absence of a feature of the Vocabulary Item, i.e. to a post-syntactic feature.

Cases of this type are important from the perspective of Distributed Morphology. In a theory in which syntax is based on the existence of forms, the existence of asymmetries like that between normal and deponent Latin verbs in forming an active perfect participle

²⁵With such verbs an absolutive construction must be used.

are easy to state. Syntax follows from the features of Lexical Items. If there is no Lexical Item with the appropriate feature combination, e.g. Active, Perfect, and so on, there is no corresponding syntactic configuration. In Distributed Morphology, the signals instantiate syntactic environments. Morphology, an interpretive component of the grammar, is assumed not to filter out legitimate syntactic derivations. In Latin, however, we have evidence that Active Perfect non-finite syntax is possible, but only with certain verbs. Thus some kind of filtering must be acknowledged.

2.5.2.2 Present Participles in Modern Greek

In Modern Greek the voice sensitivity of present participles leads to an apparent ‘reversal’ in the voice interpretation with deponent verbs. However, unlike in Latin, the regular class of verbs is not blocked from appearing in the relevant syntactic contexts, but instead appears with distinct morphology.

The behavior of deponent verbs differs from that of non-deponents in participial forms with the suffixes *-omenos*, the ‘Present Passive’. With normal transitive verbs, the pattern is as follows:

- (67) a. to sxedhiaz-omeno ktirio ‘the building being designed’ (*-omenos*)
b. to sxedhiaz-meno ktirio ‘the designed building’ (*-menos*)

Both participles are object-oriented.

Mackridge (1987), who classifies the *-omenos* forms as ‘Present Passive Participles’ and the *-menos* forms as ‘Past Passive Participles’, notes that deponent verbs may show the opposite semantic voice with *-omenos*-participles, while Past *-menos* participles do not show this change; thus (a) is active while (b) is not:

- (68) a. metaxiriz-omenos ton anthropo ... ‘treating the man...’ (*-omenos*)
b. ena metaxiris-meno aftokineto ‘a used car’ (*-menos*)

The Present participle, like the Latin Past Participle discussed above, is simply non-active at the level of the signal. For the sake of concreteness we may posit a feature like [+prog] associated with the semantics of the relevant participial forms. The [non-active] feature is present in the representation of these verbs, and the featural combination of an active participle of a deponent verb will contain [+prog] and [+non-active]. These features condition the appearance of *-omenos*, not *-ondas*.²⁶

- (69) [+prog][+non-active] ↔ *-omenos*
 [+prog] ↔ *-ondas*

This situation may be compared with that found with Latin completive participles. In Latin an active reduced relative was possible only if the verb was deponent; otherwise there is simply no way to realize a normal verb in the relevant syntactic environment. In Greek, conversely, the participles in *-omenos* show ‘voice reversals’, like the perfect participles of deponents, but normal verbs are still realized in the same environment.

2.5.2.2.1 Summary The analysis above may be summarized as follows:

- (70) ‘Voice reversals’ in participles diagnose
- a. Two syntactic options, active and passive
 - b. The sensitivity of a signal to a voice feature

The behavior of participles in terms of Aspect/Voice correlations differs from what is found with finite verbs. As will be discussed extensively in Chapter 3, there are also ‘mismatches’ of voice and syntax with finite verbs. In particular, certain deponent verbs appear in active syntactic configurations, but bear a [Pass] morphological feature. At the same time, of course, normal verbs will appear in both active and passive finite environments.

²⁶The problem with this approach is that as it stands it predicts that deponents should be incapable of appearing with *-ondas*, but this is not the case. The lack of consistency here may have to do with the fact that the *-omenos* forms are not entirely productive, being of *Katharevousa* origin. In line with the idea that such participles have an odd status in the language is the fact (noted by Mackridge 1987) that they may not appear with Accusative clitics, despite the fact that they appear with Accusative full DPs.

The discussion of the Latin Perfect participle showed a different pattern. Deponent verbs could appear as Active Perfect participles. However, the syntactic combination of Active syntax and Perfect Aspect simply was not available for normal verbs. Latin and Modern Greek both allowed both syntactic possibilities, Active and Passive, with the Perfect and Present participles respectively. The analysis above showed that aspects of the distribution of participles, in terms of voice/aspect correlations, are driven only by morphological specification.

2.5.3 Voice and Syntax in Participles

The point of the above section was that certain patterns found when Voice and Aspect are cross-classified result from morphological specifications. In addition to this, there are patterns which seem to be clearly syntactic. That is, there are cases in which certain combinations of voice and aspect are simply ruled out in non-finite environments. A clear environment for this is in the reduced relative:

(71) The apple [eaten by Dan]...

I will be operating on the assumption that reduced relatives are a kind of small clause, and do not involve *whiz-* (= *wh-be*)-deletion from a more complex syntactic structure *The apple which was eaten by Dan...* These accounts posit that the structure of the reduced relative is derived from the full finite relative clause via deletion of *be* and the *wh*-word:

(72) The man [arrested by the police] < The man who was arrested by the police

See, for instance, Anagnostopoulou et al. for arguments against this type of treatment. In the Reduced Relative, as noted above, English allows passive, but not active, syntax with Perfect(ive) aspect:

- (73) a. The man [hit by the car] yelled.
b. * The woman [eaten the lima beans] smiled.

Bulgarian, unlike English, allows for Perfect reduced relatives with both active and passive syntax; the following illustrate:

- (74) a. *Zapoznah se sas zena-ta napisa-l-a kniga-ta.*
met-1S REFL with woman-DEF write-PART-FEM book-the
'I met the woman who has written the book.'
- b. *Jabálka-ta izjaden-a ot Marija beše nisela.*
apple-DEF eat-PASS-FEM by Mary was sour
'The apple eaten by Mary was sour.'

Unlike the pattern seen in the Latin Perfect participles, correlations of this type seem to be syntactic. An attempt to analyze this pattern for the Perfect appears in Anagnostopoulou et al., and is related to the generalizations they propose for reduced relatives (see above.) However, patterns of this type exist outside of the Perfect as well. Thus, for instance, Latin has Active Present participles, so from *laudō* 'praise' there is *lauda-ns* 'praising', but no Passive Present participles. An extensive study of these correlations is certainly required for a complete understanding of the syntax of participles. I will not undertake this here, however (although I will make some suggestions concerning the English Progressive below.) The point that I hope to have clarified is that restrictions in participial systems may have two sources, morphological and syntactic. The syntactic patterns are, of course, the more interesting. I will leave these for future research, and proceed now to a discussion of English participles.

2.6 English Participles: Structures and Features

2.6.1 Voice, Syntax, and the English Participle

2.6.1.1 The Pattern

In this section I analyze the semantic features of English participles, and the relationship between these features and the signals *-ing/-ed/* etc. that instantiate these features. I

will begin with a description of participles by environment, beginning with relatives and absolutes. The entire pattern for relatives is as follows:²⁷

(75) English

Tense-Voice/Use	Relative	Absolute
Pres. Active	-ing	-ing
Pres. Passive	be-ing V-ed	be-ing V-ed
Past Active	*	hav-ing V-ed
Past Passive	-ed	hav-ing been V-ed

2.6.1.1.1 Realization of English Participial Morphology At issue here as well is the syncretism in the English Past Participle; eventive and stative passives are realized with the same participial morphology, which is also the same as that found in the Perfect:

- (76) a. The door is opened. (stative passive)
 b. John was arrested yesterday at noon. (eventive passive)
 c. Alice has seen *Fargo* six times. (perfect)

I argue that this syncretism results purely from aspectual factors. There is no reason for thinking that there is anything relating to Voice at issue here. In addition, there are aspectual reasons for believing that the so-called 'Past-Participial Morphology' is quite underspecified. The conditions for the relevant signals are as follows:

- (77) Part Pres ↔ -ing
 Part ↔ -ed/-ed...

That is, the Present Participle (Progressive) is aspectually uniform, while the 'Past' is not, owing to the specification of the signals involved.

²⁷I am including Absolute constructions here for reasons having to do with the appearance of *-ing*, as will become clear below.

2.6.2 Localizing the Effects

2.6.2.1 Reduced Relatives Revisited

2.6.2.1.1 Temporal Interpretations One potential way of determining where the eventivity or stativity of a passive clause is 'localized' grammatically involves looking at reduced relatives. Consider, for instance, the fact that a reduced relative may be interpreted either statively or eventively:

(78) The man [arrested when we got there]

There are two readings here. One, the stative, refers to a man who was in a state of having been arrested at the time of our arrival. The second, the eventive, refers to the man who was arrested subsequent to our arrival.

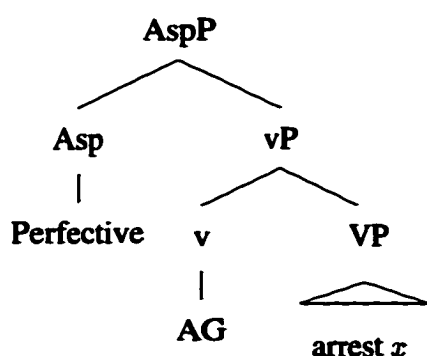
2.6.2.1.1.1 Eventives The reduced relative on the eventive reading denotes, by itself, a completed action. Thus in order for the completion of the event to be cancelled, the Progressive must be used:

(79) a. The man [arrested by the police] = completed arrest

b. The man [being arrested by the police] escaped = incomplete arresting

The same applies when the eventive passive is not reduced, as in *The man was arrested*. In such case the interpretation of the clause is the same as that found with the simple past *They arrested the man*, i.e. perfective. I will therefore assume that what is present aspectually in the eventive participle is the aspectual feature [Perfective], as follows:

(80) Eventive Participle



This denotes a completed event of the relevant type. However, as the event variable is open, the event is not situated temporally. In the normal case the event denoted by the participle will be located temporally, in terms of its relation to the auxiliary (i.e. the Tense-bearing element.) As I will discuss in detail below, one of the basic functions of the auxiliary is to combine with tense; this is the process by which the state or event denoted by the participle is located temporally. In cases in which there is no auxiliary to combine with the participle, the relevant variable over eventualities (whether stative or eventive) can be taken as existentially closed. However, there is no specified temporal interval in which the event is located. This accounts for the fact that the reduced relative can then be associated with any number of time points, given the proper adverbs, etc. By itself, it merely denotes a state/event of the relevant type, without the temporal location which would otherwise be supplied by the auxiliary.

2.6.2.2 Auxiliary Verbs and the Reduced Relative

2.6.2.2.1 Only the Thematic Participle One set of facts found in the reduced relative in English concerns whether or not an auxiliary verb appears. Thus, for instance, the reduced relative in the following can be interpreted as a Perfect, but with no auxiliary *been*, as in :

(81) Books [printed since 1950] are hard to find.

In other cases, the Perfect of a passive is impossible without *be* (or *get*):

- (82) a. John has been arrested at least thirty times.
 b. * John has arrested at least thirty times.

This fact follows directly from the copular analysis of the passive. The verb *be* appears in certain copular configurations. In the reduced relative, the element attached to the NP has the following structure (aspectual and other projections omitted):

- (83) [arrested *x*]

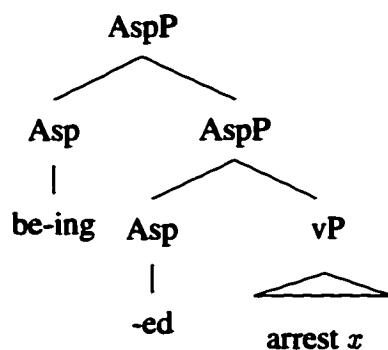
This is not a main clause, and no additional structure is needed to predicate this of the NP. There is thus no copular syntax, and no *be*. Completing the picture, on this view the Perfect of the Passive applies to the entire structure containing *be* and its complement.

2.6.2.2.2 The Progressive The behavior of the Perfect with respect to the presence of *be* contrasts with the Progressive; for a passive reduced relative to be interpreted progressively, *be-ing* must be present:

- (84) The man [being arrested by the police]....

The head realized by *being* here is an aspectual head in the participial phrase. That is, I propose the following structure:

- (85) Progressive Passive Reduced Relative



This is evident from the position of *being* in passives outside of the reduced relative structure:

(86) John was being arrested...

In a way, this is confirmed by the expletive structure:

- (87) a. There were several people being arrested.
b. * There were being several people arrested.

However, in this case the syntactic status of the reduced relative cannot be exactly determined. There are two possible structures. In one of these [being arrested] is a reduced relative on the NP *several people*:

(88) [several people [being arrested]]

The second has [being arrested] as the second part of a predicative structure, as follows:

(89) [[several people] [being arrested]]

As I will discuss below, a diagnostic for eventivity can disambiguate these two structures. Thus I will show that expletive passives like *There were several people arrested* are do not involve the reduced relative structures. The point of this is that because the progressive is stative, the diagnostic used for the eventive passive cannot help here.

Thus although the expletive diagnostic is somewhat unclear with the progressive, it does contrast clearly with the Perfect, in which the *been* component is the copula, and appears above the associate of the expletive:

- (90) a. There have been several people stung by bees.
b. * There have several people been stung by bees.

Returning to the status of the *be* in the Progressive reduced relative, the idea is that the *be* picks up the progressive morphology *-ing*, which cannot appear on the already suffixed participle:²⁸

²⁸In earlier Modern English the progressive passive appeared only with *-ing* on the thematic verb. Visser notes many instances of this, including the following:

The difference is thus as follows. In a reduced relative interpreted as a Perfect, *been* is not present because this is the Perfect form of the copula, which does not appear in reduced relatives in the first place. In the Progressive, conversely, the participial phrase itself contains the aspectual head denoting the progressive state.

Recalling now Anagnostopoulou et al.'s generalization about when a participle can appear in a reduced relative, we can make a further analysis of the structure of the progressive. The structure [eating lima beans] is a well-formed predicate on its own, and can appear in reduced relatives. This suggests that it contains all the grammatical components relevant for Case assignment, and so on. We could thus treat the English Progressive in the same way as the Latin analytic passive. The thematic verb is prevented morphologically from appearing with Tense, but is not in a syntactic structure distinct from the normal verbal skeleton (unlike the English passive):²⁹

(93) Progressive

(91) The hay was making under the tress.

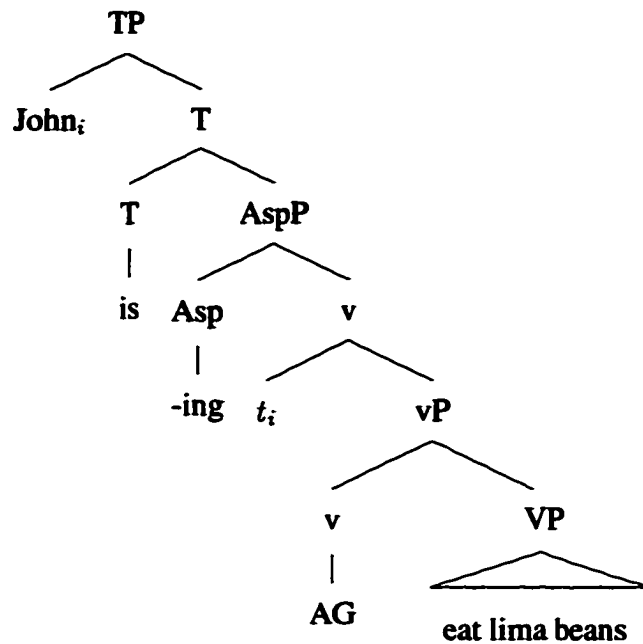
(Shelley, 1816)

(92) The neighbouring meadows where the hay was carrying...

(Dickens, 1852-3)

Visser notes that the form *was being V-ed* was introduced at the end of the 18th Century.

²⁹There is no PRO associated with the Progressive here. The structure is no more a control structure than is any normal clause in English; the surface subject originates in Spec/v and raises to Spec/T.



Specifically, the verb cannot be combined with Tense because of the intervening aspectual projection containing the Progressive features, realized as *-ing*.

To complete the picture, consider again the pattern with expletives in the Progressive:

(94) There were several people eating lima beans.

English, as we know, does not allow Transitive Expletive Constructions (**There ate several people lima beans*). But it does allow the appearance of a Transitive Expletive Progressive because [eating lima beans] is a legitimate predicate. As such it can appear as the second argument of the complement of predicative *be*, with a PRO subject:

(95) [be [[several people] [PRO eating lima beans]]]

This is as opposed to the 'direct' Transitive Expletive Progressive, which is impossible just like the regular Transitive Expletive. It is the status of [eating lima beans] that allows for the apparent difference; as noted, [ate lima beans] cannot appear in the right argument of *be*'s complement.

2.6.3 Features of Participles

2.6.3.1 Present States

The basic facts about the distribution of *-ing* (ignoring the nominal domain) are relatively straight-forward. The English Present or Progressive Participle appears with *-ing*, and only appears with eventive verbs. Thus:

- (96) a. John is eating the apple.
b. * John is knowing the answer.

However, there are *-ing* forms in the Absolute based on stative predicates. Thus:

- (97) Knowing John as I do, I suspect he'll eat the apple.

The fact that the *-ing* form here can be based on forms to which the Present participle cannot shows that these two are distinct. However, it does not rule out a similarity. Specifically, these two contexts share the property that whatever topic time is defined is included within the state denoted by *-ing*. The conditions on the realization of the Present Participle are thus as follows:

- (98) Part Pres ↔ /-ing/

By [Pres] here I mean something specific semantically; not necessarily Present Tense, but Incomplete with respect to the temporal point it is associated with. This is effectively *non-exclusive* (in the sense of Klein; see also Iatridou (1997) and references there for further discussion.) Effectively, the state defined by the participle includes whatever temporal point it is associated with. This covers the use of *-ing* in the Absolute, which, although seemingly variable temporally, includes the relevant temporal point within the state described by the adjunct:

- (99) Having read Milton thoroughly,
a. John is able to amuse people at parties.

- b. John will be able to pass his exams.
- c. John was able to learn Latin with ease.

Thus no matter when the tense of the main clause applies, the adjunct is interpreted as including that time, i.e. with John being in the state of having read Milton at that time.

In sum, the morphology of the present participle is associated consistently with a specific kind of state.

2.6.3.2 The 'Past Participle'

I now turn to the features realized as the 'Past Participle'. Beginning with aspectual notions derived from Kratzer's (1993) semantics for *Resultative* participles, I address a range of aspectually distinct forms which are all realized as 'Past Participles' in English. The question of why English Perfect, Eventive, and Stative passive participles all are realized with the same morphology has attracted a fair amount of attention.³⁰ Prior discussions are concerned with the question of how to derive one type of participle from one of the others. A survey of the literature on the 'adjectival' and 'verbal' passive participles is illustrative. Wasow does not address the question of why the participles look the same in each case. Assuming the essence of Wasow's analysis, later discussions focused on how the two were to be related morphologically. Thus Lieber (1980) argues that adjectival participles are derived from verbal participles via zero-affixation. Bresnan (1982) modifies this so that the adjectival participle is derived from the passive verbal participle; this position is assumed by Levin and Rappaport (1986) as well. These accounts share the desire to capture the identity of the various English participles, and capture this with double affixation: first an

³⁰There are also claims that the correlation does not always hold. For instance, Aronoff (1994) suggests that there are differences in these two types of participles for pairs like *rotten/rotted*, with the different allomorphs being used in adjectival and verbal contexts respectively. It seems, however, that *rotten* could be treated as simply an adjective. By this I mean that unlike the stative passive participle, *rotten* would denote simply a state, without reference to an event defining that state. This would account for the fact that it does not contain a component of eventivity like *rotted*. Thus *John was born rotten* and *John was born rotted* are not equivalent. I take the latter to be the actual participle, containing an event in its semantics, and the former to be an adjective.

overt suffix which creates a verbal participle, then a null suffix which creates an adjectival participle. The identity of these two objects is thus captured directly.³¹

The point of this is that these attempts treat the participles as objects projecting syntax. I am addressing the question of what characterizes the distribution of a particular set of affixes. I will do this by examining the aspectual properties of the environments in which the 'Past Participle' appears. The appearance in both active (i.e. Perfect) and passive syntactic environments suffices to show that the signals are not specified for voice. I proceed through a set of aspectually distinct cases in which the 'Past Participle' appears, and show that, ultimately, it is not uniform aspectually.

2.6.3.3 Resultative

One notion that will figure in the discussion to come is *Resultative*, typically given as 'state implying a previous event' (see e.g. Comrie (1976), Nedjalkov and Jaxontov (1988), Haspelmath (1994).) Thus in an stative passive like *John is arrested*, the idea would be that the participle expresses a state which arises as the result of a particular type of event.

Kratzer (1993) gives a semantics for the participial component of the adjectival passive, which she assumes is the *perfect of result* in the terminology of Comrie.³² Semantically, the stative part of the predication is taken to be primitive, but the semantics contains reference to an existentially quantified event which serves as input to a target-state function. The assertion of the Perfect element is of the existence of a state which is the target state of a particular event. This semantic operation is located in a feature Kratzer calls **PERFECT**:

$$(100) \text{ PERFECT } \lambda P_{\langle s,t \rangle} \lambda s_s \exists e_s [P(e) \ \& \ s = f_{\text{target}}(e)]$$

The difference between a regular adjective like *cool* and a stative passive like *cool-ed*

³¹This leaves the participle which appears in the Perfect, which is also identical to the verbal and adjectival passive participles. As Kratzer (1993) notes, some of these previous accounts identify the overt participial affix as being responsible for suppressing the external argument, making the identity of Passive and Perfect participles impossible to capture.

³²Whether or not this is actually a component in the proper semantics for the Perfect (or for one of the types of the Perfect) is an entirely different question. For my purposes it suffices at present to take the relevant semantics as underlying the resultativity of the stative passive.

on this account is located in the existence of this prior event, along with the target-state function:

(101) Adjective vs. Stative Passive

cool $\lambda x \lambda s [\text{cool}(x)(s)]$

cooled $\lambda x \lambda s \exists e [\text{cool}(x)(s) \ \& \ s = f \ \text{target}(e)]$

2.6.3.4 The Participle in the Universal Perfect

The first observation challenging a [Perfective] specification for the English Past Participle is based on the difference between what is called the *universal* as opposed to the *experiential* use of the Perfect. The following examples illustrate these two notions:

- (102) a. John has known French for twenty years.
b. Mary has played squash.

In languages in which participles may be overtly Imperfective or Perfective morphologically, such as Bulgarian, the Universal participle is Imperfective while the Experiential is Perfective. Semantically this makes sense, as there is nothing completive about the participle 'known' above. However, the state defined by the participial is anterior to the time point defined (see Anagnostopoulou et al. for discussion.) I will extend this line of reasoning to the stative passive of statives. The participial morpheme in such cases is merely specified as [Anterior], not e.g. [Anterior] and [Perfective] together. It is then the [Anterior] feature which is associated with the realization of the 'Past Participle' morphology:

(103) [+part +Anterior] \leftrightarrow -ed/-en/...

This, of course, does not mean that the participle in the passive is not completive, merely that the specification for [Perfective] or [Completive] as such does not play a role in defining the so-called 'Past (Passive) Participle'. More generally, it does not mean that there are not morphosyntactic correlations in the environments under study.

2.6.3.4.1 Weakening the Conditions English (unlike e.g. German) allows for a stative participle to be based on a stative verb. This is illustrated in the following:

(104) This house is owned by the Duponts.

Kratzer accounts for the ungrammaticality of such examples in German by appealing to the semantics of the participial morpheme PERF. The semantics of this call for a state which is the target state of a prior event. With non-eventive predicates, the resulting interpretation is deviant, because there is no event in the semantics of the verb for the state defined by the participle to be derived from.

In English, however, the 'past participial' morphology is appears with these verbs. Clearly in these cases we are dealing with the regular formation of the participle, with the same allomorphs as the other [Anterior] formations. Semantically, there seems to be no reason to hold that there is any relevant notion of anteriority here. In the case of the Universal Perfect this move was possible because the participle defines a state which existed for some period anterior to the topic time. But here there is not a prior state. These predicates are fundamentally non-eventive. As such, they are very similar to basic state-denoting roots, i.e. 'adjectives'. Thus, for instance, while *arrested* will have aspectual components not found with adjectives, predicates like *hated* will not. The difference between an adjective and a stative passive will in some cases be decidedly aspectual: in *rotten* vs. *rotted*, the latter implicates a prior event in a way that the former does not. With stative predicates like *hate*, no such diagnostic is available.

The conclusion is that the participial morphology here realizes features that have nothing to do with anteriority.

2.6.3.5 The 'Past Participle': Summary

The discussion above identified a unified content to the suffix *-ing* in English.³³ I now turn to the realization of the signals found in the 'Past (Passive) Participle'. In the discussion

³³Excluding, of course, the appearance of *-ing* in Gerunds.

above I began with the hypothesis that the Past Participle affixes were correlated with a feature [Perfective]. This covers the ‘completive’ interpretation of the stative and eventive passives. However, the presence of the same participial affixes in the Universal Perfect argued against the [Perfective] specification of *-en/-ed...*. Thus the hypothesis was weakened so that the affixes would be specified for [Anterior]. This notion is argued to be relevant to the Universal Perfect, and can be argued to subsume [Perfective] (for instance, if the stative/eventive passives are [Anterior] and [Perfective].) Finally, I examined the stative participles formed from stative predicates, which seem to systematically involve the same signals as the other categories under discussion. In this class, I argued that there was no possibility for an analysis in terms of [Perfective], and that a treatment in terms of [Anterior] would be difficult to maintain.

2.7 Stative and Eventive Passive

2.7.1 Semantics: The Stative Passive

For the semantics of the stative participle, I will follow Kratzer (1993) in holding that it denotes a state, with the state being the target state of an event. Thus:

(105) **Stative Passive:**

$$\lambda P_{\langle s,t \rangle} \lambda s_s \exists e_s [P(e) \ \& \ s = f_{\text{target}}(e)]$$

2.7.2 Semantics: The Eventive Passive

I am going to present an analysis below in which passives with *be* have the participle as the source of eventivity. Here then I will simply assume that what we are calling the eventive participle includes an event in its semantics. The question is then whether the Eventive passive contains reference to both a state and an event, or just an event.³⁴ In terms of

³⁴Beedham (1982) argues that the passive is aspectually very similar to the Resultative Perfect. The argument for this is that there is basically the same set of restrictions on the Aktionsarten of the verbs

its temporal interpretation, the eventive passive in the past tense seems to behave like the active past tense, i.e. like a perfective past. Thus by itself the following are equivalently completive (cf. the observations of Andersen (1991)):

- (106) a. They closed the door, *but they stopped half-way through
b. The door was closed, *but they stopped half-way through.

This is in contrast to the Progressive:

- (107) a. They were closing the door, but they stopped half-way through.
b. The door was being closed, but they stopped half-way through.

There are two difficulties here. The first is that diagnostics for stativity are difficult to apply to the participle in isolation. The second has to do with the fact that there is a distinction between implicit and explicit reference to states. This can be illustrated with the simple past. In the case of the simple active past, something like *John ate the apple* might somehow implicate the existence of a state arising from the completed event, but it does not refer to it explicitly.

To be explicit about the options that are available, one is to hold that there actually is reference to a state with the eventive participle:

- (108) $\lambda P_{\langle s,t \rangle} \lambda s_s \exists e_s [P(e) \ \& \ s = f_{\text{target}}(e)]$

In other words, the participle would have about an event, but would secondarily hold that the event results in a state of a particular type. Thus in cases in which the event is represented as incomplete, i.e. in the Progressive, the state would still be present but not attained. This would be analogous to a verb like *become* in the progressive, with a stative complement:

capable of appearing in each. The argument would thus seem to be as follows: if passivization and Resultative Perfect formation are similar in their Aktionsart restrictions, then the passive is aspectually like the Resultative Perfect. Many of the verbs tested by Beedham are not actually transitive; cf. *become*, as in *This dress becomes Mary*. Others are excluded because they are stative in the first place, e.g. *know*. It is thus far from clear that this type of argument establishes what we are after.

(109) Mary was becoming rich.

The alternative is to eschew the stative component, and simply have the participle denote an event:

(110) $\lambda P_{\langle s,t \rangle} \lambda e_s [P(e)]$

In the discussion to come I will take the latter option. The eventive participle is (as the name of course indicates) fundamentally about an event. Positing a stative component directly in the semantics has an unfortunate consequence in terms of the relationship between events and target states. In the stative participle, the participle denotes a state that is located temporally with the help of the auxiliary. This state is a target state of some prior event, which is simply existentially quantified. In the case of the eventive participle the point to capture is that passives formed from the eventive passive really are eventive. Thus what is located temporally in the event passive is the event introduced by the thematic verb. If the participle simultaneously denoted a resultant state, there would be a sort of temporal conflict between the eventive and stative components. That is, the same time point cannot denote an event and the state that results from the completion of that event.

2.7.3 Review

The differences between the participles is aspectual, and is encoded in the semantics. This is not surprising. Other differences in structure are also found in the two participial phrases. One difference between the two types of passive concerns the Agent; agentivity is present in the verbal passive, but not in the adjectival. Differences in the morphological realization of the two types of participle may thus be made sensitive to the presence or absence of the element AG.

Part III. Passive

2.8 Passive and Voice

In the following sections I present an analysis of the English passive. The analysis is one in which there is no specifically 'passive' syntactic features. That is, the passive is derived compositionally from syntactic and semantic ingredients found elsewhere in English.

The syntax of voice is the subject of an extensive literature. I will not attempt to summarize the various attempts that have been made to analyze passive syntax. Rather, I will focus on one prevailing account of how the passive is derived, and contrast this with the approach to be presented here.

2.9 An Earlier Treatment

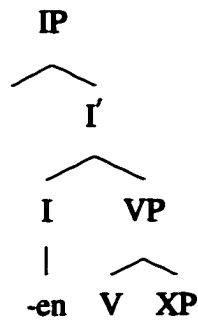
2.9.1 Baker, Johnson, and Roberts (1989): Synopsis

Baker, Johnson, and Roberts (1989) (BJR from now on) is presented as an account which makes the structure of passive clauses fall out from an initial hypothesis about the nature of 'Passive Morphology' in combination with several other principles. The basic claim which underlies the treatment of BJR is as follows:

(111) The passive morpheme *-en* is an argument

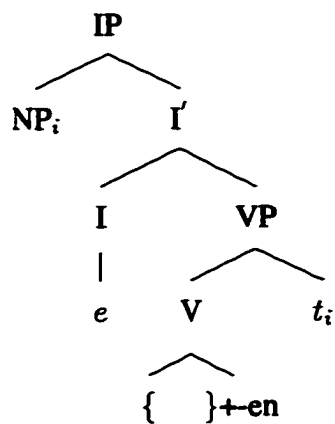
This means simply that the passive morpheme is an NP element, and, as such, requires Case and a θ -role. The structure associated with the passive and with the Passive Morpheme is assumed to be as follows:

(112) Passive Deep Structure



By virtue of being an NP outside of VP, the Passive Morpheme (PM) receives the Logical Subject θ -role from the verb. Moreover, the PM as a nominal requires Case, and is assigned Accusative Case by the main verb. This occurs after the passive morpheme has cliticized onto the verb. This requires the Logical Object of the verb to undergo movement to SPEC/IP for Case reasons, yielding the following S-Structure:

(113) Passive S-Structure



This is the barest outline of the BJR approach, involving an initial assumption about the nature of passive morphology, and then further principles governing Case and θ -role assignment for the surface form of the passive.

2.9.2 Questions

2.9.2.1 Incorporation

One of the intentions of the BJR analysis falls within the bounds of the broader research program of Baker (1988), the attempt to reduce various grammatical function changing processes to Incorporation. In the case of the passive, the conditions under which Incorporation is permitted according to Baker's treatment are violated; the passive verb is formed by the incorporation of the morpheme *-en* in subject position (or as the head of I⁰) down into the verb in V. Moreover, if this type of movement were possible in general, many of the correlations discussed by Baker concerning the nature of verbs allowing and disallowing processes such as Noun Incorporation and Antipassivization would dissolve. BJR actually call this process 'cliticization' rather than incorporation. However, if such a process were found generally with affixal elements, distributional facts about other morphosyntactic process would appear somewhat mysterious. For instance, one might expect to find Incorporation occurring from subject position, with an affixal argument moving onto I and then being affixed to the verb. As Baker has argued, this type of distribution is not found. That is, a great deal of Baker's attention in his discussion of processes such as Noun Incorporation and Antipassivization in Baker (1988) revolves around the claim that these processes occur from positions governed by the verb, but not from subject position, i.e. they are not found with external arguments.

2.9.2.2 The Passive Morpheme Cross-Linguistically

Noting that there are cases in which unaccusative verbs are apparently passivized in Lithuanian, BJR hold that languages may differ in the categorial status of their passive morphemes. In particular, in English this element is an INFL, and may therefore only appear in INFL (and thus only receive external θ -roles); in Lithuanian, conversely, this element is an NP which cliticizes to INFL from any argument position. Two questions arise here: the first concerns the status of the English style passive morpheme as an

Inflectional head that requires Case and a θ -role. The second concerns the treatment of the Lithuanian style passive morpheme; if it truly were an NP which could be generated in any argument, then Lithuanian should have a fully productive Antipassive involving this morphology. BJR acknowledge this consequence of their treatment, and attempt to rule it out by appealing to the Head Movement Constraint. Assuming first the stipulation that the Lithuanian passive morpheme must affix to INFL, they note that if it were generated in the object position, this position would not be governed by INFL, so that incorporation would be ruled out.³⁵

In the derivation of a passive of an unaccusative, which they are attempting to rule in, three steps are involved: (1) the passive morpheme, generated as the object of the verb, undergoes NP-movement to SPEC/IP; (2) from SPEC/IP, the passive morpheme incorporates into I; (3) from I, the passive morpheme cliticizes onto V. So why is the passive morpheme required to move syntactically to I? Apparently only to put it in a position to cliticize onto the verb. This, however, could be achieved directly from the object position in which it is generated, as long as it does not require movement to SPEC/IP for Case reasons. With a transitive verb, Case would come from the verb, and movement to a higher functional head would be unnecessary. The passive morpheme should in principle be able to affix or cliticize onto the verb.

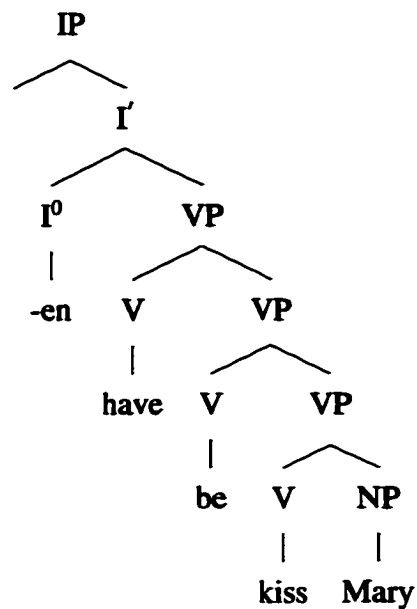
2.9.2.3 Passive Morpheme and Verb

One problem acknowledged by BJR concerns the actual affixation of the passive morpheme to the verb. As revealed in the structure in (115), the passive morpheme and the thematic verb are not in a local relationship; the former originates in INFL, and (potentially several) auxiliaries intervene between INFL and the verb to which *-en* is attached:

(114) Mary has been kissed.

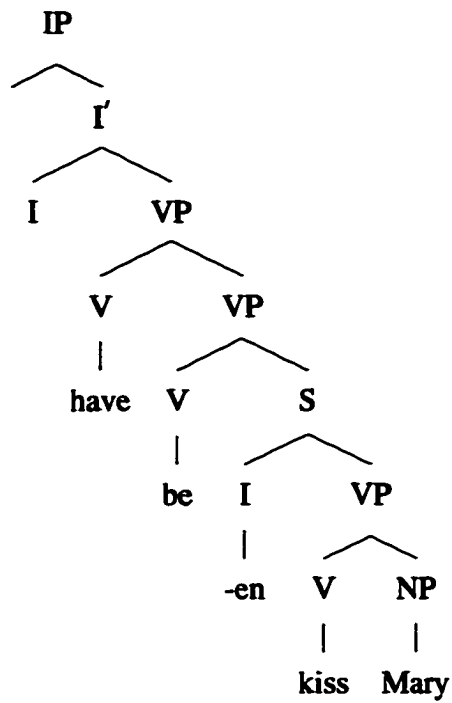
(115)

³⁵The actual situation in Lithuanian is in fact somewhat complicated in that there is an antipassive-like construction involving the 'reflexive' morphology, and in a lexically restricted set of verbs (Geniušienė (1987).)



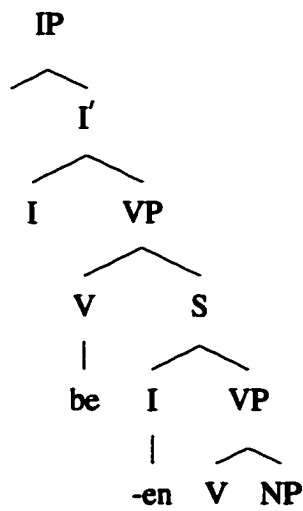
BJR discuss two possibilities for the affixation of *-en* in such cases. The first involves the raising of the participle to I^0 , a proposal which is problematic for a number of reasons. The second option is based on downward movement of *-en*, through however many auxiliary-headed projections intervene between I^0 and the thematic verb. This, they conclude, is also problematic, on the basis that such movement is not possible for subject clitics, which they assume to behave in the same manner as *-en*. The solution they opt for is one in which *be* takes a IP complement, with the passive morpheme heading the I of the lower clause (the bi-clausal structure is based on an approach taken in Kayne (1989)); thus:

(116) The D-Structure



Generalizing this type of structure, passive D-structures are then as follows:

(117) Correct D-Structure



The auxiliary raises to I here, while the PM and the main verb in the lower clause unite in some fashion to form the passive verb.

2.9.2.4 Passive and Other Participles

The BJR type analysis relies crucially on the idea that there is such a thing as a Passive Morpheme in English, and that this in effect creates a Passive Participle. This position has implications outside of the domain of the passive. For instance, the Adjectival Passive shares forms and a number of other properties with the verbal passive, but is crucially non-agentive. Treating the participial morphology in such cases as an external argument is thus problematic.

A further implication is for the analysis of the Passive/Perfect syncretism, in which it is once again unreasonable to hold that the participial morphology is an argument of the verb.

- (118) a. The officer has arrested many criminals.
b. Many criminals were arrested yesterday.

In the Passive, the element which the surface Passive Morphology corresponds to is syntactically active and possesses a number of properties:

$$(119) \text{ PM} = \begin{bmatrix} \text{I}^0\text{-clitic} \\ +\text{Pronominal} \\ \theta\text{-Role Required} \\ \text{Case Required} \\ \vdots \end{bmatrix}$$

In the case of (118a), this sort of representation simply cannot be assumed. The default hypothesis for such cases would be that (1) the Logical Subject θ -role is assigned to the surface subject, while (2) Accusative Case is assigned to the Logical Object of the verb, etc. As it concerns the morphological identity of passive and perfect participles, the BJR treatment of the passive precludes any non-accidental treatment.

2.10 Conceptual Considerations

Accounts like that of BJR, which seek to derive the properties of passives from an initial assumption and a set of general principles, were intended to replace earlier accounts of passive syntax based on an explicitly construction-specific passive transformation. However, there is a sense in which these two types of accounts are similar, in that they are both in effect construction specific. In the case of earlier accounts of the passive involving a Passive Transformation this is clear: the grammar contains a specifically labelled set of transformations tailored to the surface syntax of the passive.

Despite the intention of deriving the passive from general principles, the BJR-type analysis is construction-specific in a different way. The account relies on general principles such as Case Theory, θ -Theory, etc., but the results which are achieved are only possible in the presence of a passive morpheme, a syntactic entity which is tailored to the specific construction in which it appears. Accounts of this type may thus be said to rely upon construction-specific lexicalization, in the sense that deep clitics of the relevant type figure only in passives and nowhere else.³⁶ The conceptual question which should therefore be posed is whether accounts given in such terms are ever satisfying as explanations of syntactic phenomena.

One point which should be made clear in the context of the approach to voice presented here is that there is no need to assume, if a special clitic is posited as the passive Agent, that this necessarily corresponds directly to any surface morphology such as *-en*; recognition of this could lead to an adapted version of the BJR-type account which is not susceptible to the objections raised above. Given this possibility, the nature of the solution presented by 'Deep-Clitic' analyses must be examined on its merits as a purely syntactic solution, with questions about the morphological realization of the 'deep clitic' arising only if necessary. That is, we can ask about the type of analysis BJR give on a syntactic level only, completely ignoring questions of morphology, syncretism, etc. found with the passive.

³⁶In English, anyway. Clitics of the relevant type figure in the analysis of clitic reflexives on the analyses of Marantz (1984), McGinnis (1997).

Before this type of analysis can be undertaken a specific set of distinctions must be made among the phenomena associated with passivization. In particular, it must be determined which aspects of passivization implicate properties of (and require explanation in terms of) the Computational System of syntax, and which arise due to the interaction of the feature bundles manipulated by the syntax with the properties of the interfaces. Considerations of this sort argue for a separation of the kinds of questions to be asked about the passive from the outset. In the context of BJR's assumptions no distinction between these types of phenomena were made, with the result that a treatment in terms of a Passive Morpheme had to account simultaneously for (1) a syntactic movement, (2) the morphological realization of *-en* on a participle, (3) properties of Interpretation couched in terms of θ -role assignment, and so on. The categorization of these issues takes on a different status in light of current syntactic theory; I now turn to a restatement of the basic issues.

In light of a theory like that of Chomsky (1995), the passive potentially offers one property to be handled by the system of movement: the DP apparently generated as the object of the verb must be Attracted to T.³⁷ The conclusion I will therefore suggest is that this movement is the only aspect of passivization which requires an examination of the computational syntax, and that an approach to the passive should therefore attempt to account for the other properties of the passive with reference to the properties of the interfaces. However, I will argue below that there is simply no Agent projected in the passive. Thus even this question turns out to be of limited interest.

In a certain sense the type of treatment I offer could be construed as the reverse of the BJR approach. The burden of explanation on their account falls on the Lexicon (i.e. on the existence of a specific lexical item, the Passive Morpheme), and on principles governing D-structure representations. The relevant components of the grammar are thus those involving Lexicon/Syntax interactions. Given the manner in which the syntax was assumed to be projected from the Lexicon in the framework they adopted, this amounts to

³⁷Cf. in this respect the discussion of Hoekstra (1984:136 ff.).

a treatment which derives from the properties of an initial D-structure.

If it could be motivated on other grounds, i.e. if the passive showed properties of movement not found elsewhere, there would be nothing objectionable about simply encoding this in a feature [+passive]. Given a particular set of assumptions about checking theory, this type of problem could be recast in such a way as to be trivial. Specifically, if one had recourse to such features as [+passive] in the syntactic computation, then the following type of account could be sketched. Rather than being required to unite with the verb in the syntax, the PM would be generated on the verb, with a feature needing to be checked (essentially this is the account of Morphology-driven movement assumed in Chomsky (1993).) Somewhere higher in the tree a 'Passive Morpheme' would also be generated, i.e. a passive-inducing element with a [+passive] feature to check the like feature on the main verb.

The empirical problem with a construction-specific analysis of the passive follows from the fact that such an account cannot account for any possible syncretisms in which components of the passive are involved. The 'misguidedness' of the construction-specific reasoning in cases in which the components found in the passive are also found elsewhere would thus follow from the fact that this should not be the null hypothesis; rather, one should attempt to link the forms seen in the passive with the syntactic behavior of such forms in non-passive contexts. In English this would involve relating the participle found in the passive to e.g. that found in reduced relatives.

The construction-specific alternative can always be appealed to if it is shown that there are syntactically idiosyncratic properties of the passive that make an overarching, compositional solution impossible. In such a case there would be no direct empirical evidence against a construction-specific analysis.

Thus whether or not this sort of reasoning is always misguided is a different question; in some cases, particular inflectional morphemes are going to be associated with very specific sets of morphosyntactic features. Presumably, however, the clearest cases in which the construction-specific type of thinking would be justified would be those in

which the relevant morphosyntactic operation showed a unique morpheme; that is, a morpheme which unambiguously accompanied only one type of syntax. In the English passive, however, this is certainly not the case, given the manner in which the vocabulary items which accompany passive syntax, the verb 'be' and the 'past participle', appear in a number of other syntactic contexts.

2.11 The English Passive

2.11.1 Outlook

2.11.1.1 Strategy

I am assuming that the purpose of a treatment of the passive is to derive the structure involved from principles independent of the construction.³⁸ As argued above, the prevailing accounts of passives are not convincingly non-construction-specific. I will thus present here an approach that attempts to 'de-mystify' passive syntax. The rationale behind this should be clear. It should be clear that given enough stipulations about features, agents, etc. we could develop a treatment of the passive that satisfies the mechanical requirements of a particular theory. But this would not be of much interest. Such an account would shed no light on the passive as a non-primitive notion.

The basic starting point for my account is founded on an observation concerning the forms found in the passive. The English passive reveals nothing to suggest that it has properties which make it unique; rather, the surface form reveals forms that appear elsewhere.³⁹ For instance, the passive participle is formally the same as the participle used in the Perfect, as well as that found in reduced relatives. There is predication with *be*,

³⁸This assumption is one which, of course, underlies a great deal of generative work on the topic. There are exceptions to this; a clear one is the stance taken in Relational Grammar. The definitive example of this is something like Postal's (1986) monograph on the subject; *passive* is taken to be a sort of monolithic grammatical relation, a sort of primitive of grammar.

³⁹Notice that the situation is different in languages with a synthetic passive (e.g. Modern Greek.) Here the relationship is between the voice morphology found in passives and that found with Anticausatives and other structures. This is discussed in greater detail below.

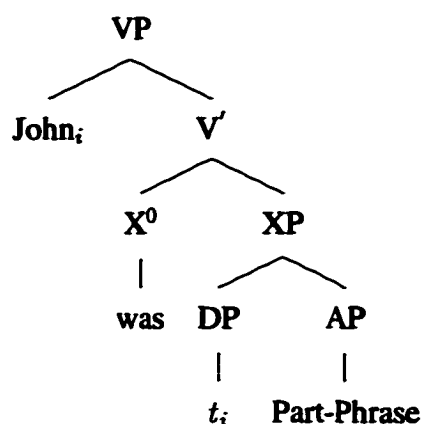
which is also found elsewhere in the language. Rather than appealing at the outset to a specifically tailored Passive Morpheme, a theory of the passive of the English type should proceed as compositionally as possible, with the contribution of individual components of the passive being determined through an examination of the other environments in which they appear. The interesting questions about passives of this type cannot be about elements which make the passive radically different from all other syntactic configurations of the language. It should be clear at this point that if we are interested in doing so we can construct a 'theory' of the passive which is completely specific to its form and meaning. But this is not interesting. Instead must focus on the manner in which the building blocks of the passive relate to similarly lexicalized syntactic structures outside of the passive, and attempt to derive the passive compositionally. Only if this strategy fails should the construction-specific strategy be resorted to.

2.11.1.2 An Outline of the Account

2.11.1.2.1 The Essentials I analyze the passive as a type of copular construction, in which a phrase consisting of a participle and a DP are taken as the complement of a copular verb. The structure will then be along the lines of the analysis of the copula, according to which it takes a small-clause complement (see e.g. Diesing (1992).) I will refer to the element headed by 'be' as a V, and to the predicate structure as simply XP.⁴⁰

(120) First Attempt

⁴⁰A theory like Diesing's involves distinctions between individual-level and stage-level predications with *be*. The former involve Control, while the latter have Raising. I will treat the passives as involving Raising from the first argument of *be*'s complement (except in the case of 'ECM-passives'; see below.)



The fact that this is in fact copular in the same way that *The tomato is red* is accounts for the presence of *be* in passives. The participial phrase found inside the complement of the copula is also attested elsewhere. The behavior of reduced relatives establishes the point that the English passive participle can appear (1) in a non-finite context, in which it is (2) predicated of a DP which did not originate inside the phrase containing the participle. This syntactic object, I argue, may appear either in a relative, or as a type of predicate in the structure defined above.

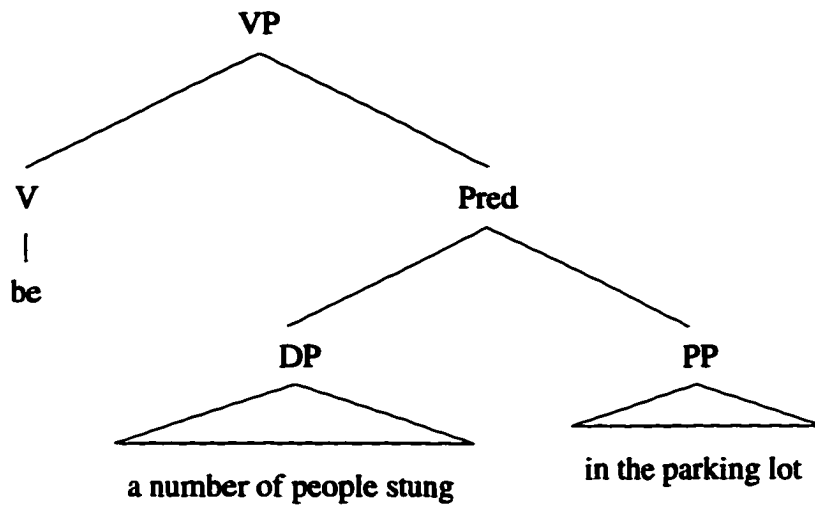
The participial component is a deverbal adjective, in the sense of the previous section. It may be eventive, and contain an agent-licensing head. It could be thus be said that the approach I am taking to the passive treats all participles as adjectival. In a sense this is true. However, it is not very informative, given that the utility of the notion 'adjective' is extremely limited.

2.11.1.2.2 A Similar Structure The structure of passives involves a participial component found also in reduced relatives. As a result of this, sentences with expletive subjects like the following result from two structures:

(121) There were a number of people stung by bees in the parking lot.

In the first structure, the participle is a reduced relative on the NP in a predication with [in the parking lot]:

(122) Structure 1

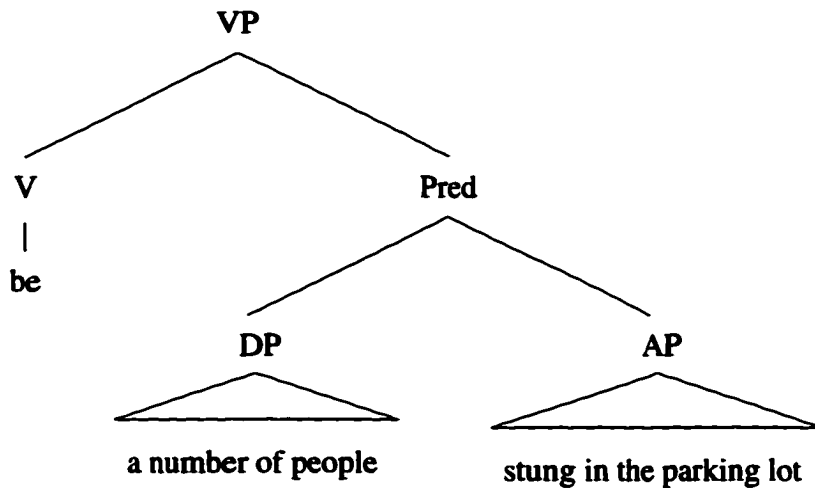


Thus:

(123) [A number of people stung by bees] were in the parking lot.

In the second structure, which I am interested in, the DP in the lower clause is [a number of people], and the participle appears in the sister:

(124) Structure 2



That is:

(125) A number of people were stung by bees in the parking lot.

It can be shown that this second structure, which is the true 'passive', does in fact exist. The argument is based on adverbials which quantify over events. If *There were six people arrested* had the structure with the reduced relative modifying the NP directly, the basic assertion of the utterance would be a state, concerning six arrested people being in a particular spatio-temporal location. Using a diagnostic that involves adverbial quantification over events, it can be shown that the structure with the expletive subject has an eventive reading in a way that existential sentences like *There are six people in the garden* do not.

To begin with, consider the following examples:

- (126) a. Six people were arrested every time the bell rang.
b. Six people were in the garden every time the bell rang.

Now consider a situation in which the bell rang five times. The former sentence has a reading which implies that thirty people were arrested. That is, there were five different events of arresting, each of six people. There is a truly eventive reading here. The latter sentence, conversely, says that each of the five bell-rings occurred while there were six people in the garden.

This contrast exists in the expletive version as well; the passive has an eventive reading:

- (127) a. There were six people arrested every time the bell rang.
b. There were six people in the garden every time the bell rang.

If the structure of (127a) necessarily involved [six people [arrested]], then it would be only stative, and the event reading would be impossible. But this is not the case. This diagnostic thus indicates that the structure is as follows:

- (128) There were [[six people] [arrested]]

v The conclusion is that eventive participles may appear in the small clause complement to *be*; furthermore, the eventivity of the clause results from the presence of this participle.

This is strong evidence in favor of a treatment of the passive in terms of existential constructions.

2.12 The Agent and Case

2.12.1 Argument Structure and the Passive

2.12.2 Theta-Criterion and Subcategorization

For the interpretation of arguments it is necessary that they receive thematic roles. Thematic roles are specified in a verb's θ -grid, and, because the verb has a specification lexically of the syntactic structure it projects, are the properties only of NPs generated in positions which, for a particular verb, are thematic. The formulation of this is in terms of the Theta Criterion:

- (129) **Theta Criterion:** Each argument is in a θ -position at D-structure, and each D-structure θ -position contains an argument.

This type of principle is unavailable in the syntactic framework assumed here; specifically, the objections which may be raised against it are the same arguments adduced in Chomsky's (1993) removal of D-structure as a syntactic level. The implications of this for the syntactic derivation of the passive are clear: there is no need to assume that passive clauses are derived from a structure found in actives, with two projected NPs.⁴¹

The conclusion that passives are derived from actives is also associated with a conception of the Lexicon/Syntax interface according to which individual verbs would be specified in such a way as to project an initial D-structure with argument positions. That is, if it is assumed that a verb like *beat* is a lexical item which projects a thematic subject and thematic object position, and that this projection is in effect concomitant with its being

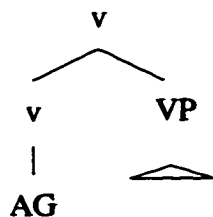
⁴¹Passives are not actually derived from actives in earlier theoretical treatments. In Chomsky (1957), for instance, both actives and passives are derived from a common underlying structure; in the *Aspects* treatment, actives and passives have distinct underlying representations, with the passive being subject to an obligatory rule.

brought into a clause, then it must also be assumed that any time some form of *beat* is seen this initial representation must be accounted for.

This conclusion does not follow when it is assumed that the syntax is not projected from the Lexicon, as is the case here. The syntax is constructed by a derivational system which converges or diverges based on the checking of features. There is no need to assume that every time a form of a verb appears, it will appear in a structure which must have the same number of arguments in the same positions as in other structures in which that verb appears.⁴²

The D-structure treatment of θ -roles requires an initial syntactic configuration complete with NPs in thematic positions. On a structural theory of θ -roles the only relevant structure is that pertaining to how inserted nominals would be interpreted, not an actual structure with nominals:

(130)



Thematic interpretation on a theory without D-structure is a matter of LF. Cases in which NPs are not interpreted will be deviant, violations of Full Interpretation.

The line of reasoning outlined above only follows if it is assumed that Lexical Items have fixed syntactico-semantic properties, and that these properties are instantiated syntactically whenever the relevant Lexical Item appears. Specifically, if it is assumed that particular items are

⁴²It should be pointed out that strictly speaking, BJR do not derive passive from actives, in that the external argument in passives is generated as a head, and there are no active clauses in English in which the external argument is generated as a head.

2.12.3 Configurational Theories of Argument Structure

We can consider this from the Hale/Keyser approach to argument structure, which is based on syntactic configurations (see Hale and Keyser (1993).) Accepting something like a configurational approach to argument structure superficially, but implementing it in such a way as to associate θ -roles with invariant subcategorizational properties of verbs amounts to a reintroduction of something like the Theta Criterion. For a particular verb, positions in the elementary clausal structure will be thematic, so that if DPs are not Merged into these positions, or if DPs are Merged into non-thematic positions, ungrammaticality will result. However, which positions are Thematic on this construal is a matter of subcategorization; positions are thematic only in the sense that they stand in relation to particular verbs, which, by virtue of their Lexical representations, are associated with particular sets of grammatical features. One could simply argue that θ -role assignment, as a phenomenon relating to the interpretive system, should be handled on the LF branch. The argument above leads to the conclusion that this is only the case to the extent that the identity of verbs is relevant at LF.

On the approach taken here, the syntax manipulates sets of abstract features, not words associated with these. The interface of the syntax with phonological material takes place on the PF branch; there is thus no sense in which features of the syntactic computation or features manipulated in the syntactic computation are provided by e.g. individual verbs. This perspective thus allows for a differentiation to be made between the semantic properties of roots from the argument-structure properties of the syntactic environments in which these roots appear. Thus, for instance, the often alluded to distinction between DESTRUCTION and GROWTH; despite the fact that these nominals both appear in an environment in which Agents cannot be syntactically licensed, DESTRUCTION can be interpreted agentively because of its inherent semantic properties.

2.12.3.1 DP/Position Mismatches

The purpose of a structure-based theory of argument structure is not necessarily to associate a certain number of objects (θ -roles) with a certain set of syntactic positions (θ -positions) as projected by particular verbs. Rather, the point is to say simply how DPs merged in particular positions will be interpreted thematically. Given a particular root in a particular configuration, there are particular positions in that configuration that will be 'thematic'.

- (131) a. Fewer DPs than positions
b. Fewer positions than DPs

Sentences of the latter type could be regarded as anomalous on either syntactic or semantic grounds. Such examples could be treated as semantically anomalous, with the number of arguments to be interpreted simply going beyond the number construable with the semantics of the particular verb. This would violate some version of Full Interpretation.

This leaves the case in which there are fewer DPs than syntactic positions which are (or have the potential to be) interpreted thematically. The position I will examine here is that this does not necessarily result in ungrammaticality.⁴³ As I discuss in the next section, the notion of 'thematic position' is somewhat different for external than for internal arguments.

2.12.3.2 External Arguments

The treatment I will propose for the passive agent is based on the asymmetry between external and other arguments. Before turning to this I will discuss a few points concerning how external arguments differ from other arguments, and present the semantic treatment of this given by Kratzer (1993).

One conclusion of Marantz (1984) was that external arguments are not true arguments of their verbs. Rather, external arguments are arguments of a predicate, i.e. of VP. Within

⁴³Something like the position to be taken here has been advanced elsewhere; for instance, Williams (1994) argues that implicit arguments are unassigned θ -roles. This is in the context of a very different set of theoretical assumptions, and is meant merely as a step in a larger project, which involves recasting the entire Binding Theory as concerning θ -roles.

a configuration theory of argument structure, the asymmetry is reducible to the manner in which the relevant arguments combine semantically with the verb. The combination of Verb and Direct Object within VP is direct, i.e. a matter of direct composition. The difference with external arguments is due to the fact that these combine with the verb only with the assistance of a licensing head, whose semantic contribution to the clause is to allow an external DP to combine as an argument of the VP; the implementation of this will be in terms of a type of conjunction rule, introduced in the semantic treatment of external arguments in Kratzer (1993).

Kratzer (1993) assumes that external arguments are introduced by heads, and provides an explicit semantic account of this combination (see below). The head licensing Agents will simply be given as the 'light-verb' v here.⁴⁴ The assumption is then that the content of v amounts to an element AG for 'Agent', which has the following semantic interpretation:

$$(132) \text{ Agent}^* = \lambda x_e \lambda e_s [\text{Agent}(x)(e)]$$

This is of type $\langle e, \langle s, t \rangle \rangle$, and it combines with VPs through a conjunction rule called *Event Identification* by Kratzer:

(133) **Event Identification:**

$$f \langle e, \langle s, t \rangle \rangle g \langle s, t \rangle \longrightarrow h \langle e, \langle s, t \rangle \rangle$$

The role of the AG element semantically is thus to combine with a predicate (VP) to form an agentive predicate; it licenses an external argument in the sense that it provides the semantic clause which allows a further argument to be composed with a predicate.

⁴⁴In identifying the role played by the head responsible for the agent, Kratzer suggests that as a functional element it is responsible for the checking of accusative case. Appealing to syntactic arguments made by (among others) Johnson (1991), Kratzer identifies the Agent-licensing head with Johnson's μ -phrase on a syntactic level, and renames the projection 'Voice'. The actual name of this projection is irrelevant, as is the question of whether it is Johnson's μ -phrase (or, for that matter, whether there is any syntactic evidence for a μ -phrase.)

2.12.4 The Agent in the Passive

2.12.4.1 The Presence of Agentivity

I will begin with the point that the head licensing Agents is required in passives, and is forced by the need to distinguish passives from anticausatives:

- (134) a. Tomatoes were grown by the gardener.
b. Tomatoes grow *by the gardener.

Anticausatives, which are basically intransitive, can only be agentive in the presence of the agent-licensing syntactic head. The fact that there are passives of Transitivity Alternation verbs thus indicates that the head licensing agents must be present in passives. This is not shocking.

2.12.4.2 The 'Syntax' of the Passive Agent

In this section I address the question of how does the passive Agent compare with fully realized DPs in terms of operations which rely upon the presence of DPs in the syntax.

Arguments have been made from Control contexts to show that the passive agent is syntactically active despite not being realized in an NP; this is illustrated in the following, in which the passive agent is argued to control PRO:

- (135) The ship was sunk to collect the insurance money.

Objections to this analysis have been in two directions. First, it has been noted that the controller is not actually the agent. Lasnik (1988), for instance, argues that in the following type of example, the Agent of the sinking event is not structurally represented in the sentence, and hence cannot control PRO:

- (136) The ship was sunk by a torpedo [PRO to prove a point.]

That is, it is the Agent of the sinking, not the torpedo, that controls PRO, but the Agent is not represented grammatically, because the *by*-phrase sharing its role contains another element. Williams (1985) notes something similar for examples like the following:

(137) * The boat was sunk [PRO to become a hero.]

Furthermore, as also noted by Williams (1985), the control has nothing to do with an Agent of the passive clause, but somehow the instigator of the deed; someone who issued an order, for instance. The fact that there need not be an Agent syntactically present to get this type of interpretation is highlighted in examples of the following type:

(138) Grass is green to promote photosynthesis.

Here there is no agentivity, hence no agent, and yet the PRO is seemingly controlled in the same way that it is in (135).

Two further points argue for the same conclusion. First, the passive Agent does not count for the calculation of locality in the attraction of a DP to TP for EPP reasons.⁴⁵ Second, only nominative case is realized in passives, never accusative.⁴⁶ For the purposes of determining case realization, then, the passive Agent does not count as a licensed DP argument.

In sum, for three sets of syntactic properties, the agent argument in passives behaves as if it is simply not present in the relevant way. Put slightly differently, the most striking syntactic property of the passive agent is that it has no syntactic properties.⁴⁷ What these passives have is agentivity, which, as I show in the next section, can be divorced from the presence of an actual agent.

2.12.4.3 An Implementation

The previous section showed that an agent in the passive would have very few of the properties of a syntactically projected DP. In this section I consider an approach to the

⁴⁵The same can be said of reflexive pronominal clitics, on the analysis according to which these are generated as the external argument of the verb (Marantz (1984), McGinnis (1997).)

⁴⁶I am of course excluding here Romance-type SE constructions in which an Accusative object appears. In such cases the point is that there is an impersonal agent associated with SE, which counts for the purposes of Case.

⁴⁷Just to be perfectly clear about this, let me say explicitly that I am not talking about the agent in every construction ever referred to with the term 'passive' in making this claim. In a number of situations, e.g. in impersonals, there is a set of grammatical effects seemingly associated with an agent DP. But I am not talking those.

English passive according to which there simply is no external argument projected at all. I will argue that while agentivity in the form of the syntactic head **AG** is present, there is no DP corresponding to the actual agent. The intuition I will pursue is that this is possible with Agents and not other types of arguments follows from the manner in which these various types of argument combine semantically; this follows the insights concerning external arguments discussed earlier.

As noted above, the status of the external argument is such that a special rule is required so that it can combine with the VP, cf. Kratzer's 'Event Identification' above. The semantics of AG and Event Identification are as follows:

(139) a. Semantics of AG

$$\mathbf{Agent}^* = \lambda x_e \lambda e_s [\mathbf{Agent}(x)(e)]$$

b. Event Identification

$$f \langle e, \langle s, t \rangle \rangle \ g \langle s, t \rangle \longrightarrow h \langle e, \langle s, t \rangle \rangle$$

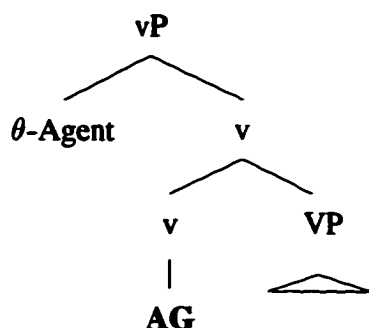
An internal argument of the verb combines semantically without any added semantic statements necessary; only function application is required. The external argument, however, requires something like **AG** to be combined with the verb. The subsequent combination of the external DP with the verb is then an instance of function application. Thus while the actual composition of arguments is the same in each case, the composition of the external argument is mediated by the presence of the syntactic head **AG** in a way that the composition of other arguments is not. Syntactically, then, this asymmetry in combination implements the asymmetry between external and other arguments. Stated slightly differently, the difference is as follows: agentivity relates to the semantics of a head, not necessarily to the presence of a DP; with internal arguments, the relation to the event is not indirect. Rather, these simply combine via function application.

The asymmetry to focus on is at the level of the relationship between the heads in question and the event denoted by the clause; in the case of the external argument this

is explicit, in the neo-Davidsonian fashion (Castañeda (1966) and Parsons (1990) among others, based on Davidson (1966).) Specifically, for the external argument to be combined with the VP, it is added with specific mention of the argument that is to be interpreted as the Agent of the event: $\text{Agent}(x)(e)$.

What **AG** does is produce an agentive predicate, but that the combination of the syntactically projected agent with the VP+AG follows directly from structural considerations, and need not be built in to the semantics of **AG**. That is, **AG** creates an agentive predicate, capable of combining with an external argument; but it does not generate a thematic syntactic position in which such an argument must appear. The following does not occur:

(140) No 'Thematic' Subject Position



Rather, **AG** creates a predicate capable of combining with an external argument. If such an argument is Merged in the proper position, then it will be interpreted in the appropriate way according to its structural position. If no such DP argument appears, then the result will still be syntactically agentive due to the presence of **AG**.

A comparison may now be made with the manner in which a VP-internal NP combines with the verb. The denotation of a verb like *buy* is as follows:

(141) $\lambda x \lambda e [\text{buy}(x)(e)]$

There is a variable (x) here for the Theme argument, but there is no syntactic information about this argument. That is, on the Hale/Keyser account any NP in the correct syntactic position will be composed with the verb so as to be its Theme. But there is no

mediation of this composition by an element **THEME**, analogous to **AG**. If there is no VP-internal argument, then there is no corresponding element denoting the role of that argument.⁴⁸ As argued above, this is not the case with Agents. Even if a VP-external DP is not Merged in syntactically, the element **AG** can be present. It is thus possible to have agentivity without a syntactically projected DP agent.⁴⁹

The 'Thematic Role' assigned to VP-internal arguments derives from structural considerations alone. The 'Role' assigned to external arguments follows from two factors: (1) the structural position of the argument, and (2) the presence of the mediating head **AG**. Thus agentivity has an existence distinct from the structural position of an argument; because of this, it may be present with no corresponding DP argument.^{50,51}

2.12.5 Accusative Case

One of the questions earlier accounts of the passive have sought to answer concerns the assignment of Accusative Case. The very question about Case here follows from (at least) two further assumptions. The first of these concerns the manner in which syntactic Case

⁴⁸Thus while it is possible to omit internal arguments as in *John bought*, under certain restricted conditions, the construal of a Theme as being present follows from the meaning of the verb, and not from the presence of a syntactic element. The fact that interpretations of this type are more restricted than those found with agents in the passive would thus seem to be consistent with the present analysis, although I will not dwell on this here.

⁴⁹Perhaps this is not unique to the element **AG**. The analysis of double-object verbs has the Goal argument (i.e. that for the Recipient) mediated by a prepositional element. This too may be left unexpressed, but with the semantics of a goal intact:

(142) John gave \$20.

Of course, the Theme argument may be left unexpressed also:

(143) John gave to the charity.

⁵⁰A further type of question concerns why English only allows the DP to be absent in a participle; i.e., why English I does not have simple finite clauses with the **AG** head but no agent DP, i.e. a synthetic passive. I examine this question below.

⁵¹A further note. This is one of two ways in which there may be agentivity without a semantically projected argument. According to Marantz's (1995) discussion of nominalizations, *destruction* can be interpreted agentively without the agent-licensing head because the root **DESTROY** is fundamentally agentive in a semantic sense. Thus an appropriate DP can (possibly) be construed as an agent, as in *the Romans' destruction of Carthage*.

assignment is associated with the properties of particular verbs. On certain approaches, individual verbs will be associated with Case-grids:

(144) *Case/θ-grid*

hit NOM ACC
Agent Patient

An attendant assumption was that in all cases in which this Lexical Item appeared (e.g. when a form of the verb appeared in a voice alternation), these features of the verb's grid remain to be assigned in the syntax. This assumption can follow from two distinct sources. The first of these is something like UTAH (The Uniformity of Theta-Assignment Hypothesis; Baker (1988)), which will require for sentences with identical thematic relations identical D-structures; it follows that verbs in alternations will have identical θ -grids irrespective of the nature of the alternation. The other source from which this line of reasoning stems is essentially Lexicalist. Basically this proceeds from the assumption that a verb's Lexical Entry will contain its 'basic' specification for Case and θ -roles, i.e. for the inherent Lexical properties of the verb which determine its external (i.e. syntactic) behavior.

Case and θ -role interpretation are effectively grammatical and features on the assumptions made here, not features of Lexical Items per se. That is, Case is not assigned by verbs, but is present as a feature and checked in particular syntactic configurations. There is a question concerning how particular verbs come to be associated with syntactic environments with particular Case patterns, but this is a separate question. We may therefore consider the possibility that there simply is no Accusative Case feature to be accounted for in particular derivations.

Case is a property of verbal elements. Although the participial construction under discussion contains a Root which is typically realized as a verb, this does not mean that Case is present. In English, Case is typically associated with finiteness.⁵² As a non-verbal

⁵²I say 'typically' here because of the behavior of Absolutes. These show Accusative Case (like some Gerunds):

syntactic object, the participial phrase simply does not contain Accusative Case features. The absence of Case in the participial component forces the argument of the verbal root to be something other than an overt DP.

2.13 Movement from Object in the English Passive

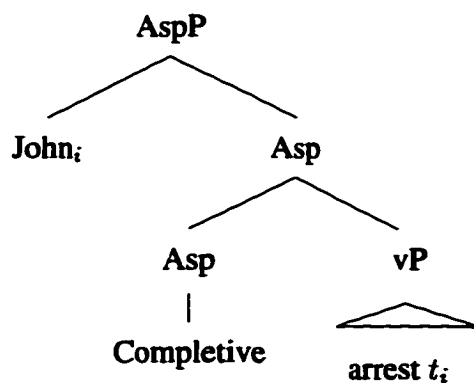
2.13.1 Movement within the Participial Phrase

In this section I discuss arguments in favor of having the surface subject in passives originate in the object position of the passivized verb. On the standard conception, the surface subject originates as the object of the thematic verb, as in the following structure:

(147) The man_i was arrested *t_i*.

I will assume, first, that the Asp projection in the participle induces raising of the object for EPP reasons; thus:

(148) Movement within the Participial Phrase



(145) Having seen him the day before,...

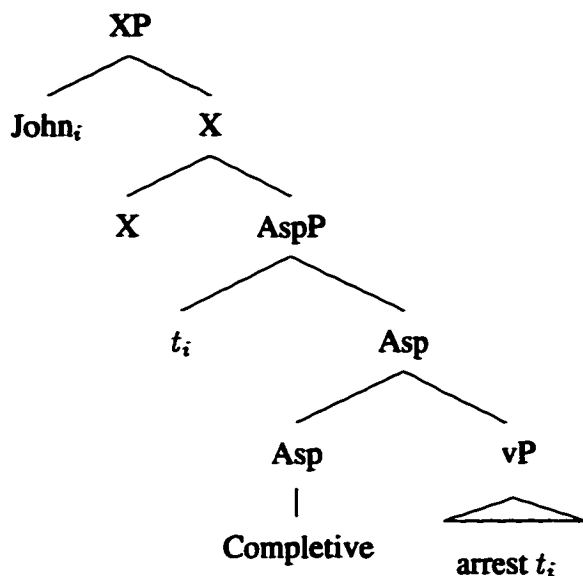
In addition Reuland (1983) and Stump (1983) discuss the fact that this is one context in which non-finite constructions are possible with overt nominal subjects in English:

(146) Things being as they are, we should leave.

As the participial component in the analysis of passives above is identical to that found with reduced relatives, the reasonable position is to assume that it has the case properties of the reduced relative (and not the absolute) case.

Subsequent to this the DP moves again, to form the small-clause constituent that forms the complement to *be* (I will refer to this as simply XP here):

(149) And then...



The movement to the specifier positions is what accounts for the pattern seen with passives with expletive subjects. Here the logical object of the verb occurs outside of its original position:

- (150) a. There were several people arrested.
 b. * There were arrested several people.

2.14 Auxiliaries

2.14.1 Questions

The English passive involves the presence of an auxiliary verb, either *be* or *get*.⁵³ The crucial question to be answered is this: do auxiliaries make a semantic contribution in the

⁵³I will refer to this as an auxiliary despite the fact that the structure that *be* appears in is basically predicative, as with other instances of *be*.

passive? I will argue that the auxiliary *be* does not in fact contribute anything semantically. It combines with Tense, and in some sense plays a role in locating the state or event denoted by the participle temporally. Other than this, however, it is rather vacuous.

2.14.2 Features and Auxiliaries

2.14.2.0.1 Distribution The auxiliary *be* appears with both stative and eventive passives. *Get*, on the other hand, appears only with the eventive interpretation of passives, and is inchoative with other states.⁵⁴

- (151) a. John got arrested.
b. John got sick = John became sick.

Moreover these verbs behave differently syntactically. *Be* has the syntax of an auxiliary verb, whereas *get* has the syntax of a main verb. Negated passives show this clearly, as do (correspondingly) instances of I-to-C movement like questions:

- (152) a. The house wasn't painted yesterday.
b. The house didn't get painted yesterday.
- (153) a. Was Bill arrested by the police?
b. Did Bill get arrested by the police?

The fact that *be* appears in a structure with an eventive interpretation here requires some kind of explanation. In other syntactic contexts *be* is not eventive or inchoative, as the following show:

- (154) No Eventive *be*
- a. John was sick \neq John became sick
b. John was running \neq John started running

⁵⁴Lakoff (1971), who discusses the inchoative nature of *get*, mentions several additional distinctions in meaning between 'be' and 'get' passives, relating to issues such as the involvement of the surface subject in the denoted action, the oddness of 'get' passives with verbs of creation, etc.

The behavior of *get*, on the other hand, is consistent:

(155) John got sick (Inchoative)

There are thus two questions. The first concerns how *be* is associated with eventivity. The second concerns the syntax and semantics of *get*, and how it produces an inchoative passive.

With respect to this first question, the notion of *be* being associated with eventivity should be made more explicit. The point made above was that, unlike *get*, *be* cannot be interpreted inchoatively with adjectives like *sick*. Given that the participle supplies an event on the account I have developed, it could still be held that *be* does nothing semantically in the passive. This much is clear. The questions surrounding *get*, which truly does seem to function as an inchoative, are more complex. For the purposes of this study, I will limit myself to the *be*-passives.

2.14.2.1 Auxiliary Selection

The analysis I have presented accounts directly for the appearance of *be* in passives. The passive is based on copular syntax, and *be* is the English copula. At this point I will address questions that arise in light of the connections between 'be' and possessive 'have' discussed in Freeze (1992) and the extension of this to auxiliary verbs found in Kayne (1993). This 'Benveniste/Freeze/Kayne' line and subsequent work is devoted to deriving surface occurrences of 'have' from structures involving 'be'.

Given that *be* appears in passives, this would lead one to think that the auxiliary found with unaccusatives would be *be* as well. This is not the case:⁵⁵

(156) The door is opened ≠ The door has opened

The account of passive syntax I have developed above posits very different structures for the passive and the active, the latter including unaccusatives. Whereas unaccusatives

⁵⁵Compare, for instance, the situation in Italian, in which something like predication on the object appears to be the determining factor for *be*, applying to both passives and perfects of unaccusatives.

involve 'normal' verbal syntax, the passive involves the (now familiar) small-clause complement of *be*. Thus the fundamental difference between the Perfect and the two types of passive on the account I have developed is that the latter two configurations are predicative structures, whereas the former is not. Beyond this there is not a great deal to say about theories of auxiliary selection and the English passive and perfect.

2.15 Relating the Two Components

2.15.1 Complex Interactions

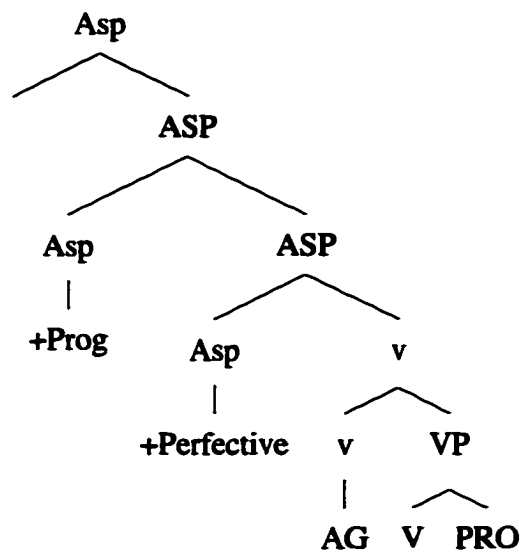
2.15.1.1 The Progressive Passive

Earlier I discussed the aspectual feature associated with *-ing*, and concluded that they were based on the feature [INCL], and the features of the eventive passive participle, which was based on [Perfective]. These features may interact in one and the same passive: the progressive passive contains the Resultative component along with a Progressive component:

(157) John was being arrested (when he escaped.)

The point is that examples of this type are not resultative, although the 'resultative participle' is still present (cf. Andersen (1991) for similar observations); the question then is what aspectual features are found associated with the main verb:

(158)



The perfective component here denotes the (perhaps unreached) endpoint of the action denoted by the progressive state. The combination of Progressive over Completive here is thus no more contradictory than a progressive describing an event going towards a non-resultative state, such as that given by a simple adjective:

(159) John was becoming rich (when he died).

2.15.1.2 Restating the Question

The question I have been addressing to this point is whether the eventive participle has a stative component. The arguments were based around showing that the participle is somehow correlated with the semantics of stativity. Thus in demonstrating that it can appear as the complement of *get* and in reduced relatives amounted to showing that it appears *syntactically* with a distribution characteristic of phrases denoting states. That is, on the assumption that an assimilation of inchoative *get* and passive *get* is desirable, one might argue that the eventive passive phrase has a stative component. This is a complex matter. I will assume below that the eventive passive is simply eventive, leaving the question of what *get* does for further research.

2.15.1.3 The Auxiliary with Eventives

One difference between the stative and eventive participles is in how the events involved in each are treated. With the stative participle, the event is given as existentially quantified over. Thus although it is part of the semantics of the participle, it does not interact semantically with anything else the participle combines with. It is decidedly secondary in status to the state. The eventive participle, conversely, has both stative and eventive components. In this case the event is not existentially quantified over. Intuitively, then, the goal in deriving the eventive passive is to identify the event denoted by *be* with the event in the semantics of the participle. This would situate the event of the type denoted by the participle at the time associated with *be*.⁵⁶

This leaves the matter of the auxiliary. Are there distinct auxiliaries semantically in English, both realized as *be*, or does the difference come solely from the participles? I will hold that in the *be*-passives *be* is always without content; but this does not mean that the auxiliary in all eventive passives is without content. Continuing in this vein, the difference between the two types of auxiliary is realized overtly in some languages. For instance, German eventive passives show *werden* 'become', while statives show *sein* 'be'. The form of the participle is in each case the same. We might therefore speculate that whereas English allows for two distinct derivations to be realized as eventive passives, German allows only the derivation in which the auxiliary has semantic content.

Whereas the stative passive talks about a state resulting from a prior event, the eventive passive refers to the state which would result from the relevant kind of event. This is subsequent to the event, in the sense that it only actually arises if the event is brought to completion.

This allows for the event to be represented as incomplete, as with the Progressive Passive:

(160) John was being arrested (when his true identity was revealed)

⁵⁶I am not taking a stance as to how events relate to temporal specification; the point is merely that *be*, as the main verb, is associated with T in a way that the participle cannot be.

2.15.1.4 Putting Things Together

Recall from the discussion earlier that the semantics for the two types of participle, eventive and stative, are as follows:

(161) Participial Semantics

a. Stative Passive:

$$\lambda x \lambda s_s \exists e_s [\text{arrested}(s)(x) \ \& \ s = f_{\text{target}}(e)]$$

b. Eventive Passive:

$$\lambda x \lambda e_s [\text{arrested}(e)(x)]$$

I will now review how each of the two types of *be* passive.

2.15.1.4.1 The Stative Passive The stative passive can be derived in the same way that one would derive purely ‘adjectival’ predicates. The difference will lie in the fact that the complex adjective, i.e. phrase headed by the participle, will contain additional semantic information about an event not present with ‘regular’ adjectives. Otherwise, the derivation here is exactly as it would be with a regular adjective.

2.15.1.4.2 The Eventive Passive In the eventive passive, the participial component contributes an event variable. This variable is associated with Tense semantically. The auxiliary *be* is vacuous, and plays only the role it would in a normal predication. Thus unlike the stative passive, in which a stative component contributed by the participial is located temporally, the eventive passive altogether is about an event.

2.16 Passive Form and Passive Syntax

2.16.1 Synthetic Passives

2.16.1.1 Evidence for the Structure of the Passive

The strategy pursued above in analyzing the English passive involved identifying the parts seen in the passive with syntactic environments distinct from this. The same strategy is not directly available in the case of synthetic passives, which are not as straight-forwardly compositional. There are, at the same time, components of a synthetic passive that appear in non-passive syntactic environments, but only in cases of voice syncretism. For instance, the Modern Greek passive shows Non-Active morphology, along with reflexives and anticausatives. In languages in which the morphology found in passives is not found in other syntactic environments, there is not much more to be said.⁵⁷ That is, the only evidence available does not specifically point to any role the 'Passive Morphology' could be playing. One could in such systems analyze passive morphology as an external argument, along the lines of Baker, Johnson, and Roberts. The only considerations that could be brought to bear against this would be theory-internal syntactic reasons or conceptual considerations. To take a concrete example, the passive in Yucatec Maya is associated with morphology that appears nowhere else (discussion based on Bricker (1978)). For instance, roots of the CVC variety appear as C \bar{V} ?VC in the passive, but this form is not found with other morphosyntactic alternations. Other verbs show affixation of a suffix *-á?al*, which does not appear elsewhere.

The realization of the passive morpheme on the verb is then as follows:

(162) AG \leftrightarrow PASS/___No external DP

If there were a syntactic feature present to indicate that there was no DP associated with the agent-licensing head, then this would in effect be a syntactic feature peculiar to

⁵⁷There is some dispute in the typological literature as to whether or not such exclusively passive morphology actually exists. Andersen (1991) (and elsewhere) argues vehemently against the idea. The debate on this point seems in many cases to be primarily of terminological interest, so I will not address it further.

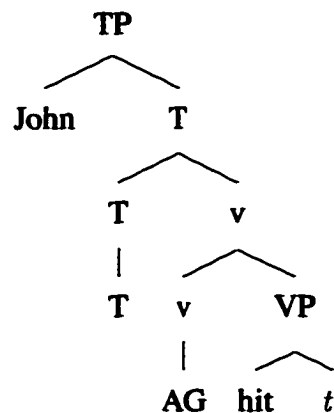
the passive, and would be a truly syntactic voice feature. This would allow for voice morphology in such a language to be treated as instantiating syntactic features, i.e. to not be Dissociated. This treatment could only be given under specific conditions. It could not apply in a system with a syncretism between Passives and Anticausatives, as in the case of Modern Greek Non-Active voice. The question is really whether there is anything to force this move, given that there are legitimate reasons for thinking that we do not need to stipulate something like a passive feature. At this point I am not aware of any such reasons. I thus conclude that voice morphology like that in the Yucatec passive is dissociated.

2.16.1.2 Differences with Analytic Passives

2.16.2 No Synthetic Passive in English

If this line is taken, we are led to a question about finite clauses in English. If it is possible to have AG without a VP-external DP in English participial clauses, why is this not possible in finite clauses? The derivation would involve a VP-internal argument, the element AG, and movement of the VP-internal DP to SPEC/TP for EPP reasons:

(163) *Finite 'Passive' in English



This property of English is manifested clearly when passives are compared with unaccusatives. At some level there is a fundamental asymmetry between unaccusatives and passives; the unaccusative predication may be realized as verbal, but the passive

predication may only be realized as participial, in construction with the auxiliary. Unaccusatives participating in the Transitivity Alternation also allow for passives in transitive environments, so that we may pose our questions around pairs like the following:

(164) a. The vase broke.

b. The vase was broken.

That is, why can the predication not be established 'directly' in the passive, as it is in the Unaccusative?

Specifically, then, the question is whether or not this is an irreducible fact about English syntax, or if it is derivable from other English-specific principles. This is a difficult question. It is possible that the reason for the absence of this type of passive in English is simply an irreducible fact. One could for instance claim on the basis of evidence discussed so far that there are (at least) two types of 'passive' for languages to choose from, and English simply opts for the participial version.

Another point to be considered concerns the relationship between synthetic and analytic passives. Above I posed the question as to whether there were independent properties of *English* ruling out a synthetic passive. The restriction to 'English-specific' is necessary given the fact that some languages (e.g. Russian, counting the *-sja* passive as synthetic) seem to have both affixal and participial passives; so the two are not mutually exclusive in a given language. The form of the Russian passive is determined by aspect: analytic passives in the perfective, but synthetic passives in the imperfective. One could therefore try and relate the form to the presence of an aspectual head in the syntax, which has the effect of precluding the construction of a synthetic passive. The analysis would be as follows. Russian allows the syntactic derivation producing synthetic passives, but this is blocked when [Perfective] is present. Therefore the perfective passive must be built analytically (notice that for the sake of argument that I am assuming the synthetic passive to be like that in Greek, the analytic to be like that in English; this would have to be proven.) This type of explanation has two properties. First, it is passive-specific, in that it relies on the

claim that the passive simply cannot be formed with [Perfective] around. This applies at a syntactic level. On the hypothesized analysis of Russian, a certain syntactic configuration would be ruled out when [Perfective] was involved. The second point about this account is that it is Russian-specific. There is nothing in principle wrong with synthetic perfective passives, as Greek shows.

Although English lacks this type of passive, some of the ingredients involved in it are seen in various forms in English. For instance, unaccusatives are verbs in non-copular syntax which show raising of an internal argument. The Middle construction shows this as well:

- (165) a. This bread cuts easily.
b. This door opens easily.

Examples of this type are interpreted agentively, but have no agentive DP. This is the case with Transitivity Alternation roots like OPEN, indicating that the agent-licensing head must be present in the Middle.

The fact is stated in the following:

- (166) **Agentless Syntax in English:** An external argument cannot be omitted in the presence of the agent-licensing head in a finite clause

The notion of *finite* clearly calls for revision, as the Middle above seems to be finite; Middles can, for instance, be in the past tense: *In those days, bread cut easily*. However, the interpretation of the Middle is modal, and precludes episodic interpretations. So a stipulation is possible. A principled account of why (166) holds is a matter for future research.

2.16.3 The Impersonal Passive

2.16.3.1 Preliminaries

Previous syntactic analyses have attempted to analyze a further construction, the 'Impersonal Passive', along with the regular passives of transitives. The following illustrates this

type of passive in German:

- (167) Es wurde getanzt.
it became danced-PART
'It was danced' ('There was dancing)'

Noting the existence of such cases in German and Dutch, Jaeggli (1986) suggests that this is due to the fact that unergative intransitives may assign structural case in these languages, but not in English. Baker et al. (1989) object to this view, primarily on the grounds that it is unable to account for an additional observation, namely that certain languages possess an 'Impersonal Passive' in which Accusative Case appears on the Logical Object. They note examples like the following from Ukrainian, taken from Sobin (1985):

- (168) a. Cerkv-u bul-o zbudova-n-o v 1640 roc'i.
church-ACC/FEM was-IMP built-PASS-IMP in 1640
'The church was built in 1640.'
- b. Cerkv-a bul-a zbudova-n-a v 1640 roc'i.
church-NOM/FEM was-FEM built-PASS-FEM in 1640
'The church was built in 1640.'

From this they conclude (with Sobin) that the absorption of accusative Case is simply a variable property of Passives, in comparison with the absorption of a θ -role. Their solution to the differences between languages like English, German, and Ukrainian is based on a disjunctive formulation of the Visibility Condition, along the lines of Baker (1988):

- (169) In order for an argument to be visible for θ -role assignment at LF, it must either
- a. be assigned Case, *or*,
 - b. have its head morphologically united with an X^0

Thus while English requires the Case assignment disjunct to be met, German does not necessarily require this, allowing incorporation for Visibility if Case is not available. Ukrainian allows either possibility.

This account, like Jaeggli's before it, simply reduced the presence of the impersonal passive to a stipulation about Case theory. The account of the passive that I am presenting is focused on correlations between voice morphology and voice syntax. It has nothing new to say about case properties. At the same time it is possible to come up with a stipulation to account for why English does not have Impersonal passives of the relevant type. We could say, for instance, that in English the non-projection of the DP in an agentive configuration is only possible when there is another DP around, or something along those lines. In any case this is not very enlightening, and I will not dwell on it.

One further point concerns the fact that the presence or absence of an impersonal passive in a language is not related to the morphological expression of the passive. I turn to this next.

2.16.3.2 The Impersonal Passive and Syncretism

In some languages the impersonal passive fits into a syncretism with other syntactic structures. Thus, for instance, Latin shows 'passive' morphology in anticausatives, some (inherent) reflexives, and passives, in addition to impersonal passives like the following:

- (170) a. *vīvitur* 'people live'
 curritur 'there is running'
 pūgnātur 'there is a battle'
- b. *mihi invidētur* 'I am envied'
 me-DAT envy-PASS

The actual statement of the morphological rule assigning the voice feature need not be altered from the type discussed for e.g. Modern Greek in Chapter 1. That is:

- (171) $V \rightarrow V\text{-VOC[NonAct]}/_ \text{ No External Argument}$

The difference between Latin and Greek is that Latin allows this syntactic possibility with unergative verbs in the first place. That is, in other languages with syncretisms

similar to this, i.e. Modern Greek, there is no impersonal passive; passives may only be formed from transitive verbs. Once again, there is thus no automatic connection between a particular type of voice syncretism and the availability of the impersonal passive.

2.17 Conclusions

The analysis above presents the fundamentals of the English passive. The analysis builds the passive out of components found elsewhere in English, and does not employ specific features or morphemes tailored to passive syntax. The sole exception to this is the omission of the passive agent. Although the possible instances in which this may occur were left somewhat unclear, the fact that it can occur is justified by the asymmetry between external and other arguments. Thus while there are further questions about the projection (or lack thereof) of agents, as well as about a number of other issues, the treatment above offers a foundation for further discussion.

Voice Morphology and Inherent Specification

Part I. Preliminaries

3.1 Introduction

3.1.1 Overview

The topic of this chapter is aplastic inflection, with *aplastic* being a cover term for verbs which are morphologically restricted to a particular voice.¹ The basic type of data for this section consists of classes of verbs which are morphologically invariant from the perspective of voice. An example of this invariance can be drawn from Latin. 'Normal' Latin verbs like *amō* 'love' show inflection for active voice and passive voice; in the Present Tense, there are the following forms:²

¹I do not wish to portray aplasticity as being restricted to voice, at least at the outset, as that would be prejudicial. For instance, there are apparent cases in which a particular verb only appears with one type of aspectual morphology. This is a question I return to in detail §3.9.

Furthermore, the cases I will be examining involve voice-restrictions that are not purely morphophonological in motivation. For instance, Creek (Muskogean) shows certain verbs which may not appear in the Middle voice solely on the basis of the phonological shape of their stems. According to Hardy (1994), Creek prohibits clusters of the shape CCC (except for clusters with /yhC/.) The following verbs therefore cannot appear with the Middle suffix *-kV* (*-ita* is the infinitive suffix): *acahnita* 'encourage', *apooktiita* 'assist', *afastita* 'take care of', *laksita* 'tell a lie', *yiklita* 'pinch', *camiksita* 'raise up', *ilintita* 'track', *alikhita* 'doctor', *acakhita* 'bump' As this type of restriction is only relevant phonologically, I will not examine cases of this type here.

²The segmentation here is in terms of Stem+Theme+Person/Number Desinence.

(1) Present Active

am-ō 'I love'
am-ā-s 'You love'
am-a-t 'He/She loves'
am-ā-mus 'We love'
am-ā-tis 'You-PL love'
am-a-nt 'They love'

(2) Present Passive

am-or 'I am loved'
am-ā-ris 'You are loved'
am-ā-tur 'He/She is loved'
am-ā-mur 'We are loved'
am-ā-mini 'You are loved'
am-a-ntur 'They are loved'

Other verbs, traditionally called *deponent* in Latin grammar, are incapable of appearing in Active form, and always appear in 'passive' form.³ Thus, for example, the verb *sequor* 'follow' appears with an object, and thus with apparently active syntax, but always with 'passive' morphology:

(3) Present of *sequor* (Only one set of Present forms; cp. (2))

sequ-or 'I follow'
sequ-eris 'You follow'
sequ-itur 'He/She follows'
sequ-imur 'We follow'
sequ-imini 'You-PL follow'
sequ-untur 'They follow'

Verbs of this type are what I classify as *aplastic* from the perspective of voice; they are incapable of variation for the parameter of active as opposed to 'passive' inflection. *Aplastic* is a terminological convenience, in that it provides a superclass for a number of more specific terms often used to describe such phenomena, e.g. *media tantum*, *activa tantum*, and *passiva tantum* verbs (terminology will be clarified below.) Thus in addition to

³Reference to the relevant sets of inflections as 'passive' is merely a convenience, as this type of morphology is not exclusively associated with passive syntactic configurations.

addressing a number of theoretical questions, the discussion to follow will be taxonomic, in the sense that I will be providing a comparative characterization of different manifestations of aplasticity.

This chapter has two primary goals. The first, following directly from the results of the previous chapters, will be to examine aplastic verbs in order to answer questions about whether or not the syntax/morphology interface is 'mediated' with respect to voice phenomena. This question is framed within the context of two opposed positions to syntax/morphology interactions. One of these positions is that the interaction of these components is *mediated*, with syntactic configurations being related to morphological realizations only through an intermediate level. In principle, disparate syntactic configurations can receive the same morphological realization because of a relationship at this intermediate level. The second position is that morphology has access to and realizes features that are present in the syntactic computation. This approach advocates direct interaction: the morphology realizes the features of the syntax directly, without any intermediate levels or features added following the syntactic derivation.^{4,5} A theory of this type could be presented as a form of Distributed Morphology (Halle and Marantz 1993, 1994).

I show that the existence of aplastic verbal classes in voice systems forces the use of morphological features serving intermediately between syntax and Vocabulary Insertion. This, I argue, does not lead to a theory of inflectional classes, or a theory in which syntactic configurations are associated with morphological features haphazardly, but is instead tightly constrained. This result establishes further support for the treatment of voice morphology as dissociative. The existence of verbal classes in which voice morphology

⁴Agreement represents something of a hybrid case on this type of view. If AGR nodes are added in the Morphology (along the lines of Marantz (1992a)), with features then copied to them prior to realization, then agreement morphology does in fact involve only features present in the syntax. The *node* in question is Dissociated, but the features (e.g. [1 PL]) are interpretable features present in the syntax which have been copied in the morphology. This will be taken up again towards the end of the chapter, in defining what morphosyntactic categories are capable of inherent specification.

⁵Notice that this does not mean that certain diacritic features will not be introduced with particular Vocabulary Items. Rather, syntactic configurations will not be related to diacritics in a way so as to 'mediate' syntax and morphology.

is unrelated to syntax but nevertheless identical with voice morphology found in syntactic alternations provides strong evidence for the theory of voice developed in earlier chapters.

The second goal begins with the examination of aplasticity in the area of voice, and establishes more general conclusions about the syntax/morphology interface. The argument is based on the idea that an investigation of the types of features Vocabulary Items may be inherently specified for will reveal what types of features Morphology manipulates. As such, the study of inherent specification has implications for models of grammatical architecture. The argument is concentrated on the nature of aplasticity itself:⁶ specifically, on the question of what type of information is available on the PF branch, and on the issue of what Vocabulary Items could possibly be inherently specified for. I argue that aplasticity is only possible with Dissociated features which are not interpretable at LF. This position shows the Dissociated/Non-Dissociated distinction to play an important role in explaining syntax/morphology interactions, and makes specific claims about the PF branch and grammatical architecture which are examined in detail in §3.9.

Following a summary of terminology, I provide a theoretical overview which states and examines the primary results of the chapter. I then present four detailed case-studies which illuminate a number of theoretically interesting properties of aplastic verbs.

3.1.2 Terminology

Before the theoretical issues raised by aplastic verbs are addressed, a number of points must be made concerning the terminology to be used in the subsequent discussion. As noted above, *aplasic* is being used to designate those verbs which are in some way invariant in terms of voice. A set of results presented here will be based on patterns showing what roots may be inherently specified for; this notion is defined as follows:

⁶While studies of aplastic verbs for individual languages may be found (e.g. for Latin J.B. Hofmann's thesis (which I do not have access to), Flobert (1975), Baldi (1976)), along with cursory typological investigations focussing on lexical semantics (cf. Klaiman (1992), Kemmer (1993), (1994)), there exists as far as I am aware no detailed study of the grammatical properties of these classes of verbs cross-linguistically.

Inherent Specification: A root is *inherently specified* for a feature when that feature always accompanies its insertion.

Aplasticity is a special case of inherent specification, and will be defined as follows:

Aplastic: Formally invariant for an inflectional category; in the present case, restricted in terms of which voices may be expressed morphologically.

It is not necessarily the case that a root bearing an inherent specification for a morphosyntactic feature will be aplastic for inflection along that dimension; other factors may interfere.⁷

⁷Two examples from Classical Greek will suffice to make this clear. First, Greek has verbs called *Passive Deponents*, which appear only with Passive inflection in the Aorist Tense:

- (4) eboulét^hēn
e boulé t^hē n
AUG want PASS IS
'I wanted'

In the Present Tense, however, such verbs appear in the non-active (i.e. 'Middle' voice):

- (5) bouíomai
boulo mai
want IS-MID
'I want'

Verbs of this type must be inherently specified for the feature [Pass], as discussed extensively in the analysis of Classical Greek in §4. They are *aplasic* in that they are incapable of varying for voice *within a given tense*; this results from the fact that Greek only distinguishes Middle from Passive in part of the tense system. Verbs of this type could also be described as capable of both Middle and Passive inflection, but that would be, in my opinion, missing the point.

In a second class of verbs, the idea of inherent specification without aplasticity is much clearer. A number of Middle Deponent verbs in Classical Greek are able to appear in passive syntax, in which case they appear with passive morphology; thus:

- (6) aitiáomai 'accuse' (Present: Middle only)
etiásámen 'accused' (Aorist: Middle form)
etiát^hēn 'was accused' (Aorist: Passive form)

Verbs of this type are inherently specified for Middle morphology. However, they are also able to appear in passive syntax, and with passive morphology. The reason for this, which will become clear in the discussion of Greek Passive/Middle interactions below, has to do with the fact that 'passive morphology' in Greek is on my analysis a kind of modification on Middle morphology. In any case, verbs of this type are inherently specified but not aplastic.

Activa tantum verbs are those which lack non-active morphology. In the same way, *media tantum* is a morphological designation, and picks out all verbs which appear only in the middle voice. *Passiva tantum* is defined similarly; the reason that both of these latter two dominate the same subclasses is to distinguish e.g. Modern Greek from Latin. For transitive verbs there is an additional subclassification of the *media tantum/passiva tantum* classes.

(7) DEFINITIONS:

Activa/Media/Passiva Tantum: Verbs which are formally (i.e. morphologically) restricted to one of these three voice categories.

Deponent: A verb which is non-active in form, and which has laid aside (Latin *dēpōnere*) its non-active interpretation/syntax.⁸

Middle Deponent: For Classical Greek, a verb which only appears with Middle inflection

Passive Deponent: For Classical Greek, a verb which only appears with passive inflection.

Verba Commūnia: Aplanic verbs which are common to both active and passive syntax in an invariant (for voice) form; specifically, verbs passive in form which may appear in either active or passive syntax

3.2 Conspectus

3.2.1 Plan

In the case studies to be presented in Part II a number of questions and hypotheses will guide the discussion; here I will identify these, and, in doing so, provide a preliminary discussion which will serve as an introduction to the points to be established. Then, following the case studies, Part III examines the theoretical issues raised in detail.

⁸Some take the active form to have been laid aside; I am not sure which of these is correct.

3.2.2 Results

In the following sections I outline the major results of this chapter.

3.2.2.1 Diacritics in Morphology

One of the primary points relevant throughout the discussion to come concerns the relationship between the syntax of a-plastics and their morphology. Based on the fact that voice morphology appears in syntactic voice alternations, and is involved in or assigned by the syntax of voice alternations, the null hypothesis given cases of apparent a-plasticity would be that these verbs are 'Non-Active' in form by virtue of the syntactic environment in which they appear. That is, the simplest hypothesis, and the simplest system, would be one in which the origin of voice morphology is always the same, i.e. always syntactic. This hypothesis is shown to be false. In the cases discussed below, it is shown that for the purposes of syntactic diagnostics certain classes of transitive a-plastic verbs behave systematically like active transitive verbs. This result leads to a conception of voice phenomena in which the morphological feature which conditions the insertion of voice morphology may have its provenance in syntax or in a particular Vocabulary Item; in the latter case, a particular verb will be said to have the feature in question inherently, or to possess the feature *diacritically*.⁹

The forced move to diacritics raises a number of more general questions about the nature of Syntax/Morphology interactions. In particular, it must be determined what can be done with these features, i.e. in what processes they play a role. The reason for this is clear and has to do with the potential restrictiveness of a theory of the interface. A theory which has automatic mappings from syntax to morphological diacritics, or which has syntax and morphology mediated by an intervening level of representation, is one in which morphology may potentially say nothing about syntax. That is, if the theory allowed for disparate syntactic configurations to be associated with morphological diacritics willy-nilly, the connections between these two components of the grammar would be expected

⁹I will use this term for the time being despite its negative connotations.

to be nearly random, or constrained only by learnability; any apparent issues in the study of the interface would be rendered trivial, i.e. basically accidental. As a result of this, I devote sections of the case studies presented below to demonstrating that systems with diacritics show a principled interaction of syntax and morphology.

3.2.2.2 There are no [Active] Diacritics

The first question about diacritics for voice concerns what possible types there are. I show that there is no evidence for a class of verbs specified for an Active morphological feature, and that the only possible voice features are those corresponding to (i.e. assigned by) the non-active one's syntactic configurations. There is thus no feature [Active] corresponding to [NonAct] and the like.

Active morphological features would allow for verbal classes consisting of active verbs appearing in passive syntactic configurations; I argue that these do not exist.¹⁰ The non-existence of an Active diacritic in voice systems also accounts for the absence of a further verbal class, for which I know of no putative instances. This would consist of verbs always appearing with Active morphology, but in both active and passive syntax; this is a sort of inverse of the *verba commūnia*.

In §3.8.3 I take up the question of how *activa tantum* verbs must be characterized. Having ruled out a feature for Active morphology for which verbs could be specified, I conclude that the *activa tantum* behavior follows from a syntactic/semantic restriction: the relevant roots simply cannot be inserted in Middle syntactic environments.¹¹

¹⁰A potential case of active form/passive syntax is found with Latin verbs which are active and intransitive, but described as being passive in semantics. Similarly, certain transitive verbs in Classical Greek are described as having active intransitives as passives. In each case there is not conclusive evidence that passive syntax is actually involved, but I will not discuss this further here.

¹¹It is also possible that more superficial considerations play a role. That is, it is possible that some verbs are just dispreferred in passive syntax. Even if this is so it does not argue for the existence of [Active] voice features.

3.2.2.3 Relations Among Diacritics are Syntactically Defined

The morphological diacritics found in certain systems stand in particular relationships to one another. Classical Greek shows a syncretism between Passive and Middle morphology which exists even in astatic verbs. Thus, for instance, the verb 'want' is Passive Deponent, and appears as follows in the Aorist Tense, with the 'Passive Morpheme' $-t^h\bar{\epsilon}-$:¹²

- (8) eboulét^hēn
e boulé t^hē n
AUG want PASS 1S
'I wanted'

In the Present Tense there is no distinct Passive Morphology in Classical Greek. Passive Deponents appear with the morphology of the Middle:

- (9) boulómai
boulo mai
want 1S-MID
'I want'

If it is assumed that the Passive Deponents carry inherently a feature [Pass], the existence of this pattern argues that such diacritics must bear a particular relationship to one another. Specifically, when the feature [Pass] is neutralized in the Present Tense, the feature [NonAct] must be present to play a role in the insertion of Middle (Non-Active) inflections.

The analysis of this type of relationship is significant, because a theory which allows for relationships to be stipulated among features at Morphology is much less restrictive than one which does not. For example, Impoverishment is virtually unconstrained if relationships among morphological features may be stipulated, as a theory with arbitrary relations between features could effect what amount to feature-changing operations with the use of stipulations on features followed by Impoverishment. For instance, to convert X to Y , (1) stipulate that Y is always present with X , then (2) Impoverish X .

¹²In the discussion of Greek 'AUG' stands for 'Augment', the name for a prefixed vowel (epsilon) found in the Aorist, Imperfect, and Pluperfect.

I argue that there is in fact a relationship between the features [Pass] and [NonAct] (the latter standing for ‘Middle’ for reasons that are irrelevant now), but that it is not arbitrary. Rather, it exactly parallels the behavior of the features [Pass] and [NonAct] when they are syntactically assigned. That is, the feature [Pass] always occurs with the feature [NonAct], but not vice versa, because this morphological relationship exactly parallels the manner in which these features are assigned syntactically.

3.2.2.4 Feature Changing vs. Context Sensitivity

Classical Greek has a number of verbs which are *media tantum*, showing only the Middle voice. In addition to these, however, it has a further class which are restricted to the Middle voice only in the Future Tense:

(10) Verbs with No Active Future (Middle Only)

a. *lambánō* ‘I take’

lép-so-mai

take-FUT-1S/Non-Active

‘I will take’

The verbs of this type bear a feature which has effects that are identical to those found with Middle Deponent verbs, but only in the Future Tense. Letting $[\alpha]$ represent the feature borne by Middle Deponent verbs, I propose the Middle-in-Future verbs may be analyzed as having a feature $[\beta]$ distinct from $[\alpha]$, but which is in effect activated contextually in the Future Tense so as to become $[\alpha]$:

(11) $\beta \rightarrow \alpha / _ \text{Future}$

This amounts to what I call a *secondary* aplastic specification. Although the analysis appears to involve a feature-changing operation, I make the further proposal that processes like that in (11) are only possible when the feature being converted contextually is a context-sensitive version of the feature resulting from the operation. The intuition behind this is

clear: the diacritic [β] is simply a version of [α], but one which requires morphosyntactic activation.

3.2.2.5 Dissociation and Grammatical Architecture

The discussion of Dissociation in earlier chapters centered on a preliminary point, namely that arguments could be made showing that voice morphology was not an argument of the verb it appeared with. The argument for Dissociation, as presented in Chapter 1 (§1.5) simply assumed that the voice morphology found with aplastic verbs and that found in syntactic alternations is related to the same abstract morphological feature. The point is established here in §1.8, where its implications are discussed. The arguments presented in this chapter show that the formal identity of verbs in passive syntax and aplastic verbs is not accidental. It results from an identity at a morphological level; both types of verbs are marked with a feature corresponding to the Non-Active inflection, which behaves identically whether it is possessed by individual Vocabulary Items or assigned in the syntax.

On a Lexicalist/Syntactic treatment in which Voice morphology must be checked against a syntactic feature the parallel inflection of syntactic passives and of deponents cannot be captured. In cases in which it is accompanied by e.g. syntactic passivization, the Voice morphology must be checked against a specific syntactic feature, which is correlated with specific syntactic properties (non-thematic subject position, etc.) Transitive deponents will have this same morphology, but syntactically will not possess a feature against which the Non-Active morphology can be checked. The fact that certain verbs are inflected in the same way as verbs in e.g. verbs in passive syntax is thus completely accidental on this approach.

3.2.2.6 A Theory of Inherent Specification

The final theoretical discussion of voice and aplansticity focuses on two points. The first of these concerns the fact that Voice is unlike other morphosyntactic categories (Tense, etc.), in that there are systems in which verbs are aplanstic for voice, but the same does not seem to be true of categories like Tense, Agreement, etc.. However, there is some evidence that Mood and Category morphology may in some cases be inherently specified.

I argue that these facts are the manifestation of a more general property; namely that aplanstic specification can only be for features which are not interpretable at the LF interface. This discussion is based on the idea that patterns of inherent specification are indicative of what types of features Morphology (and the Vocabulary) have access to, and that consistency in patterns of inherent specification reflects properties of the architecture of the grammar.

Part II. Case Studies

3.3 The Case Studies

The arguments will be based around a number of relatively simple questions concerning (1) how syntax and morphology relate to one another in the aplanstics of each language, (2) what types of aplanstic verbal classes are attested, and (3) what types of morphological processes the inflectional features found with diacritics are involved in.¹³

¹³One question I will not be examining in detail concerns the lexico-semantic regularity of aplanstic verbal classes, whether considered cross-linguistically or otherwise. The gist of such accounts is that there is a coherent semantic basis for deponence, namely the fact that the lexical semantics of deponent verbs are similar in meaning to the semantics of the Middle Voice forms of alternating verbs; this type of approach is not an innovation, and may be found in for instance Wackernagel (1920) (cited here merely as an illustration; it is not my goal to provide the history of earlier treatments). Accounts of this type rely (whether explicitly or implicitly) on the existence of a notional semantic category of 'Middle Voice'. Klaiman (1991), for instance, goes so far as to define 'deponence' as a semantic category. In my opinion such accounts are both prejudicial and imprecise: the former in that they presuppose that there is a semantic basis for any voice system of the type being examined in this work, without providing arguments for this; the latter because the notion of 'semantic' relied upon is not explicit, and leads to circularity.

The discussion of Modern Greek focuses on the question of the syntactic behavior of transitive deponent verbs. It is argued based on a number of diagnostics that some verbs of this type have the syntax of active transitives, meaning that their non-active morphology is simply a property of the root, not of the syntax. The study of Latin deponents analyzes a case in which both passivized verbs and deponent verbs behave identically for the purposes of post-syntactic morphological processes; this leads to the conclusion that there is a single 'passive' morphological feature involved here, irrespective of whether it is assigned in the syntax from the syntax or is possessed inherently by certain verbs. In addition, I pose a further question concerning whether or not it would be possible for a syntactically passive verb to be realized morphologically with active morphology. Classical Greek provides an example of an extremely intricate and complex system of three voices, in which the voice forms possible for certain verbs varies throughout the tense system. I show in a discussion of Passive/Middle syncretisms that certain relationships must be posited among the diacritics required for voice inflection, but that these relationships follow exactly from syntactic conditions. In other words, the properties displayed in the workings of diacritics directly relate to syntactic properties.

This having been said, there is a sense in which lexico-semantic form is indirectly relevant to the present discussion: to the extent that certain lexico-semantic regularities in voice patterns may be shown to have a syntactic basis (i.e. through appearing in e.g. psych-predicates), this sort of thing is relevant. See §3.8.4.1 for discussion. Deponent verbs figure prominently in traditional descriptions of archaic Indo-European languages, and have to some extent been analyzed in the typological literature. However, the analysis to which they have been subjected has not concerned their grammatical behavior. For instance, Klaiman (1991) is interested only in questions of a (roughly) semantic nature: first, the question of what the 'differential' semantic function of the Middle is, i.e. the question of what characterizes the middle forms of verbs which inflect for both active and middle; and, second, the question of what lexico-semantic commonalities may be found to characterize the classes of *activa tantum* and *media tantum* verbs. Similarly semantic treatments may be found in the work of Kemmer (1992, 1994). Irrespective of what these accounts might actually show about the interaction of lexical semantics and voice, there are a number of questions concerning the syntactic and morphological behavior of aplastic verbs which are completely distinct from the semantic questions, and which have not been treated in detail. Or, more precisely, the question of what sort of syntactic behavior is found has not been addressed; if the syntactic or morphological behaviors can be systematically correlated with the putative lexico-semantic generalizations, then the latter approach is validated in part. This is the case in the appearance of non-active voice morphology with classes of psych-verbs, as will be discussed below.

3.4 Modern Greek

3.4.1 Overview

3.4.1.1 Goals

The primary objective is to show that the appearance of non-active voice with certain verbs is not driven by the syntax at all. After outlining the basic properties of aplastic verbs in Modern Greek, I present syntactic arguments showing that certain transitive deponent verbs are indistinguishable from normal active transitives.

3.4.1.2 The Voice System

Non-active morphology in Modern Greek does not take the form of a single morpheme, but (depending on the Aspect) a formant *thi-* and a set of Person/Number endings distinct from those found in the Active:¹⁴

(12) Active forms of *grafo* 'write'

P/N	IMPERFECTIVE		PERFECTIVE	
	Non-Past	Past	Non-Past	Past
1S	gráf-o	é-grafa	gráp-s-o	é-grap-s-a
2S	gráf-is	é-grafes	gráp-s-is	é-grap-s-es
3S	gráf-i	é-grafe	gráp-s-i	é-grap-s-e
1PL	gráf-ume	gráf-ame	gráp-s-ume	gráp-s-ame
2PL	gráf-ete	gráf-ate	gráp-s-ete	gráp-s-ate
3PL	gráf-un(e)	gráf-ane/ é-graf-an	gráp-s-un(e)	gráp-s-ane/ é-grap-s-an

(13) Non-Active forms of *grafo*

¹⁴Actually those in the Imperfective are more clearly distinct. The Person/Number desinences in the Non-Active Perfective are basically the same as those found in the Active, as far as I know. This pattern is found with the Passive voice in Classical Greek, and will be discussed in detail below.

P/N	IMPERFECTIVE		PERFECTIVE	
	Non-Past	Past	Non-Past	Past
1S	gráf-ome	graf-ómuna	graf-t-ó	gráf-tik-a
2S	gráf-ese	graf-ósuna	graf-t-ís	gráf-tik-es
3S	gráf-ete	graf-ótan(e)	graf-t-í	gráf-ti-ke
1PL	grafó-maste	graf-ómaste	graf-t-úme	graf-tík-ame
2PL	gráf-este	graf-ósaste	graf-t-íte	graf-tík-ate
3PL	gráf-onde	graf-óndan/ grafó-ndane	graf-t-ún(e)	graf-tík-ane/ gráf-tik-an

Stated somewhat generally, the system shows a set of Person/Number endings distinct from those found in the active in the Imperfect aspects, and a formant *-th(ik)-* in the Perfective aspects (I am not considering questions of allomorphy.)

The Modern Greek voice system shows what I refer to as 'Non-Active' voice in three syntactic alternations, Passive, Reflexive, and Anticausative; these are illustrated in the following:

(14) Afto to vivlio dhiavastike xtes.
this-NOM the-NOM book-NOM read-PR-3S yesterday

'This book was read yesterday.' (*Passive*)

(15) I Maria xtenizete kathe mera.
the-NOM Maria-NOM comb-PR-3S every day

'Maria combs herself every day.' (*Reflexive*)

(16) 'Anticausative' Alternations (Haspelmath (1993))

Intrans	Trans	Translation
tsakízome	tsakízo	'break'
kéome	kéo	'burn'
singendrónome	singendróno	'gather'
dhiadhídhome	dhiadhídho	'spread'
aplónome	aplóno	'spread'
vithízome	vithízo	'sink'
xánome	xáno	'get lost/lose'
anaptísome	anaptíso	'develop'

3.4.2 Aplastics and Their Syntax

3.4.2.1 Some Aplastics

Deponent verbs in Greek have been subdivided into transitives, to be examined below, and intransitives, like the following:¹⁵

¹⁵I am concentrating in the following on Non-Active Deponents. Modern Greek shows a set of verbs classified as *activa tantum*, on the basis that they have no non-active morphological forms. The relevant verbs are as follows:

(17) *Activa Tantum*

kano 'do'
echo 'have'
ksero 'know'
thelo 'want'
perimeno 'wait for'

Of interest here is the fact that for each of these verbs, the fact that a non-active form is not available follows from the fact that there are syntactic/semantic properties which prevent them from being passivized. Specifically:

1. *kano* In addition to not possessing non-active forms (this verb is deficient aspectually as well.) As a light-verb, its quirkiness with respect to voice is perhaps excusable.

The strange voice-behavior of light-verbs is especially apparent in pairs like Latin *facere* and *fiō*. The verbs mean 'make' and 'become' respectively; however, *facere* does not have a passive in the normal sense, at least in the Present, Imperfect, and Future. Instead, the forms of *ferī* are used.¹⁶ In the Perfect Tenses the participial form is that of *facere*. Putting the verbs together, the situation is as follows:¹⁷

(18) 'Make' and 'become/be made'

Tense	Active	Passive
Present	faciō	fiō
Imperfect	faciēbam	fiēbam
Future	faciam	fiam
Perf.	fēci	factus sum
Pluperf.	fēceram	factus eram
Fut Perf.	fēcerō	factus erō

In passive (and anticausatives) syntactic contexts, the active forms of *ferī* appear instead of passives of *facere*, but only in the non-perfect tenses. In the perfect tenses, an analytic form based on the participle *factus* of *facere* appears. However, there is a further complication: there is in fact no perfect form of *ferī* at all, so that in order to say the equivalent of 'I became', the analytic form of *facere* must be employed, i.e. *factus sum*.

The oddness with respect to voice is summarized in the following:

(19) *facere* and *ferī*

- (20) *érxome* 'to come'
stékome 'to stand'
gínome 'to become'
fternízome 'to sneeze'

The following are deponents classified as transitive (taken from Mirambell (1949), Campos (1987) and Mackridge (1987)):¹⁸

- (22) *katariéme* 'to curse'
variéme 'to be bored with'
metaxirizome 'to use'
sképtome 'to think (of), to reason'
esthánome 'to feel'

-
- a. The passive of 'make' is active in form
b. The Perfect of 'become' is an analytic form, despite the fact that the verb is active
c. Despite having active finite forms in the non-Perfect tense, the infinitive of 'become' is passive in form: *fiēī*

I leave a full analysis for another occasion. The point is merely that light-verbs are sometimes odd when it comes to voice.

2. *echo* The inability of this verb to be passivized is unsurprising, given the unpassivizability of the verb 'have' in its possessive sense in English (**A red car was had by Mary*); passivization is possible on the Experiencer interpretation, at least in *A good time was had by all*. Other Experiencer uses of *have* are unpassivizable, however **A good time was had by the muppets.*)
3. *ksero* English 'know' is stative, and statives do not passivize very well.
4. *thelo* Stative as well.
5. *perimeno* Also stative.

There does not seem to be a class of 'actively specified' verbs in Greek, i.e. verbs with active form in passive syntax. The situation is complicated by the fact that (at least for certain speakers?) the passive is not commonly employed in general, with the result that the passives of certain verbs will be somewhat less than fully natural.

¹⁸Some deponent verbs have perfectives in active form, as Mackridge notes:

- (21) *ginomai* 'become', *gino*
kathomai 'sit', *kathiso*

Cf. the discussion of Latin semi-deponents below, as well as the tense-dependent aspects of Classical Greek.

drépome 'to be ashamed of'

xriázome 'to need'

déxome 'to accept'

hyperaspizome 'defend'

hypopsiazome 'suspect'

epixirizome 'undertake'

3.4.2.2 Intransitive Deponents

In the case of the intransitive deponents, the first hypothesis to be tested is that all of the verbs in question are psych-predicates which are in fact syntactically different from other intransitives; i.e., they are all unaccusative:

(H1) All intransitive deponents are unaccusative.

This is distinct from the claim that all unaccusatives in Greek receive the non-active voice:

(H2) All unaccusatives show non-active voice.

Each of these hypotheses can be shown to be incorrect. (H2) is falsified by the fact that there are active intransitives in the Transitivity Alternation in Greek (see Haspelmath (1993), Embick (1996)). These verbs are syntactically unaccusative by virtue of alternating in the relevant way, but nevertheless do not show non-active voice. For instance:

(23) Active-Morphology Unaccusatives

Verb	Translation
ksipnó	'wake up' (INTR/TR)
spázo	'break' (INTR/TR)
anígo	'open' (INTR/TR)

There are in addition non-alternating verbs falsifying this hypothesis as well. For instance, verbs which are semantically likely to be unaccusatives like *anthizo* 'bloom' form 'passive' resultative participles in *-menos* (*anthizmenos* 'bloomed'), while other intransitives do not.

The diagnostic used here with 'bloom' may be applied to the intransitive deponents as well, which by (H1) are expected to be grammatical with *-menos*. However, it is not possible to form **fjernizmenos* 'sneezed' (as in **The sneezed man*) from the intransitive deponent *fjernizome* 'sneeze'.

This gives intransitive deponents that are not unaccusative, along with unaccusatives that are not non-active. There is therefore no simple syntactic treatment that will account for the voice marking found with the intransitives. More relevantly, the class of intransitive deponents on this view is syntactically heterogeneous.

3.4.2.3 Transitive Deponents

3.4.2.3.1 Psych Verbs In the case of transitive deponents, a strong position would be something like the following: all transitive deponents which are unpassivizable are psych-predicates, while the remainder (the *verba commūnia*) are the only verbs for which a syntactically unmotivated morphological diacritic must be posited.

There is a further set sometimes classified as deponent, which consists of verbs which alternate systematically with active verbs:

- (24) lipame 'to be sorry for'/lipo 'to sadden'
fobame 'to be afraid (of)'/fobizo 'to frighten'
thiname 'to remember'/thimizo 'to remind'

These predicates are of the SubjEXP/ObjEXP type discussed in detail by Pesetsky (1995), and provide a certain amount of insight into the behavior of the psychologically-oriented deponents. Specifically, these may have non-active voice for syntactic reasons.

3.4.2.3.2 Non-Psych Verbs A second set of transitive deponents can be shown not to behave like psych-predicates. The verbs in this class seem to behave in certain environments like normal (i.e. ‘alternating’) transitive verbs, as the following example with *metaxirizome* ‘use’ shows:

(25) *Metaxirízome polí to lexikó mu ótan gráfo eliniká.*
 use-N/A-1S much the dictionary-ACC my when write-1S Greek
 ‘I use my dictionary a lot when I write Greek.’

(26) *To kalokéri xriazómaste polá rúxa.*
 the summer need-N/A-1PL many clothes
 ‘During the summer we need many clothes.’

The question which must be asked is whether the transitives from (22) which take nominative subjects and accusative objects are syntactically (and for that matter semantically) completely identical with transitives which appear in the Active. Directly stated, this is the question of whether Non-Active morphology in the *media tantum* verbs is, from the perspective of the syntax, in any way a reflection of deeper properties. The question of whether deponent verbs show syntactic properties distinct from transitives, or, similarly, the question of what role the Non-Active morphology might be playing in such forms, has not been addressed in detail in the syntactic literature. That is, the primary focus of syntactic accounts of passivization has been on the alternation, or the relationship between, the active and passive forms of a verb; the relevance of the existence of deponent verbs has not been addressed in detail. Within the context of the approach outlined here, however, this question is critical to the determination of what syntactic structures non-active voice appears in, and to the question of whether the syntax/morphology mapping makes use of an intermediate level of inflectional classes in realizing the relevant syntactic structures.

In the case of Modern Greek, one case in which the deponents have been mentioned is Campos (1987), where, after ‘True Passives’ are defined as involving the absorption of the Agent θ -role (and no other θ -roles) by passive morphology, deponents are classified

as 'false passives', in that they have Experiencer subjects.¹⁹ Campos assumes further that in deponents the passive morphology is simply a property of the verb as listed in the lexicon. The justification for this has two components; first, an analysis of the passive in which the passive morphology absorbs a θ -role (in particular, for Campos, the Agent role); and, second, the assumption of the Uniformity Condition of Chomsky (1981), which requires that morphological processes behave uniformly with respect to their interaction with θ -processes.²⁰ It is of course not inconceivable that the Non-Active morphology in the deponents should be completely otiose, and synchronically an arbitrary property of a particular verb; this would amount to saying that the *media tantum* verbs of Greek are simply a subclass of active verbs with a set of inflections which, for whatever reason, happen to appear only with morphological endings which are identical to the Non-Active forms of other verbs. Rather, the objection is that in order to establish such a point, it must be shown that the verbs in question behave in all respects like other non-deponent verbs. Campos operates on the assumption that passive morphology behaves uniformly in effecting whatever changes it effects, and is forced to conclude that the deponents do not show 'real' passive morphology; as he notes, assuming that the morphology in such cases plays the same role it plays in 'actual' passives is incoherent.

3.4.2.4 Diagnostics for Transitive Deponents

I now provide diagnostics arguing for the point that certain deponents are simply transitive verbs. Each of the following is adapted from diagnostics used to distinguish psychological

¹⁹It should be noted that Campos does not propose (or for that matter consider) any syntactic diagnostics which would show whether or not deponents behave like (or unlike) non-deponents.

²⁰The definition is given as follows:

- (27) Each morphological process either
- a. transmits thematic role uniformly, or
 - b. blocks thematic role uniformly, or
 - c. assigns a new thematic role uniformly

from agentive predicates in Anagnostopoulou (1997).²¹

3.4.2.4.1 Agentive vs. Psychological Readings In psych-verbs for which an Agentive as opposed to a psychological reading may be differentiated by the type of NP subject. With an animate NP, and an object which is not doubled by a clitic, such verbs are only interpreted Agentively. Conversely, with an inanimate subject the clitic must appear, in order to force a psychological reading:

(28) Agentive vs. Psychological:

- a. I Maria enoxli ton Petro.
the Mary-NOM bothers the Peter-ACC
'Mary bothers Peter.'
- b. Ta epipla *?(ton) enoxlun ton Petro.
the furniture-NOM cl-ACC bothers the Peter-ACC
'The furniture bothers Peter.'

When placed in this paradigm, certain deponents do not behave like the psych-predicates, but instead like Agentive transitives in not requiring doubling:

- (29) a. I Maria xriazete ton Petro.
the Mary needs-N/A the Peter-ACC
'Mary needs Peter.'

3.4.2.4.2 Word Order With psych verbs, the orders EXP_{DAT} -V- TH_{NOM} and TH_{NOM} -V- EXP_{DAT} are both equally unmarked in terms of their discourse status, as opposed to cases in which an object (direct or indirect) is fronted and produces a *Clitic Left Dislocation* (CLLD)-type reading. Deponents like *xriazome* pattern with the non-psych-verbs:

- (30) a. O Petros xriazete to vivlio.
the Peter needs the book
'Peter needs the book'. (Neutral)
- b. To vivlio to xriazete o Petros.
the book CL need the Peter
'The book, Peter needs' (CLLD)

²¹I thank Elena Anagnostopoulou for discussion of the following material.

3.4.2.4.3 Internal CLLD In certain cases, CLLD is ruled out due to discourse factors; however psych-verbs allow object fronting in the same environments:

- (31) a. #Ta vivlia pu tou Janni tou edosa ine logotexnika.
 the books that the Joh-DAT CL gave-1S are literary
 'The books I gave John were literature.'
- b. Ta vivlia pu tou Janni tou aresoun ine ta logotexnika.
 the books that the John-DAT CL like-3PL are the literary
 'The books John likes are literature.'

Once again, the relevant deponents behave like the non-psych-verbs:

- (32) #O fititis pu to vivlio to xrazete ine o Petros.
 the student that the book CL need-3S is the Peter
 'The student that needs the books is Peter.'

3.4.2.4.4 Bare Quantifiers/Indefinites While Bare Quantifiers/Indefinites may not be fronted in CLLD with normal verbs, this is not the case with psych-verbs, which allow these elements to be fronted. The deponents in question behave as expected:

- (33) a. ?* Tipota dhen to xriazome.
 nothing not CL need-1S
 'Nothing, I need'

3.4.2.4.5 Conclusion The point to be drawn from this is that if the relevant transitive deponents are to be analyzed as syntactically different from active transitives, there does not seem to be any syntactic basis for doing so. The only difference is the fact that these transitive deponents may not (although this depends on the speaker, it seems) appear in passive syntax.²² The conclusion I will draw is that these are syntactically simply transitive

²²There are certain aplanic transitive verbs which, in addition to appearing in active syntax, may be used passively; the following minimal pair illustrates:

- (34) a. O Yanis katarástike ton Kosta.
 the Yanis cursed-N/A the Kostas
 'Yanis cursed Kostas.'
- b. O Yanis katarástike apo...
 the Yanis cursed-N/A by

verbs, with an aplanstic specification for the non-active voice, i.e. they possess the feature [NonAct] inherently.

3.5 Latin

3.5.1 Agenda

In this section I discuss two aspects of aplanstic verbs in Latin. The first concerns the syntax of transitive aplanstics. Latin transitive aplanstics divide into two classes: some appear only in transitive, active syntax, while others may appear either in active syntax or in passive syntax. This demonstrates that aplansticity for voice occurs at a purely morphological level, and is in some cases does not interact at all with the syntactic possibilities of the aplanstic verb.

The second point concerns the morphological feature appearing with Latin aplanstics. Latin provides a clear demonstration of the identity between deponent and syntactically determined morphology. The tense system shows a distinction by voice in the Perfect, with passive forms being analytic, and active forms synthetic. In §3.5.5, I demonstrate on the basis of the behavior of deponents in the perfect that there is a single morphological feature [Pass] which is either assigned in certain syntactic configurations or possessed inherently by certain verbs.

3.5.2 The Voice System and Voice Alternations

3.5.2.1 Active and Passive

Latin has two morphological voices, the active and the passive. The passive forms are synthetic in certain tenses, and will be referred to in some instances as *-r*-forms due to their characteristic suffix. The following shows the paradigm of present active and passive

'Yanis was cursed by...'

forms for the verb *amō* 'love':

(35) Present Active

am-ō 'I love'
 am-ā-s 'You love'
 am-a-t 'He/She loves'
 am-ā-mus 'We love'
 am-ā-tis 'You-PL love'
 am-a-nt 'They love'

(36) Present Passive

am-or 'I am loved'
 am-ā-ris 'You are loved'
 am-ā-tur 'He/She is loved'
 am-ā-mur 'We are loved'
 am-ā-mini 'You are loved'
 am-a-ntur 'They are loved'

Passive and active forms also exist in the Imperfect and the Future. In the perfect tenses (Perfect, Pluperfect, Future Perfect) the active and passive differ in that the former is synthetic while the latter is analytic; thus:

(37) Perfect Indicative Active

am-ā-v-ī 'I (have) loved'
 am-ā-v-istī 'You (have) loved'
 am-ā-v-it 'He (have) loved'
 am-ā-v-imus 'We (have) loved'
 am-ā-v-istis 'You (have) loved'
 am-ā-v-ērunt 'They (have) loved'

(38) Perfect Indicative Passive:

amātus/-a/-um sum 'I was loved'
 es 'You...'
 est 'He...'
 amātī/-ae/-a sumus 'We...'
 estis 'You...'
 sunt 'They...'

This pattern is significant in that it may be used to show that deponent verbs and passive verbs are both related to the same morphological feature [Pass].

3.5.2.2 Impersonal Passives

In addition to appearing with transitive verbs, the *-r* form appears with certain intransitives to yield an impersonal passive interpretation; with verbs which have Dative objects (39b),

there is an impersonal passive form in which the Dative is retained:²³

- (39) a. *vīvitur* ‘people live’
 curritur ‘there is running’
 pūgnātur ‘there is a battle’
 b. *mihi invidētur* ‘I am envied’

3.5.2.3 Medio-Passives

In descriptive grammars, it is often stated that certain verbs in Latin are interpreted reflexively in the ‘passive’ form; this is often referred to as a residual ‘medio-passive’ use of the *-r*-form (from Leumann §390):

- (40) *induo/induor* ‘put on’/
 lavo/lavor ‘wash’
 veho/vehor ‘carry’/
 verto/(re-)vector ‘turn’/

Although verbs like those above are often given together in descriptions, it appears that there might be two classes involved; i.e., some of the verbs appear to be in the Transitivity Alternation (e.g. *turn*), while others appear to be Body-Action reflexives of the type discussed earlier (e.g. *wash*.) The pattern with respect to voice and reflexivization in Latin is thus similar in many ways to what was discussed in Chapter 1 (and reviewed above) for Modern Greek. This point is clear from the fact that the reflexive interpretation of the *-r*-form is not available with all verbs; in other cases, an overt anaphor is employed:²⁴

- (41) *Omne animal sē ipsum dīligit.*
 every creature REFL SELF loves

²³The Impersonal Passive is discussed in all descriptive grammars of Latin; see also Pinkster (1992) for a more recent discussion.

²⁴In this section and the following there will be numerous examples from Latin and Classical Greek drawn primarily from descriptive grammars. These will be accompanied by a note concerning the author, work, etc. as this information appears in the grammars.

'Every living creature loves itself.'

C. *Fin.* v.9,24

Thus in addition to appearing in syntactic passives, the Latin *-r*-forms appear systematically in other environments, specifically in intransitive Transitivity Alternation verbs, and with certain reflexives.²⁵

3.5.3 Aplastics

3.5.3.1 Aplastic Verbs

Latin aplastics are invariant *-r*-forms, typically referred to simply as 'Deponent' in grammars (cf. the terminological outline in §2). Deponents may be either intransitive or transitive. A deponent verb like *hortor* (infinitive *hortārī*) has the following forms in the Present Indicative (cp. (36) above):^{26,27}

(43) Present of *hortārī* 'to exhort'

²⁵The position that the *r*-forms figure in a number of systematic alternations apart from passivization is also presented in Baldi (1976).

²⁶A few diachronic points are in order. Within the context of Indo-European linguistics, some deponents are regarded as an inheritance, having cognate deponent verbs in other IE languages (Hofmann/Szantyr §162):

- (42) sequor 'follow'
meditor 'think over'
nascor 'be born'
moriōr 'die'
loquor 'speak'

Furthermore, the class of deponents is not stable throughout Latin, a point which is noted in almost all descriptions of the verbal systems. Flobert (1975) presents in detail cases in which particular verbs become deponents (*passivations*, in his terminology) as well as cases in which verbs which were previously deponent cease to be so (his *activations*).

²⁷In addition to the verbs which appear as non-active in all tenses and moods, there are a few verbs which show different voice forms in different tenses. Verbs which are deponent only in the perfect are referred to as 'semi-deponent'; cf. *audēre* 'dare', *audeō* 'I dare', *ausus sum* 'I have dared'; other verbs of this type are *fidere* 'trust', *gudēre* 'rejoice', and *solēre* 'be wont'. It seems that many of these verbs had synthetic, active perfects in early Latin. Sommer (1914) notes examples of *gāvīsī* (Liv. Andr., Cassius Hemina), *ausī* (Cato b. Prisc. II 482, ff.), *solūī* (Enn and Cato b. Varro 11 IX 107.) Another verb, *revertor* 'turn back', shows the opposite pattern, being passive in form in the present, and active in the perfect.

hort-or 'I exhort'
hort-ā-ris(-re) 'you exhort'
hort-ā-tur 'he/she exhorts'
hort-ā-mur 'we exhort'
hort-ā-mini 'you exhort'
hort-a-ntur 'they exhort'

The perfect of deponents is always analytic, involving a participle form of the main verb and the auxiliary *sum* 'be'.²⁸

(45) hortātus/-a/-um est
urged-PART be-3S

Latin has both transitive and intransitive deponents, with a wide range of meanings. Various attempts have been made to provide purely lexico-semantic classifications of the deponent verbs, but there is reason to believe given the number and variety of verbs involved that this type of approach is not justified (arguments against semantically oriented treatments are provided in Draeger (1878) and Baldi (1976)).²⁹ The deponents listed in Gildersleeve and Lodge's presentation of this class are presented in §A, and will suffice to give an idea of the lexico-semantic and syntactic range of deponent verbs.

²⁸Other participial forms are as follows (cf. the discussion in the previous chapter):

- (44) a. Present: hortāns 'exhorting'
Future: hortātūrus/-a/-um 'about to exhort'
Perfect: hortātus/-a/-um 'having exhorted'
b. Gerundive: hortandus/-a/-um '[one] to be exhorted'

In terms of classification, some grammars treat deponents as having 'more' non-finite forms than active verbs. Thus for Kühner/Stegmann, deponents are different from passives in that they like actives have a Present Participle/Future/Gerund/Supine: *potior: potiens, potiturus, potiendum est, potitum, potitu*. As discussed in the preceding chapter, this pattern has to do with the relationship between the signals found in participles and voice morphemes.

²⁹Baldi's position is that there are coherent subclasses of deponent verbs semantically related to notions like helping, worshipping, etc., but that this does not allow for overarching unification. Rather, the existence of such lexico-semantic subclasses may influence the manner in which borrowings are brought into the language as deponent, but this is decidedly different from the claim that there is semantic uniformity to the entire class of verbs.

3.5.4 Aplastic Syntax

3.5.4.1 Deponents

The syntax of transitive aplastics is very much like that of their non-aplastic counterparts; in most cases, these verbs appear with Accusative objects:

- (46) *Stella Veneris antegreditur sōlem*
star Venus-GEN go-in-advance sun-ACC
'The star Venus goes in advance of the sun.'
C. N.D., ii.20,53

This is not always the case, however. Descriptive grammars of Latin list about six transitive deponents which, rather than taking the accusative, take Ablative objects (Gildersleeve and Lodge, 262):³⁰

- (47) *ūtor* 'use'
abūtor 'abuse'
fruor 'enjoy'
fungor 'discharge'
potior 'get possession of'
vescor 'feed'

The exact reasons for this are unclear.³¹ While it is true that there are no corresponding non-deponents with this sort of case pattern, it is not the case that the taking of the Ablative will characterize the entire class of deponent verbs. It is a property of only a few members of this rather large class.

³⁰This is not the only case pattern; the verb *potior* 'take possession of', for instance, appears with the Genitive throughout, but also occasionally with the Accusative.

³¹Gildersleeve and Lodge regard the Ablative here as being the Ablative of Instrument. This requires that the deponent have a sort of reflexive interpretation; i.e. *vescor* 'feed' as 'feed oneself', so that the Ablative is then the result of the object being the Instrument: *vescor* = 'I feed myself with'. Regarding historical development, Gildersleeve and Lodge note that these verbs had Accusative objects in earlier Latin, with Accusative objects in Classical Latin appearing only in the Gerundive.

3.5.4.2 Verba Commūnia

Syntactically, the Latin *-r*-form verbs do not behave homogeneously. In addition to a class which can only appear in active syntactic environments, there is a second class of verbs which may appear in either active or passive syntax. According to the Latin author Aulus Gellius (writing in the 2nd Century) the Latin Grammarians called these verbs *verba commūnia*, because they had one form (the non-active) which was common to both active and passive interpretation.³²

(48) *verba commūnia* of Aulus Gellius, Book XV. chap. XIII

cohortor 'harangue'

hortor 'urge'

cōnfiteor 'confess'

cōnsōlor 'console'

dignor 'deem worthy'

dīlargior 'give away'

interpretor 'interpret'

testor 'testify' (?)

veneror 'reverence'

vereor 'fear'

ūtor 'use'

As an illustration of this type of syntactic behavior, the following two examples will suffice:

(49) ab amīcīs hortārētur
by friend-ABL.PL urge-IMPF.SUBJ.3PL

³²One question which remains at this point concerns the behavior of intransitive aplanic verbs; given the existence of the impersonal passive with Latin intransitives, the question arises as to whether it is possible for such verbs to behave as *verba commūnia*. That is, could the form *moritur* be used for either 'He died' or 'There is dying'? If this is impossible, and if all Latin intransitive deponents are unaccusative, then this fact would follow from the fact that impersonal passives cannot be formed on unaccusatives more generally.

'There were urged(SUBJ) by friends.'

Varr. ap. Prisc GL II 387,2

Examples of other *verba commūnia* may be found.³³ Although certain studies (e.g. Draeger 1878) point out that the passive use of such verbs is found especially with participial forms, it is found in finite forms as well, as the above shows.

The significance of this class is that, despite their being *-r*-forms only, they verbs are syntactically like active transitive verbs, to the point of being passivizable.³⁴ The fact that these verbs appear as *-r*-forms is thus purely morphological. This consideration leads rather directly to a further question, concerning why it is that not all transitive deponents can appear in passive syntax; this I will put aside for the moment.

The existence of this class has a further implication for the study of aplastic verbs. The *verba commūnia* are passive in form, and appear in both passive and active syntax. This observation raises the question as to whether there is an asymmetry between passive and active morphology in the domain of aplasticity: specifically, the question is whether verbs may be aplastically specified for passive morphology, but not active morphology. The reasoning is as follows. The feature corresponding to what we are calling passive morphology is 'marked' in the sense that it is assigned in certain syntactic configurations; this in distinction to active morphology, which will occur everywhere else. If features relating to active morphology could be referred to in the same way as features conditioning the insertion of passive morphology, then one would expect to find two addition verbal classes: (1) a class appear only as active, and only in passive syntax; and (2) a class appearing only in active form, but in both passive and active syntactic environments. Nothing corresponding to the latter has, to my knowledge, been shown to exist. In the next subsection I examine the syntactic behavior of the verbs of this type, and return to a discussion of active aplastic morphology in §3.8.3.

³³Examples from Aulus Gellius are given in (A.2) in the Appendix.

³⁴In this sense they contrast with transitive deponents in Modern Greek, for which passives may exist marginally for a few verbs, or a few speakers.

3.5.5 Active and Passive Perfects

3.5.5.1 Analytic vs. Synthetic

An issue which the behavior of aplanic verbs bears on directly concerns the split in the Latin perfect system, with synthetic active forms (e.g. *amāvī* 'I have loved') and analytic passives (*amātus sum* 'I was loved'). I will show in this section that this split can be used to show that Latin morphology treats syntactic passives and aplanic verbs identically for the purpose of the analytic/synthetic distinction. This shows that Latin morphology is sensitive to a single Dissociated morphological feature [Pass], which has a dual provenance.³⁵

Given the manner in which this split is presented in descriptive grammars, it might be argued that it is a matter of classificatory importance only, without a basis in the linguistic system. That is, one might hold that the analytic passive perfect is not simply the same as the synthetic perfect in terms of the temporal/aspectual features involved, but is instead something composed of different parts to achieve a similar meaning. Evidence against this view is provided by the perfect forms of deponents. The perfect form of deponents is periphrastic, just like the perfect passive of non-deponents; thus *hortātus/-a/-um sum* 'I (have) exhorted'. This contrasts with the perfects of active verbs; as noted above, a perfect in active syntax will be a synthetic form, as in *amāvī* 'I (have) loved', where the morphological exponent of the Perfect is the *-v-* (in addition the person/number desinences found are also unique to the perfect.) As the deponents appearing with periphrastic perfects have active syntax, it cannot be argued that it is something about passive syntax in the perfect which results in the analytic forms.

I will argue that the two types of perfect are effectively the same for the purposes of the syntax, but differ in how the objects created by the syntax are treated in Morphology. This establishes a point about the nature of the diacritics under discussion: specific post-syntactic processes can be shown to treat the passive syntactic specification and the aplanic passive specification in exactly the same fashion. This equal treatment would be entirely

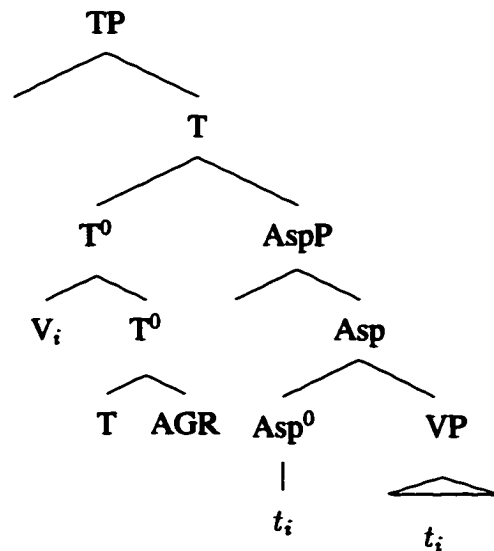
³⁵The analytic/synthetic split and its interaction with aplanic verbs also has implications for notions like 'participle', as discussed in Chapter 3. See Embick (1997) for a more detailed discussion of the Latin perfect.

accidental on an account which did not posit an identity between a diacritic licensed by a syntactic configuration and one possessed arbitrarily by a particular vocabulary item.³⁶ The primary argument to be established is thus somewhat simple: if post-syntactic processes treat in the same way a syntactic configuration and a Vocabulary-Specific feature, then the interface is sensitive to the same diacritic in each of these case. In order to establish this point, I now turn to the question of whether Latin analytic/synthetic perfects differ syntactically or post-syntactically.

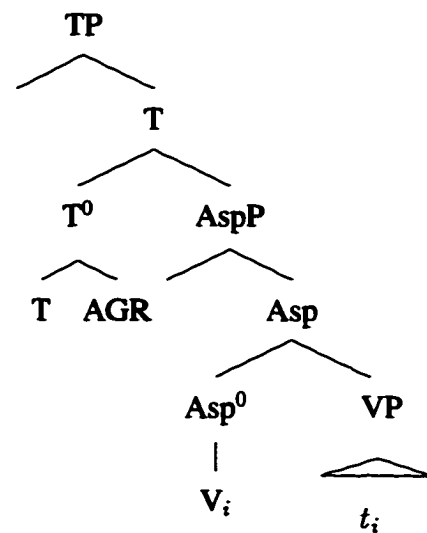
3.5.5.2 Syntax vs. Morphology

The difference in analytic and synthetic perfects is superficially reducible to a syntactic difference, with head movement taking the verb in the synthetic case to the position which, in the analytic case, is occupied by the auxiliary; assuming that the Perfect *-v-/Auxiliary* Verb would be in T^0 , the two would be as follows (hierarchical structure is represented here only: Latin is most likely head-final):

(50) Active (synthetic)



(51) Passive (analytic)



As simple as this approach might be, there are reasons which suggest rather strongly

³⁶Recall the discussion of voice systems presented in Chapter 1.

that it should not be adopted. In particular, this type of approach treats the two types of perfect as syntactically distinct; i.e., an application of a syntactic operation, head movement, occurs in the one (active) but not in the other (passive.) However, the factors conditioning this superficially syntactic difference are not exclusively syntactic in nature. The form of the perfect of deponent verb sheds some light on the question of whether the analytic form of the perfect passive is in some way directly correlated with (or follows from) passive syntax. The Perfect of a deponent is, as noted above, analytic:

(52) *secutus est...*

followed is

'he followed'

The conclusion is therefore that the analytic perfect is does not result from a syntactic property of the passive, but instead from the aspectual specification of the perfect in combination with the diacritic for passive inflection, which is present both in passive syntax and with a-plastics.

The situation is thus as follows: the morphological operations which result in the formation of synthetic as opposed to analytic perfects are blocked in the same way with passives and with deponents. This, I argue, shows that there is a morphological diacritic which is either licensed in passive syntax or specified with certain Vocabulary Items, with this diacritic serving to (1) define the insertion of the non-active *-r*-endings, and (2) block the operation forming synthetic perfects. The workings of the morphological component are the same irrespective of whether this diacritic is provided by the syntax or provided by the Vocabulary, arguing that both syntactic configurations and Vocabulary Items are related to the same diacritic class.

3.6 Classical Greek

3.6.1 Introduction and Aims

The primary questions raised in the voice system of Classical Greek concern the interaction of voice morphology and the Tense/Aspect system. While Classical Greek has three distinct morphological voices, the expression of these distinctions is dependent upon other factors. In particular, distinct morphological marking for the passive exists only in the Aorist and the Future. In the other Tenses/Aspects, the verb in passive syntactic configuration shows Middle voice morphology. To begin with, I will restrict attention here to the Present, Aorist, Future, and Perfect, as these are the four which will be investigated in detail below; these four tenses will suffice to characterize the verbal system, as the Perfect covers the Pluperfect and the Future Perfect, while the Present covers the Imperfect.

The next three subsections present necessary background information concerning Classical Greek morphology, the syntax of voice alternations, and the nature of aplanctic verbs. The discussion then turns to the examination of specific questions, which focus on illustrating the properties illustrated by the diacritics required for capturing aplancticity. In §3.6.6 I present an argument illustrating the manner in which diacritics may be related to one another, based on the observation that passive deponents, like verbs in passive syntax, appear as Middle in Tense/Aspect systems in which there is no distinct expression of the passive. In particular, I show that relationships holding among morphological diacritics are direct reflections of the manner in which these diacritics are licensed syntactically, and that this provides a substantive restriction on the relationships which may exist between diacritics.

3.6.2 Morphological Overview

The Classical Greek voice system developed out of an earlier stage of the language in which the primary opposition for morphological voice was between Active and Middle. On a morphological level this may be seen in the fact that specifically passive morphology exists only in the Aorist and the Future (see (53) for examples); in any case, the use

of the relevant morphology for passive syntax represents an innovation.³⁷ In the other Tenses/Aspects, the morphological endings of the Middle are used with passive syntax. The realization of these two voices is different as well. In the case of the Passive in the Aorist, the formation is with a passive formant $-t^h\bar{e}$ in the First Aorist ($-\bar{e}$ in the Second Aorist) added to the verb stem. The agreement for Person and Number following this 'passive' element is then the same as that which occurs with actives. In the First Future Passive, $-t^h\bar{e}$ appears as well, and is followed by a further suffix $-so\bar{e}$; to this, the personal endings of the Middle are added (the Second Future Passive is formed in the same way, thus with $t^h\bar{e}\text{-}so\bar{e}$). Some relevant forms for the verb $lú\bar{o}$ 'loose' are as follows; affixes related to voice are underlined:

(53) Forms for $lú\bar{o}$ 'loose'

Present Active:	$lú\bar{o}$
Present Middle:	$lú\bar{o}\text{-}\underline{mai}$
Aorist Active:	$é\text{-}lū\text{-}s\text{-}a$
Aorist Middle:	$e\text{-}lū\text{-}s\text{-}\underline{á}\text{-}\underline{mēn}$
Aorist Passive:	$e\text{-}lú\text{-}\underline{t^h\bar{e}}\text{-}n$
Perfect Active:	$lé\text{-}lu\text{-}k\text{-}a$
Perfect Middle:	$lé\text{-}lu\text{-}mai$
Future Active:	$lú\bar{o}\text{-}s\bar{o}$
Future Middle:	$lú\bar{o}\text{-}s\bar{o}\text{-}\underline{mai}$
Future Passive:	$lu\text{-}\underline{t^h\bar{e}}\text{-}s\bar{o}\text{-}\underline{mai}$

The basic division in person/number endings in Greek defines an opposition between 'Active' and 'Middle'; the endings in question, divided into those found with Primary and Secondary Tenses/Aspects, are as follows:

(54) Endings

³⁷i.e., there is no reconstructed set of endings associated with Passive syntax for Proto-Indo-European. For Greek, there is also some question as to whether such passive morphology is in fact exclusively related to passive syntax; see below.

P/N	Active		Middle = Non-Active	
	INDICATIVE 1	INDICATIVE 2	INDICATIVE 1	INDICATIVE 2
1S	-Ø/-mi	-n	-mai	-mēn
2S	-s/-t ^h a	-s/-st ^h a	-sai	-so
3S	-si	-Ø	-tai	-to
2D	-ton	-ton	-st ^h on	-st ^h on
3D	-ton	-tēn	-st ^h on	-st ^h ēn
1P	-men	-men	-met ^h a	-met ^h a
2P	-te	-te	-st ^h e	-st ^h e
3P	-nsi	-n/-san	-ntai	-nto

NOTES

with Indicative 1: Subjunctive

with Indicative 2: Optative

There is the potential for some confusion with the term ‘Middle’ in discussing Classical Greek, as it is employed to refer both to a particular kind of syntactic/semantic structure, and at the same time to the set of endings above. I will therefore refer to the endings called ‘Middle’ in the chart above (and in traditional discussions) as ‘Non-Active’. Although somewhat heterodox, I believe this will result in increased clarity, as the relevant set of endings is not confined to ‘Middle’ syntax, making the term ‘Middle’ misleading. What I exactly I mean by ‘Middle Syntax’ will be clarified shortly.

3.6.3 Voice Alternations

3.6.3.1 Introduction

The Classical Greek voice system presents a number of difficulties for any prospective analysis. One of the most vexing centers on the nature of the Middle voice and the Non-Active voice forms, as they exist as a category distinct from and related to the passive. In the

examinations of Modern Greek and Latin above, the class which a plastics were specified for morphologically was one which had an unambiguous syntactic determination: the single feature was one that was associated with the syntactic configurations involved in Passivization, Anticausativization, and (a type of) Reflexivization. In the case of Classical Greek, there are two types of voice morphology in addition to the Active to be accounted for, the Non-Active and the Passive.

The first step to be taken below will involve an analysis of the syntactic configurations associated with the Non-Active inflections. The majority of earlier attempts at a characterization of the Middle have not focused on questions of syntax. Viewed as an inflectional category for which a *Gesamtbedeutung* must be specifiable, the Middle voice has provoked several definitions in the context of Indo-European linguistics, most of which are very similar in (1) involving some notion of the subject being 'interested' in the action described by the verb, and in (2) not preventing later linguists from seeking a more adequate definition.³⁸ The exception to this is Barber's (1975) brief syntactic discussion, which will be examined in §3.6.6.1. In the following two subsections I will outline the basic facts concerning the distribution of the Middle and Passive voice forms, before turning to the question of how the distribution of the Middle may be analyzed.

3.6.3.2 Middle

The interpretations associated with the Middle voice in Classical Greek may be summarized under three primary headings, which are specified here with the traditional names for these uses.

3.6.3.2.1 Direct Reflexive Middle With certain verbs the Middle form receives a reflexive interpretation:

(55) aleíp^hest^hai 'anoint oneself'

³⁸Gonda (1960a)/(1960b) discusses the IE Middle from a traditional viewpoint, and provides a lengthy overview of such attempts in the writings of twentieth century linguists.

loúmai 'wash oneself'

kosmeîst^hai 'adorn oneself'

step^hanoúst^hai 'crown oneself'

gumnázest^hai 'exercise oneself'

However, this is not the case with all verbs, only with a limited class which Smyth refers to as '...expressing external and natural acts, as the verbs of the toilet.' With other verbs, reflexivity is expressed with an overt anaphor:³⁹

(58) heoutón lobesámenos 'having mutilated himself', Hdt. 3,154,2

(59) ētímōken eautón 'he has dishonored himself' D.21.103

I take this as indicative of the (by now familiar) pattern in which only certain verbs, the 'inherent reflexives', are capable of being interpreted reflexively with only voice morphology.

3.6.3.2.2 Indirect Reflexive Middle This function of the Middle covers cases in which the subject acts in a 'self-interested' fashion, but not directly reflexively. In such cases, the subject is acting in the for/with reference to the subject, or with reference to something belonging to the subject:

(60) porízeost^hai 'provide for oneself' (porízein 'provide')

³⁹The Middle and the overt anaphor can co-occur; Smyth notes that this combination is for emphatic/contrastive effect:

(56) hoi mén p^hasi basiléā keleúsai tina episp^háksai autòn Kúrō, hoi d heautòn epsp^háksast^hai
'some say that the king issued orders for some one to slay him (Artapates) over (the body of) Cyrus, while others say that he slew himself with his own hand.'
X. A. 1.8.29

Gildersleeve/Miller (1900), Middle with the body-part affected in accusative:

(57) tà métōpa kóptontai mak^hafrési
'They gash their foreheads with knives'
Hdt. 2,61

p^huláttest^hai 'guard against' (p^huláttein 'keep guard')
 hairéist^hai 'choose' ('take for oneself'; hairreîn 'take')
 parék^hesxt^hai 'furnish' (parék^hein 'offer, present')

This use covers a syntax and semantics that is clearly Benefactive in orientation. It is this syntactic configuration which I will refer to as 'Middle' syntax.

3.6.3.2.3 The Causative Middle In this function, the subject has something done in a self-interested fashion, but the action is performed by another:

(61) paratít^hest^hai sîton 'to have food served up'
 egō gár se taûta edidaksámēn 'for I had you taught this'
 (verb *didáskō* 'teach', Mid. 'cause to teach, learn')

3.6.3.3 Passive

3.6.3.3.1 Passive Syntax The basic function of the Passive voice marking is to mark Passive syntax (example taken from the discussion of Anderson (1992:67)):

(62) epeidé dè hoí te At^hēnaíōn túrannoí ... hupò
 since but the and Athenian-GEN.PL tyrant-NOM ... by
 Lakedaimoníōn katelú-t^hē-san
 Lacedaemian-GEN.PL disband-PASS-3PL
 'Since, however, the Athenian tyrants were disbanded by the Lacedaemians.'
 Thuc. 1.18.1

In Tenses without distinct Passive forms, the verb in passive syntax shows the Non-Active endings:

(63) ho país hupo toû patròs p^hileítai
 the child by the father love-N/A-3
 'The child is loved by the father.'

In some cases, the active and middle forms of a verb have quite different meanings. Moreover, Smyth notes that the passive form of such a verb may be either the passive or

the active meaning, or the passive on the middle meaning. The following are given as illustrations:

- (64) *haireîtai* 'is taken, is chosen' (*haireîn* 'take', *haireûst^hen* 'choose')
herét^hē 'was taken, was chosen'
biázetai 'does violence, suffers violence (is forced)' (*biázomai* 'force')
egráp^hē 'was written, was indicated' (*gráp^hō* 'write', 'indicate')

A few verbs allow for passive interpretation more generally (cf. Smyth §813a):

- (65) Present and Imperf. Passive and active
agōnízomai 'contend, am contended for'
biázomai 'force, am forced'
lūmaínomai 'maltreat, am maltreated'
ōnéomai 'buy, am bought'

3.6.3.4 Deponents as Passives?

The use of deponent verbs as passives as well as actives is a phenomenon which has been noted in works on Classical Greek.⁴⁰ To some extent the possibility of employing an aplanic verb as a passive is dependent upon Tense/Aspect. Smyth §813 states that this use of deponents is "...avoided by good writers" in the Present/Imperfect/Future passive, and is not frequent in the Aorist. However, it is common in the perfect and pluperfect passive.⁴¹ Thus, according to Smyth, the following contrast obtains:

⁴⁰For instance, Carmichael (1841) makes the connection between this type of use and "...that class of Deponents in Latin styled *Common Verbs*."

⁴¹Gildersleeve/Miller note that in some cases it is common to find a periphrastic construction standing in for the passive of a deponent; thus *aitían ék^hein* as the passive of *aitiást^hai*

- (66) *naûs aitían ék^hontes prodoûnai*
'Being accused of having betrayed ships'
Hyp. pro Eux. 1
- (67) *mónē gâr tôn nûn akoês kreíssōn es peíran érk^hetai.*
Thuc. 2,41,3

- (68) # *apekrínetai/apekrít^{hē}* *taúta*
 make-PASS-PRES/PASS-PAST answer
 ‘This answer is/was made.’

In addition, a number of Middle Deponents appear in the Middle voice in the Perfect, along with passive and non-passive syntax.⁴²

3.6.4 Voices and Tenses

As noted above, the different Tenses show different possibilities for voice morphology. While the Present and Perfect show distinctions for only Active and Non-Active voice forms, the Future and Aorist show these two and the Passive form described above. The following chart summarizes the interactions of Voice and Tense; cells in the chart indicate the morphological form for the relevant Voice/Tense combination:

(69) Combinations

Syntax/Tense	Present	Aorist	Perfect	Future
ACTIVE	Active	Active	Active	Active
MIDDLE	Non-Active	Non-Active	Non-Active	Non-Active
PASSIVE	Non-Active	Passive	Non-Active	Passive

3.6.5 Aplastic Verbs

3.6.5.1 Classification

The traditional classification of deponent verbs in Classical Greek is based on the form assumed by a verb in the Aorist. Thus verbs which show only passive morphology in the Aorist are ‘Passive Deponents’, while those showing only middle morphology are ‘Middle Deponents’. It is also the case, however, that classification as a Middle Deponent does not prevent a particular verb from appearing with passive morphology and passive syntax

⁴²The question of whether these verbs show Middle syntax or Active syntax is somewhat involved. The point here is merely that there are some aplastics which may appear with passive syntax.

(see below); rather, on this scheme, Middle Deponents are singled out merely on the basis of not possessing Active Aorists.

In the following sections I present the basic classes of aplanic verbs in Classical Greek. Along with this I give an analysis of how they must be inherently specified morphologically given their behavior. A number of complex interactions between the passive and the non-active voice systems are implicated in describing the following classes, but the analysis of these is not presented until §3.6.6. In presenting the aplanics I will therefore simply describe the relevant behaviors, and given an indication of what kind of diacritics are necessary to account for this. The entire network of relationships among features which defines the Greek system will not be at hand until the discussion presented in §§4.5-6; however, the discussion of diacritics, their interactions, and the verbal classes thus defined will be reviewed in §3.6.8.

3.6.5.2 Middle (Non-Active) Deponents

The class of Middle Deponents in Greek covers a wide range of syntactic and lexico-semantic types; the following examples illustrate:

(70)	agonízomai 'contend for a prize, fight'	mák ^h omai 'fight'
	aitiōmāi 'accuse'	mek ^h anōmāi 'construct, contrive'
	akroōmāi 'listen'	mimoōmāi 'imitate'
	hállomāi 'jump'	p ^h eídomāi 'spare'
	arōmāi 'pray'	k ^h arízomāi 'gratify, give graciously'
	aspázomāi 'welcome, greet'	k ^h rōmāi 'use'
	dék ^h omāi 'accept'	hépomāi 'follow'
	ergázomāi 'work, make'	punt ^h ánomāi 'inquire' (present stem)
	eúk ^h omāi 'pray'	gígnomāi 'to be born', 'become'
	hegoūmāi 'lead (the way)'	apek ^h t ^h ánomāi 'incur hatred'
	t ^h eōmāi 'gaze at, contemplate'	osp ^h raínomāi 'smell'
	iōmāi 'heal'	pétomāi 'fly'
	ktōmāi 'acquire'	ap ^h iknoūmāi 'arrive'
	logízomāi 'count'	aist ^h ánomāi 'perceive'
	martúromāi 'call to witness'	

The classification as Middle Deponent in some cases merely indicates that the verb in question does not have an active form, and not that it appears exclusively in Non-Active form. For instance, some Middle Deponents have Passive Aorists as well as Middle Aorists (examples from Smyth, §813.c):

(71)	agōnízomai ‘contend’	t ^h éáomai ‘behold’
	aikízomai ‘harass’	īáomai ‘heal’
	ainíttomai ‘speak darkly’	ktáomai ‘acquire’
	aitiáomai ‘accuse’	lūmaínomai ‘maltreat’
	akéomai ‘heal’	lōbáomai ‘abuse’
	biázomai ‘force’	mīméomai ‘imitate’
	dék ^h omai ‘receive’	olop ^h úromai ‘lament’
	dōréomai ‘present’	prop ^h asízomai ‘feign an excuse’
	ergázomai ‘work, do’	k ^h ráomai ‘use’
	hēgéomai ‘lead’	onéomai ‘buy’

Technically, then, these verbs are capable of Active/Middle syntax (see below), as well as passive syntax. To illustrate, a Middle Deponent verb like *aitiáomai* ‘accuse’ has (among others) the following forms:

(72)	aitiáomai ‘accuse’ (Middle Present)
	etiāsámen ‘accused’ (Middle Aorist)
	etiát ^h ēn ‘was accused’ (Passive Aorist)

Verbs specified as Middle Deponents are thus superficially divisible into (1) verbs which, like Latin deponents, cannot appear in Passive syntax; and (2) verbs which are capable of appearing in Passive syntax. The Middle Deponents capable of appearing in Passive form are, however, not aplastic in the same way that Latin *-r-*form verbs are: they vary between Middle and Passive inflection. These verbs could simply be treated as bearing a diacritic [NonAct] for the ‘Middle’ set of inflections. Alternatively, they could be such that they may only be inserted in the sort of ‘auto-benefactive’ syntactic environment. In any case, the reason that the [NonAct] specification does not ‘override’ the passive inflection in Passive syntactic configurations follows from the analysis of Passive/Middle interactions presented in §3.6.6 below, which I will simply assume for the present. The passive and non-active inflectional systems do not compete with one another, but instead

the passive inflection figures as a sort of modification of the feature [NonAct]. That is, I will show below that the realization of 'Passive Morphology' is in fact the instantiation of the features [NonAct] and [Pass] simultaneously by a single signal. Thus when a verb specified for [NonAct] appears in a syntactic environment in which [Pass] is licensed, these two features act together in determining the realization of passive forms.⁴³

In terms of how verbs of this type fit into the typology of inherently specified verbs, the point is then that while the relevant Greek verbs are not a-plastic in the same way that their Latin counterparts are, they are still inherently specified for the [NonAct] diacritic.⁴⁴ The traditional classification of Middle Deponent thus embraces a syntactically heterogeneous class. There are, however, verbs incapable of appearing in any form but the Non-Active (those in (70) perhaps subtracting those in (71), and which therefore require inherent specification for [NonAct]).

3.6.5.3 Passive Deponents

A number of verbs are classified as Passive Deponents for the Classical Greek period. Syntactically the transitive Passive Deponents are, like other sets of Classical Greek

⁴³A part of the analysis below is the idea that passive syntax simultaneously assigns both [NonAct] and [Pass] features in Greek. The passivizable Middle Deponents are thus parallel to the *verba commūnia* in Latin, in the sense that each of these is (1) inherently specified for a feature, and (2) able to appear in the syntactic environment(s) assigning that feature.

⁴⁴This treatment predicts that there should be no verb which is capable of active and passive but not non-active inflection; e.g:

(73) Hypothetical Verb *X*

Present: Active/*Middle

Aorist: Active/Passive/*Middle

Future: Active/Passive/*Middle

Perfect: Active/*Middle

There are a few putative exceptions, namely Passive Deponent verbs that appear with Passive Futures but not Middle Futures: e.g. *hédōmai* 'take pleasure in', Fut. *ēs^hēsōmai*; *hētáōmai* 'yield to', Fut. *ētēr^hēsōmai*. Otherwise this claim is, as far as I am aware, correct.

verbs, different in taking different case forms on their objects, etc..⁴⁵ The following is a representative sample, drawn primarily from Smyth:

(74) **Passive Deponents**

†ágamai ‘admire’	†hédōmai ‘take pleasure in’
*†aidéōmai ‘feel shame’	hēttáōmai ‘yield to’
aláōmai ‘wander’ (poetic)	(en-)t ^h ūméōmai ‘consider’
†hamilláōmai ‘contend’	(pro-)t ^h ūméōmai ‘am eager’
†apnéōmai ‘deny’	*†(dia-)léōmai ‘converse’
*ak ^h t ^h ōmai ‘am grieved’	(epi-/meta-)mélōmai ‘care for/regret’
boúlōmai ‘wish’	(apo-)noéōmai ‘despair’
déōmai ‘want’	*(dia-)noéōmai ‘reflect’
dérkōmai ‘see’ (poetic)	(en-)noéōmai ‘think of’
dúnāmai ‘am able’	†(epi-)noéōmai ‘think on’
enantióōmai ‘oppose’	†(pro-)noéōmai ‘foresee, provide’
epístāmai ‘understand’	oíōmai ‘think’
éramai/eráō ‘love’	p ^h ilotíméōmai ‘am ambitious’
eulabéōmai ‘am cautious’	

* = Future Passive and Future Middle

† = Middle Aorist also, but uncommon/poetic/late Greek

These verbs are such that they may only appear with passive morphology in the Aorist. However, there is again a sense in which these verbs are not aplastic in the same way as Latin verbs may be. As noted above, the Greek verbal system distinguishes passive from non-active inflection only in the Aorist and Future Tenses. When the verbs enumerated above appear in the two-Voice tenses, the Present and Perfect systems, they appear in non-active form. Again, this follows from the relationship between passive and non-active morphology, as analyzed in §3.6.6 below. The [Pass] morphological feature occurs only

⁴⁵Information about the syntax of these verbs is derived from Carmichael (1841), Veitch (1871), and Smyth (1920).

with the feature [NonAct]. Thus a Passive Deponent, rather than simply possessing [Pass] inherently, is specified for both [NonAct] and [Pass]. In the Tenses in which there is no distinction between passive and non-active, the fact that Passive Deponents appear as Non-Active follows automatically, as to be discussed in detail below.

3.6.5.4 Activa Tantum

Active-only verbs have a status which is less clear than that of the Middle or Passive Deponents. The following verbs (taken from Smyth (1920) and Rijksbaron (1984)) are classified as *activa tantum*:

(75)	gelō ‘laugh’	baínō ‘walk’
	vosō ‘be ill’	get ^h ō ‘rejoice’
	nostō ‘return’	ózō ‘smell’
	píptō ‘fall’	dakrúō ‘weep’
	ménō ‘stay’	

The verbs listed here are only restricted to active inflection in their intransitive guises. For verbs like ‘weep’ which may function transitively (‘weep for’), there is a medio-passive form with passive interpretation. The restriction is thus not (in some cases) morphological. Moreover, some of these verbs are such that they only possess Non-Active inflections in the Future; thus there is in some cases no reason to hold that the root in question simply cannot receive Non-Active morphology.

It is unclear precisely how to capture the behavior of these verbs. One option is to treat them as having some sort of diacritic [Act] for active only inflections, but I think this should be excluded. If the morphology of Greek had access to a feature like [Act], there is reason to expect that there should be systematic classes of verbs with active morphology appearing in various non-active syntactic environments. Yet despite the uncertainty surrounding intransitive *activa tantum* verbs, it is notable that I have been unable to find a class of systematic *activa tantum* transitive verbs. One such case is found in examples like *p^heúgō* ‘flee’ (cf. also Rijksbaron (1984)); cp. English **The city was fled by John*. Another

instance is the verb *apot^hneiskō* 'kill', an active intransitive, which is claimed to serve as a passive. As noted, cases of this type are exceptional, and their status as 'passives' is unclear. In any case, for the purposes of this discussion be operating on the hypothesis that the only verbs which cannot be passivized are subject to this restriction for systematic reasons relating to syntax/semantics.

Returning to the verbs noted at the outset, another direct way of capturing the behavior of the intransitive *activa tantum* would be to specify them in such a way that they are precluded from appearing in Non-Active (i.e. Middle, since Passive is not relevant) syntactic environments. The morphological restriction would then follow without a morphological feature like [Act]: these verbs would be active only because they could only appear in active syntax.

3.6.6 Passive/Middle Interactions

3.6.6.1 Facts and Features

In this section I explain the complex set of interactions between passive and non-active morphology. As noted earlier, there are distinct Passive and Non-Active forms only in the Aorist and Future Tense systems; elsewhere there are only Non-Active forms. This pattern applies to deponents inherently specified as Passive Deponents, as well as to normal verbs in passive syntax. This points to an apparent interaction between the morphological diacritics [Pass] and [NonAct]. Allowing morphological theory to apply processes to abstract diacritics of this sort, e.g. converting one into another, would be a serious departure from the most restricted state of affairs. I demonstrate here, however, that the Greek system of Passive/Non-Active interactions is constrained in such a way that its behavior follows directly from syntactic considerations.

3.6.6.1.1 Syncretism and the Tense/Aspect System Passive and Middle syntax syncretize in what I am calling the Non-Active endings. But this connection exists in only part

of the Tense-systems. Passive syntactic configurations are only realized with verbs identical with verbs found in Middle syntax in the Present and Perfect systems.⁴⁶ Concretely, this is illustrated in the following partial set of forms for *lúō*, which correlates Tense and Morphology with syntactic configuration:

(76) Forms for *lúō* 'loose'

Tense/Morphology	Form	Syntax
Present Active:	<i>lúō</i>	Active
Present Non-Active:	<i>lúō-mai</i>	Middle/Passive
Aorist Active:	<i>é-lū-s-a</i>	Active
Aorist Non-Active:	<i>e-lū-s-á-mēn</i>	Middle
Aorist Passive:	<u><i>e-lú-t^{hē}-n</i></u>	Passive
Future Active:	<i>lú-sō</i>	Active
Future Non-Active:	<i>lú-so-mai</i>	Middle
Future Passive:	<u><i>lu-t^{hē}-so-mai</i></u>	Passive

As the chart shows, the passive morpheme *t^{hē}* appears only in the (underlined) Aorist and Future Tense forms.

3.6.6.1.2 The Morphological Feature [Pass] and Syncretism The second point to be made elaborates on the nature of the passive/non-active syncretism: it is the passive inflectional feature which is involved in the interaction with the non-active. This may be seen in the fact that passive deponent verbs, which do not have passive syntax, appear as non-active, i.e. with Middle endings, in the two-form tenses.

- (77) a. Aorist: *eboulét^{hēn}* 'want' (Passive Deponent)
 b. Middle: *boúlomai* (Present Tense: Non-active form)

Thus one cannot necessarily conclude that there is some feature of passive syntax which results in Middle inflection when Passive forms are not available; the same Passive/Middle

⁴⁶Occasionally in the Future as well; see below.

syncretism obtains whether the passive feature is assigned by the syntax or provided by a particular Vocabulary Item.

3.6.6.1.3 Active Endings in the Aorist Passive Finally, the third fact to be explained is that the Aorist Passive shows person/number endings which are from the active set, while the Future Passive shows non-active endings:⁴⁷

(78) a. e-lú-t^hē-n, 1st Aorist Passive of *lúō* 'loose'

-n = 2nd Aorist Active 1S ending

b. lu-t^hē-so-mai Future Passive -mai = Non-Active 1S ending

Given the fact that passive syntax and Passive Deponents systematically syncretize with the Non-Active in the two-voice Tenses/Aspects, the appearance of Active as opposed to Non-Active endings calls for an explanation. At first glance, the appearance of active endings seems to be unrelated to the question of Passive/Non-Active interactions. I will show, however, that the treatment of these two problems can be unified, in a way that allows for insight into the question of how the voice features under discussion may be related to each other.

3.6.6.1.4 Inventory of Features In the discussion to come I will make use of a specific set of morphological features in discussing passive/middle interactions. These are as follows:

(79) a. [Pass] Feature assigned in passive syntax/possessed by certain verbs

b. [NonAct] Feature assigned in Middle syntax/possessed by certain verbs

⁴⁷Bakker (1994) provides a different perspective on the issues discussed in this paragraph, and seeks to derive the appearance of Active endings with Passive forms from an interaction of Aspect and Aktionsart. While such a treatment would be extremely interesting on a number of levels, Bakker's only argument for this position is that certain verbs which are Middle in the present are Passive in the Aorist, while others are Middle in the Aorist. On this basis alone he stipulates that the nature of the Passive Deponent class is fundamentally specifiable in terms of Aktionsart, without providing any evidence that the putative differences in event type are manifested anywhere other than in the phenomenon he is seeking to explain.

c. [Perf] Aspectual feature for 'Perfectivity'

3.6.6.2 Outline of the Analysis

The key to understanding a number of issues, as I will show below, is recognition of the fact that, in addition to involving the feature [Pass], syntactic passives result in a structural configuration which meets the conditions for the assignment of the feature [Non-Active] in the morphology.

3.6.6.3 Analyzing Passive/Middle Interactions

3.6.6.3.1 Syntax The question I will begin with concerns the syntactic basis for the Middle voice in Greek. The account of Barber (1975) addresses the nature of the Middle voice directly, and provides what in part amounts to a syntactic treatment of the subject.⁴⁸ Barber's fundamental claim is that the Middle voice is used to indicate the existence of an identity relationship between the surface subject and some other NP in the clause. The identity relation extends to three syntactic configurations: direct object, indirect object, and possessor (i.e. genitive.) In cases in which the Non-Active indicates that the subject is acting out of self-interest or for self-benefit, the Middle plays the role which would have been played by a dative pronoun. Having proposed this account for the Middle, Barber recognizes that the syntax of Passivization is not amenable to such an account, and observes that the passive has in common with the Middle the fact that the subject is 'affected' by the action in a way that the subject of an Active is not. That is, Barber modifies her account such that the Non-Active appears in all of the cases in which the surface subject is at the receiving end of the action. In the cases described as 'Middle' syntax above, this is because the surface subject is, on Barber's account, coreferent with an NP in the clause. In the case of the passive this is because the surface subject is the

⁴⁸For different accounts see Risselada (1987), Bakker (1994); I will not review these discussions here.

logical object of the verb.⁴⁹

On a very descriptive level, aspects of Barber's characterization of the Middle interpretation as being related to a pronoun coindexed with the subject seems to be correct.⁵⁰ There are, however, two problems. The first is that the account does not specify what aspect of the 'affected-subject' syntax is responsible for the morphological realization of Non-Active Voice. That is, the account is not straight-forwardly syntactic, nor is it directly semantic. I will therefore proceed with an (re-)examination of the syntactic questions at issue, focusing on the relationship between syntactic configurations and the features [Pass] and [NonAct].

3.6.6.3.2 Feature Assignment The first syntactic question to be asked is whether Barber's characterization of the syntax of the Middle extends naturally to the passive in the way that she intends. The analysis appeals to a notion that amounts to something like the following: Non-Active voice morphology appears with Affected subjects. The interpretation of something like this in syntactic terms is, I suggest, as follows. In two cases, the Direct and Indirect (i.e. Benefactive) Reflexives, the syntax is relatively straight-forward. The verbs which are reflexive with just the Non-Active can be analyzed as with other reflexives of this type (cf. the discussion of Modern Greek in Chapter 1), with the surface subject originating as the object of the verb and raising. The Benefactive can be treated similarly, with the surface subject originating as the indirect object of the verb.

⁴⁹This observation of Barber's is really the same point about the Middle made by traditional grammarians (although I think not that of the Greek grammar of Dionysius Thrax.) What is novel to her presentation is the attempt at a syntactic definition of the distribution of Middle voice alternations.

⁵⁰It has, however, been challenged. Klaiman (1991) criticizes Barber's account on two main points, which may be mentioned in passing. One set of criticisms is based on functions of what is labelled the Middle voice in non-Indo-European languages. As Barber's analysis applies directly only to Greek, these considerations are largely irrelevant; especially so if one does not appeal to any sort of pre-specified notion of 'Middle Voice'. There is a further criticism from Indo-European, and which is based on an example from Sanskrit (and holds for Greek as well.) Her claim is that the use of the Middle voice to mark the intransitive member of a verb in the Transitivity Alternation is problematic, because such cases are not passive, and cannot be reduced to a case of coreferentiality between the surface subject and a non-overt NP (i.e. *The stick got itself bent* is not a paraphrase for *The stick bent*.) It does not take a great deal of imagination, however, to observe that this function can be assimilated to the passive case, in that the action expressed by the verb directly affects the surface subject. Klaiman has simply not understood Barber's argument, or in any case has failed to apply it properly.

(80) $V \rightarrow V\text{-VOC[NonAct]}/___$ (DP Raising)

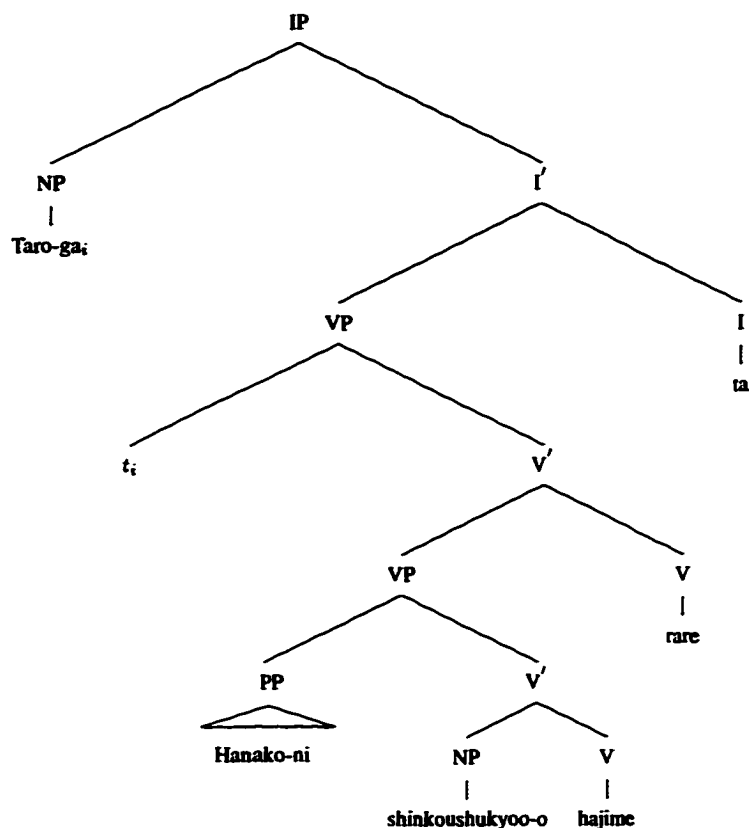
A third environment is one in which something is done 'on the subject'; i.e., in which the surface subject is not the agent of the action, but is affected by it. This is similar to the Benefactive Reflexive, except that there is no external argument clitic. This type of case can be assimilated to a type of construction found elsewhere. The interpretation of such forms is one in which the surface subject is involved in a particular outcome, but is not the Agent of the action denoted. This is basically like a type of passive in Japanese discussed by Kubo (1990) among others (see references cited there):

(81) Taro-ga Hanako-ni shinkoushukyoo-o hajime-rare-ta
Taro-NOM Hanako-DAT new-religion-ACC begin-PASS-PAST

'Taro had Hanako start a new religion on him.'

One clear difference is that while passives of this type in Japanese are basically Malefactive, the relevant type in Greek is more Benefactive. But the structures can be identified as basically the same:

(82) Japanese 'Gapless' Passive (Kubo 1990)



The real questions concern how these derivations compare with the syntax of passives. Like the cases referred to as 'Middle', this also involves the NP-movement of an argument of the verb to become the surface subject. Before this can be undertaken, other aspects of the passive must be dealt with. Part of what must be clarified is the Aspectual component of the Passive. The realization of the passive formants only occurs in Punctual aspects. However, the passive morphology itself cannot simply be a combination of the feature [NonAct] and the feature [Punctual], as there is in fact a distinct Aorist Middle.

The passive, I will therefore assume, involves a second feature which I will label [Pass]. For the time being I will simply assume that this is related to the non-anaphoric Agent element found in passives but not in anticausatives, 'Middle'-syntax, or inherent reflexives. The morphology thus assigns the Dissociated feature [Pass]:⁵¹

⁵¹One open question concerns why the Benefactive passive without reflexive interpretation (compared with the Japanese case above) is realized with Non-Active as opposed to Passive morphology. I leave this question open for future research.

(83) $V \rightarrow V\text{-VOC}[\text{Pass}]/_ \text{No external DP, Agent}$

As noted above, the syntax associated with Non-Active morphology consists of cases in which an internal argument of the verb raises to become the surface subject. The point is that this set of conditions includes passive syntax as well. That is, in a passive syntactic configuration, both (80) and (83) are applicable. The Voice node in passive syntax is thus assigned both [Pass] and [NonAct].

3.6.6.3.3 The [NonAct] and [Pass] Features. I will begin discussion of these two features with reference to their signalization. The expression of passive and middle morphology differs: the former is invariant $-(t^h)\bar{e}-$, while the latter is characterized by a set of endings alternating for Person and Number. Although the Middle voice is marked by a set of Person/Number endings *-mai*, etc., these may not be treated simply as fused Voice+Agr nodes, as may be seen in Future Passive forms which show $-t^h\bar{e}\text{-so-mai}$, with Voice and Agreement realized separately. This argues that while the specialized set of endings referred to as Non-Active is conditioned by the feature [Non Active], there is no specific node, i.e. no primary exponent of Non-Active voice like there is with the Passive. This, however, does not mean that the node is not there, merely that there is no morphological signal inserted into a node with the feature [Non Active]. Instead, the presence of this feature is detected through its contextual effects on the realization of agreement. That is:⁵²

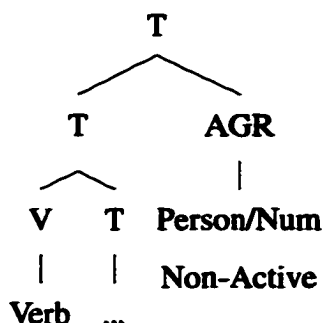
(84) $[\text{Passive ...}] \leftrightarrow /-t^h\bar{e}/$

(85) $1S \leftrightarrow \text{-mai}/_ [\text{Non-Active}]$

This treatment of the Non-Active requires some further explanation. If [NonAct] is considered only as assigned by the syntax, it seems that it is possible to consider an account according to which the feature [Non-Active] conditioning the insertion of the non-active endings would be located in AGR, i.e. in which it is directly instantiated with non-active endings rather than conditioning their insertion contextually; that is:

⁵²The feature [Pass] is not solely responsible for the realization of $t^h\bar{e}$; this is shown below.

(86)



The existence of Middle Deponents argues that the position of the non-active feature, which in the case of the Deponents must be associated with the root, should be treated uniformly as associated with a Voice node attached directly to the verb. That is, the feature [NonAct] is in these cases a property of the root, and contextually affects the insertion of agreement suffixes. I am assuming that it appears as basically adjoined to the verb in the morphology.⁵³

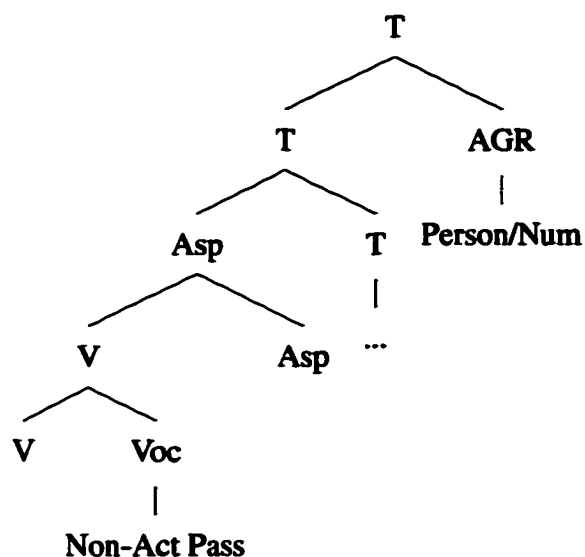
(87) V-VOC[NonAct]

I will therefore assume that [NonAct] and [Pass] are features of the same structural node.

3.6.6.3.4 Realization of the ‘Passive Morpheme(s)’ The treatment I present of the Active endings/Passive morphology conflict focuses on (1) the conditions under which [Pass] is assigned syntactically, and (2) the conditions governing the realization of the ‘Passive Morphology’. I am assuming that the basic syntactic object involved is the V-Asp-T complex, with Voice and AGR nodes added to V and T in the morphology:

(88)

⁵³I do not have any specific mechanisms in mind for deriving this structure, however. It is not clear what would depend on a specific stance on this question.



I will begin with the fact that the passive morphology $-t^h\bar{e}$ - only appears in the Aorist and in the Future, and is not present elsewhere in the Tense system. An analysis of the behavior of [Pass] must therefore be directly linked to aspectual considerations. There are two reasons to think that linking the [Passive] with Aspect in this way is correct. The first may be seen in the fact that the Future Passive has, as opposed to Future Middle interpreted passively, a punctual (Aoristic) interpretation; that is, $-t^h\bar{e}$ never appears without the concomitant aspectual interpretation of punctuality:

- (89) a. Middle: $t\bar{i}m\acute{e}somai$ 'I shall enjoy honor'
 b. Passive: $t\bar{i}m\acute{e}t^h\acute{e}somai$ 'I shall be honored (on a definite occasion)'
- (90) a. Middle: $\acute{o}p^h\acute{e}l\acute{e}somai$ 'I shall receive lasting benefits'
 b. Passive: $\acute{o}p^h\acute{e}l\acute{e}t^h\acute{e}somai$ 'I shall be benefitted (on a definite occasion)'

The second is diachronic in nature, related to the fact that the $-\bar{e}$ component of the passive (which is the entire passive morpheme of the 2nd Aorist) originated as a marker of a punctual change of state.

A direct implementation of this has the passive morpheme then instantiating both of these features (ignoring for the moment the role of Aspect):

(91) Pass NonAct ↔ -(t^h)ē-

However, I think this analysis does not go quite far enough, based on a further fact. The passive morphology in question has the property that it systematically prevents the realization of the regular Aorist Aspect morphology, the *-s-*. To capture this additional fact, I will hold that the conditions on *-t^hē-/ē-* contain the specification for the [Perf] feature characterizing the Aorist as well:

(92) [Pass Non Active Perf] ↔ /-t^hē-/

This requires that the Voice and Asp terminals Fuse (in the Punctual aspects) prior to Vocabulary Insertion.

The *-s-* appears with the 1st Aorist Active, but not the 2nd Aorist Active (which is therefore termed ‘asigmatic’.) Both passives, like the 2nd Aorist Active, are asigmatic. This is captured directly if the ‘Passive Morphology’ realizes aspectual features as well. Note, however, that it does not follow if [Pass] is simply Impoverished in the context of non-punctual aspectual features. The aspectual feature [Punct] would still be available in the e.g. Aorist. To prevent the appearance of the aorist morphology, a further Impoverishment rule deleting [Punct] in the context of [Pass] would have to be stated. On the analysis given here, this is not required. Insertion of *-(t^h)ē* bleeds the regular affixation of aorist morphology.

3.6.6.3.5 The Endings I now turn to the Person/Number endings. The endings found with the Aorist Passive are the *secondary* active endings, i.e. those that would be found with the active form of a verb taking a secondary Tense. This may be seen in comparing a First Aorist Passive with a Second Aorist Active:⁵⁴

⁵⁴The ending for 3PL in the secondary tense system appears as either *-n* or *-san*.

(93) First Aorist Passive of *lúō*

P/N	Form
1S	e-lú-t ^h ē-n
2S	e-lú-t ^h ē-s
3S	e-lú-t ^h ē
2D	e-lú-t ^h ē-ton
3D	e-lu-t ^h ē-tēn
1P	e-lú-t ^h ē-men
2P	e-lú-t ^h ē-te
3P	e-lú-t ^h ē-san

(94) 2 Aor. Act. of *leípō* 'leave'

P/N	Form
1S	é-lipo-n
2S	é-lipe-s
3S	é-lipe
2D	e-lípe-ton
3D	e-lipé-tēn
1P	e-lípo-men
2P	e-lípe-te
3P	é-lipo-n

This is not the result of an inability of Non-Active endings to appear in the Aorist; the following show the existence of Active and Middle Aorist forms for *lúō*:

(95) First Aorist Active of *lúō*

P/N	Form
1S	é-lū-sa
2S	é-lū-sa-s
3S	é-lū-se
2D	e-lú-sa-ton
3D	e-lū-sá-tēn
1P	e-lú-sa-men
2P	e-lú-sa-te
3P	é-lū-sa-n

(96) First Aorist Middle of *lúō*

P/N	Form
1S	e-lū-sá-mēn
2S	e-lú-ō
3S	e-lú-sa-to
2D	e-lú-sa-st ^h on
3D	e-lū-sá-st ^h ēn
1P	e-lū-sá-met ^h a
2P	e-lú-sa-st ^h e
3P	e-lú-sa-nto

This is not the complete pattern, however; the situation becomes more complex when the second Tense system showing a distinct passive, the Future, is considered. Apparently running contrary to the observation concerning the Active endings in the Aorist Passive is a further point, namely that the Future Passive does in fact appear with the Middle

endings.⁵⁵ I will leave the Future aside for the time being, and focus on the passive in the Aorist.⁵⁶ Given the analysis above according to which $-(r^h)\bar{\epsilon}$ - instantiates both [Pass] and [NonAct], a solution to the question of the endings is at hand. That is, the reason for the appearance of active endings with the Aorist Passive follows directly from the specification of the 'passive morpheme'. When the Vocabulary Item $-r^h\bar{\epsilon}$ realizes the features [Pass] and [NonAct], these features are *discharged* in the sense of Noyer (1992). The discharge of features exhausts them for the purposes of further morphological processes. In the present case, [NonAct] is used up in the realization of the Passive Morpheme, and cannot condition the insertion of the Non-Active endings. Realization of the Passive Morpheme thus bleeds realization of Non-Active morphology.

3.6.6.3.6 Non-Punctual Aspects In the non-punctual aspects, the content of the Voice node in passive syntax will be [Pass NonAct]. The passive morpheme cannot be inserted here, as it is specified for aspect as well. Thus both features, [Pass] and [NonAct], are still potent. The feature [Pass] simply goes unrealized. The feature [NonAct] has its usual effect, and conditions insertion of the Non-Active set of endings. Thus the passive syncretizes with the Non-Active.

3.6.6.3.7 Feature Modification and Passive Deponents The preceding discussion covers the realization of the 'passive morpheme', holding that it instantiates both [Pass] and [NonAct]. I now extend this to the passive/middle syncretism found with Passive Deponents. This is the most difficult case, in that, in order for the Passive/Non-Active

⁵⁵The Middle endings appear in the Future passive only in certain dialects of Ancient Greek; in other dialects (in particular, in a number of West Doric dialects), the Future Passive shows active endings, just like the Aorist Passive (see Buck (1955:117)). The Aorist is, as far as I am aware, consistent across dialects in its endings. The fickleness of the Future Passive (and its rarity) suggest that it is the deviant case, and this is how I will analyze it below.

⁵⁶The Middle endings tend to predominate in the Future for all verbs (active and otherwise), as discussed below (§3.6.7.1); one might therefore think that the non-active endings with the Future Passive appear for this reason. However, the appearance of the non-active endings is entirely systematic: even verbs which have active Future forms only allow non-active endings with Future Passives. This suggests that the relationship is not one that must be specified for individual verbs, as is the case with the Middle in the Future more generally (again, see §3.6.7.1.) Rather, the relationship is morphosyntactic, such that it is passives that are always realized with middle endings.

syncretism of these verbs to be explained, the presence of both [Pass] and [NonAct] features on the Voice node must be justified.

The position I will take is that the feature [Pass] is what I will call a *Modification* on the feature [NonActive].⁵⁷

(97) **Modification:** Feature $[\alpha]$ modifies $[\beta]$ if $[\alpha] \rightarrow [\beta]$.

With the Passive Deponents, the point about making the feature [Pass] a Modification of [Non Act] would be as follows: there simply is no [Pass] without [NonAct], whatever the origin of [Pass] may be. That is, whether [Pass] is assigned in a syntactic configuration, or possessed inherently by a particular verb, the feature [Pass] always brings [NonAct] with it. When a Passive Deponent is inserted in a Tense/Aspect in which the feature [Pass] is neutralized, the feature [NonAct] will still be present, by virtue of the relationship between the features [Pass] and [NonAct]. These behavior of these verbs, for which the voice features are idiosyncratic, thus parallels the behavior of verbs to which voice features are assigned syntactically.

3.6.6.4 Conditions on Modification

Having discussed a morphological treatment of Passive/Middle syncretisms, based on the idea that the features [Pass] and [NonActive] are related to one another in a specific fashion, I would like now to review certain aspects of this solution considered in the abstract. I will begin with two options concerning the relationship between the Middle and Passive diacritics. The first of these would be a situation in which aspects of passive syntax independently license two diacritics, [Pass] and [Non-Act], where these are not in any particular relationship with one another; this is the *independent licensing* account.

The independent licensing account fails to capture the fact that Passive Deponents appear as with Non-Active inflection in the two-voice tenses. These facts could be captured with this treatment, but only with the stipulation of an ordering among diacritics

⁵⁷Below I will examine the conditions under which Modification of this type should be appealed to.

which should only be resorted to if strongly motivated. In effect, this amounts to a solution which does not rely on the notion of licensing directly. In order to achieve the desired results, one would have to impose from the outside a hierarchical relationships on the two diacritics under discussion:

(98)

[Pass] → [NonAct]

In this type of system, any morphological process impoverishing [Pass] would result in the realization of [Non-Act]. However, without any sort of restrictions on the conditions under which this type of relationship may be appealed to, this type of statement is completely arbitrary. If orderings of this type could be imposed at will, then any combination of morphosyntactic features could be stipulated to stand in this sort of relationship, with the result being that the predictions made by impoverishment would be completely unrestricted. One could account for any morphological pattern in which e.g. $-Z$ appears instead of the expected $-X$ by stipulating that $-X$ is dependent on $-Z$ in the relevant way, and then Impoverishing $-X$. If the features involved could be appealed to haphazardly, one could use Impoverishment to derive a feature like e.g. [Optative] from e.g. [Dual].

If something like (98) is to be made restrictive and theoretically interesting, the conditions under which features may stand in the relevant type of relationship must be examined in detail. In the case of e.g. Person/Number/Gender features, this question has been explored in detail in both Bonet (1991) and Noyer (1992), both of which operate with the notion that these types morphosyntactic features standing in hierarchical relationships to one another, for instance Person > Number > Gender. In the present case, I will argue that the ordering in (98) is justified by the manner in which the two features in question are licensed in the syntax in the first place. On a morphological level, this is what I will call the *modification* account, according to which the feature [Pass] only appears with the feature [Non-Act]. The differences between the two types of account have to do with the conditions under which dependencies like that in (98) could be appealed to: by claiming

that the syntactic situation is such that [Pass] is only assigned in certain sub-contexts in which [Non-Act] is licensed, the idea is that the relationship between the diacritics can be restricted to a specific set of circumstances, summarized as follows:⁵⁸

- (99) a. **Dependencies between Diacritics (Modification):** Enhancement in syntactic licensing is necessary to determine a relationship of dependent licensing among diacritics.
- b. **Specifically:** Diacritic α will be dependent on (i.e. not occur without) diacritic β only if the syntactic contexts licensing β subsume those licensing α .

In other words, (98) as a component of the morphology is only possible when the syntactic contexts licensing [Pass] are a proper subset of those licensing [Non-Act]. What this amounts to in the abstract is the following. The syntax which results in the assignment of the feature [Non-Active] has certain attributes, say X , while the syntax assigning the feature [Passive] has X and Y . However, rather than the assignment of one or the other of these features somehow discharging the relevant syntactic component, in a situation in which the syntax has attributes X, Y , both [Non-Active] and [Passive] will be assigned. That is, the following morphological processes are such that the first does not bleed the second:

- (100) a. $V \rightarrow \text{Voice[Non-Active]}/_ X$
- b. $V \rightarrow \text{Voice[Non-Active Passive]}/_ X, Y$

Rather, the more specific assignment, that conditioned by X and Y applies. There is thus an asymmetry between the manner in which syntactic configurations assign features and the manner in which morphological signals discharge such features in Vocabulary Insertion.

⁵⁸Meeting the first condition here should not be taken as automatically forcing modification; rather, this is a precondition.

3.6.6.4.1 Derivation The following operations are involved in accounting for the Passive/Middle interactions discussed above:

(101) Morphological Operations

a. Dissociated Voice Assignment

$V \rightarrow \text{Voice}[\text{Pass NonAct}] / __ \text{Passive Syntax}$

b. [Pass] Impoverishment

$[\text{Pass}] \rightarrow \emptyset / __ [-\text{Punctual}]$

c. Fusion

$[\text{VOC}] [\text{ASP}] \rightarrow [\text{VOC ASP}] / __ \text{Punct and Pass}$

The contextual feature [2nd] here stands for the feature conditioning the insertion of the secondary as opposed to primary endings.

(102) Spell-Out Rules

a. ASP

$\text{Perf Pass NonAct} \leftrightarrow -(t^h)\bar{e}$

b. AGR

$1 \text{ S} \leftrightarrow -m\bar{e}n / __ \text{NonAct 2nd}$

⋮

$1 \text{ S} \leftrightarrow -mai / __ \text{NonAct}$

⋮

3.6.6.4.2 Aside: The Future Passive This leaves the Middle endings in the Future Passive to be accounted for. As noted above, I consider this case ‘deviant’, and the Aorist Passive case ‘normal’.

One option might involve an attempt to specify the non-active endings in such a way that they themselves instantiate nodes on which a non-active feature is present; that is, one might envision a system in which the syntax assigns the feature [Non-active] to Agr in a specific configuration. However, passive deponent verbs like *hédomai* appear in the Future in passive form, and, like syntactically passive Future Passives, with Non-active endings: *ētēr^hésomai*.

An alternative suggested to me by Rolf Noyer, based on his unpublished work on the subject, would be to relate the endings taken by the passive to forms of the verb 'be'. The verb 'be' shows only Middle endings in the Future:⁵⁹

(103) Future Middle of <i>lúō</i> 'loose'	(104) Future of <i>eimí</i> 'be'
P/N Form	P/N Form
1S lú-so-mai	1S é-so-mai
2S lú-s-ē, lú-s-ei	2S é-s-ē, é-s-ei
3S lú-se-tai	3S é-s-tai
2D lú-se-st ^h on	2D é-se-st ^h on
3D lú-se-st ^h on	3D é-se-st ^h on
1P lū-só-met ^h a	1P e-só-met ^h a
2P lú-se-st ^h e	2P é-se-st ^h e
3P lú-so-ntai	3P é-so-ntai

This treatment reduces the behavior of the Future Passive to a type of diachronically-motivated dialectal idiosyncrasy; that is, Classical Attic Future Passives retain Middle inflection as a transparent indication of the role that the verb 'be' plays in the relevant forms. Presumably, then, the West Doric dialects which show active inflection in Future Passives have rendered the role of 'be' opaque, allowing for the appearance of the active endings in the Future to be accounted for in precisely the same way that this is captured in

⁵⁹This is part of a much larger pattern in which verbs in the Future show only Middle endings; see §3.6.7.1.

the Aorist.

3.6.6.4.3 Aside: An Untenable Alternative An alternative to the account formed above is based on considerations of locality and a distinct view of how [Pass] and [NonAct] interact.

If a parallel with the Aorist is to be had, it is necessary that something be stipulated regarding locality or discharge such that the [Non Active] feature would still be available to condition the insertion of the non-active endings. In order to discuss this concretely, we may consider the following decompositions of the Aorist and Future Passives:⁶⁰

(105) V-Voice-Asp-(T)-AGR

(106) a. elút^hēn
e lù t^hē n
TNS loose PASS/ASP AGR
'I was loosed' (Aorist Passive)

b. lut^hēsomai
lu t^hē so mai
loose PASS/ASP TNS AGR
'I will have been loosed.' (Future Passive)

Based on the fact that in the Future Passive the formant $-t^h\bar{e}-$ co-occurs with a Tense-related morpheme $-so/e-$, while the Tense in the Passive Aorist is instantiated in the Augment (i.e. the prefix; the actual Tense node could also be analyzed as $\emptyset-$ in the Aorist, with the Augment doing something else), it could be argued that (1) the Passive feature Impoverishes the Non Active feature, and that (2) the presence of the Tense component between $-(t^h)\bar{e}-$ and the AGR node prevents this from occurring, the relationship being non-local (I believe this is Bader's approach.) Specifically, the behavior of the Passive and the Middle would thus be something like the following. The feature [Passive] could be seen as Impoverishing the feature [Non-Active]:

(107) [Non-Active] \longrightarrow \emptyset / $__$ [Passive]

⁶⁰I am ignoring temporarily the question of whether the Augment corresponds directly to Tense when it appears in the Aorist.

As a result, the passive would (*ceteris paribus*) appear only with the active set of endings. In order to account for the appearance of Middle voice endings with the passive in the Future, it could be argued that the presence of the element *-so/e-* prevents the [Passive] feature from Impoverishing [Non-Active] by making these two features not local enough for the relevant interaction.

In those Tense systems in which there is no morphological passive, a rule based on Aspect could be stated so as to remove the [Passive] feature:

(108) [Passive] $\rightarrow \emptyset / __ [-\text{Punctual}]$

On the assumption that this occurs prior to the rule Impoverishing [Non-Active] when [Passive] is local, the interaction of Aspect and Voice will result in syntactic passives possessing only the feature [Non-Active] to be realized in the morphology, and will thus appear in Middle form. The ordering is as follows:

(109) Impoverishments

a. [Pass] $\rightarrow \emptyset / __ [-\text{Punct}]$

b. [NonAct] $\rightarrow \emptyset / __ [\text{Pass}]$

This type of approach is capable of handling the cases in which passive syntax appears with the Middle forms. However, the further issue of Passive/Middle syncretism with Passive Deponents has not been addressed. As developed to this point, the account under discussion would have such cases initially specified as [Passive]. Given the fact that [Pass] actually impoverishes [NonAct], there is no option for dual specification; [Pass] and [NonAct] could not cooccur on the same root. This treatment predicts that Impoverishment of the feature [Pass] in the non-punctual T/A-systems would result in Active forms, rather than the occurring Non-Active forms.

The behavior of e.g. *media tantum* verbs in the Future further clarifies the status of the Discharge and Locality accounts. On the Locality-based treatment, the Non-active feature would be placed on the AGR node. In the Future Passive, the intervention of

the node headed by the future formant *so/e* would prevent the Impoverishment of the feature [Non-Active] by the [Passive] feature. The Middle endings found in the Future with Middle Deponents are, however, not accounted for. In the case of these verbs, the feature [Non-Act] is not a feature related to the syntactic environment and added to a node like AGR post-syntactically, but is instead introduced by the insertion of a particular Vocabulary Item. Having been inserted with the root, the [Non-Active] feature then conditions the insertion of the Non-active endings, despite the presence of the intervening Future node. This, however, contradicts the Locality-based explanation for why the Future Passive appears with Non-Active endings. If the root in a Middle Deponent in the Future is local enough to AGR to condition the insertion of Non-active endings, then the [Pass] feature should equally be able to Impoverish the [Non-Active] feature on AGR as well.⁶¹ I conclude on the basis of the behavior of Middle Deponents in the Future that the Discharge account is to be preferred to the Impoverishment account.⁶²

⁶¹A further point concerns issues relating to the correlation between Middle and Future, which will be discussed in detail in §3.6.7.1. Effectively there are two ways of capturing the predilection for Middle endings in the Future; either there is a Non-Active feature associated with the Tense element:

(110) Voc → Non-Active/ __ Fut

or individual verbs carry a diacritic indicating that they must appear with Middle endings in the Future. On either approach, a local relationship is required by the root and the AGR node instantiated with the non-active endings. As there are verbs with Active Future forms, it is required on the Tense-licensing account that particular verbs be capable of Impoverishing the Non-Active feature on AGR. On the treatment according to which verbs are specified as being Middle in the Future, it is necessary that this diacritic of the root be capable of conditioning the insertion of non-active endings.

⁶²The Impoverishment treatment captures the appearance of Middle endings in the Future by appealing to locality, but only on the assumption that positions realized with Ø-affixes do not intervene for the determination of locality.

One concern is that it is not absolutely clear that the structures of the Aorist Passive and Future Passive differ in a way that is relevant to locality in the first place. That is, the locality-based analysis relies on one of two addition claims: either (1) the hierarchical structure of associated with the Aorist differs from that associated with the Future; or, if this is not the case, then the difference between the Future and Passive reduces to the claim that (2) considerations of morphological locality are influenced by whether or not an intervening node is instantiated with an overt affix or not.

3.6.6.5 Summary

The morphological issues arising from Passive/Middle interactions are centered on two questions (presented above and reviewed here) which at first glance are apparently unrelated to one another. The first concerned the fact that the passive, despite syncretizing with the Middle in two tense systems, takes Active as opposed to Middle endings in the Aorist. The second concerned the manner in which passives and passive deponents are realized in the Tense-systems which do not have a distinct passive morphology; in each case, the verbs which would appear as passive in e.g. the Aorist syncretize with the middle. Thus the verb *boúloomai* 'wish', which appears with only Passive form in the Aorist, appears with only Middle form in the Present. This is identical with what happens to syntactic passives, i.e. a passive syntactic configuration in the present tense will show a verb in the Middle voice; however, with the deponents in question there is no passive syntactic configuration, leading to the question of how the passive *diacritic* syncretizes with the middle. The analysis above captures these facts with the idea that (1) the signal $-(t^h)\bar{\epsilon}$ - instantiates both [Pass] and [NonAct], and (2) the feature [Pass] is a modification of [NonAct], and never appears without it.

To recapitulate: if [Pass] is syntactically licensed in a proper subset of the cases in which [Non-Act] is licensed, then the syncretism of Passive and Middle syntax can be accounted for naturally. The same specification required for this also accounts for why the Aorist Passive appears with Active endings as well.

3.6.7 Tense Dependencies

3.6.7.1 The Middle Voice in the Future

One very common pattern in Classical Greek involves verbs which are not aplastic in the Present and Aorist appearing only with Middle voice forms in the Future. In some cases, verbs with no active future use the future middle with active meaning: *lambánō* 'take' *lép-so-mai* 'take-FUT-N/A', *gignóskō* 'know' *gnó-so-mai* 'know-FUT-N/A'. There

are actually three categories here; verbs which have no Active Future at all, and which use the Non-Active only; verbs which have both Active and Non-Active Futures; and verbs which (sometimes) have an Active Future in Late Greek (for further illustrations see (157)-(159) in the Appendix):

(111) Verbs with No Active Future (Middle Only)

a. *lambánō* 'I take'

lép-so-mai

take-FUT-1S/Non-Active

'I will take'

b. *gignóskō* 'I know'

gnó-so-mai

know-FUT-1S/Non-Active

'I will know'

The first pattern here is actually representative of the system inherited from older Greek, as has been noted in historical studies.⁶³ According to Schwyzer and Debrunner (1953-70a), in all forms of constructing the Future, there is a preference for the middle voice, often in contrast to the Present/Aorist/Perfect. The conclusion to be drawn from this is that (at least at one stage) the primary means of forming the Future in Greek involved the use of the Middle endings, with the Active Futures having (at best) a secondary status.⁶⁴ Whether or not Futures could only be formed with Non-Active inflection is unclear.

⁶³This may be seen in the fact that the form of the Future may be contrasted with the Present and the Aorist. The Future shows the ϵ -grade. Thus *pask^hō* 'suffer' (Pres), *peísomai* (< **pent^hsomai*) Future, or *lambánō* 'take' (Pres), *lépsomai*.

⁶⁴The motivation for the Future/Middle correlation is unclear. Regarding an explanation for the Future/Middle correlation, Gonda (1960) discusses a suggestion by Meillet (1922) to the effect that the Future was originally Desiderative, with there being a connection between this and the notional semantics of the Middle voice. Gonda argues that this view cannot be maintained on the grounds that (a) Indo-Iranian desideratives are not exclusively/primarily inflected with Middle endings, and (b) Latin *s*-desideratives take only active endings; this counterargument does not seem entirely compelling, as there is no reason why these languages should necessarily do the same as Greek does in this arena. Gonda's own musings on the subject are difficult to follow, and I will not attempt to discuss them here.

To conclude this description, a number of verbs in Classical Greek show Tense-Dependent, or what I will call 'Secondary' aplasticity.

Primary Aplastic Specification A specification which is, *ceteris paribus*, maintained in the same way (as far as this is possible) throughout the Tense/Aspect system.

Secondary Aplastic Specification A specification which occurs for a particular verb only when in a single Tense/Aspect.

I turn in the next section to the theoretical questions this phenomenon raises.

3.6.7.2 Primary and Secondary Aplasticity

3.6.7.2.1 Relating the Diacritics As has been the case throughout this chapter, the specification of primary aplasticity would take the form of a diacritic borne by the verbal root. In light of the discussion showing the two types of aplasticity in Classical Greek, a characterization of secondary aplasticity is also required.

One possibility would be to appeal to a second diacritic borne by the verbal root.⁶⁵ Thus for instance V[β], with [β] as the second diacritic, would be the specification of a verb with e.g. only a Middle form in the Future (but an Active in the Present.) Within this type of approach, the behavior of verbs would result from the interaction of rules stating

⁶⁵A further area for discussion would be involve an examination of the two types of Future in their historical context. As already noted, the Middle voice predominates in the Classical Greek Future. On one approach to the origin of the Middle, it could be held that at a certain stage of Greek only Middle endings were possible in this tense. At this point in the language, it could be properly asserted that the feature resulting in the Middle endings in the Future was supplied not by particular verbs (as it was general), but instead by the morphosyntax of the Future itself. Thus one could in principle approach the secondary aplastic specification of Middle Futures with the Middle stemming from the Future, with a second set of verbs conditioning the Impoverishment of this feature, and thus being capable of receiving active endings (or Passive morphology, or Middle as well, depending on the syntax.) That is, the transition seen in certain verbs from Middle only Futures to Active Futures in throughout various stages of Greek could similarly be treated with Impoverishment, at least to the point when the Middle ceased to be the 'default' for the Future. This would require a period in which the Impoverishment rule would no longer be necessary, but in which special secondary diacritics like those discussed in the main text would be required for verbs with only Middle Futures. Drawing this sort of line would present serious difficulties which I will not even attempt to address here.

the relationships among diacritics. In this particular case, there would be a relationship between [NonAct] and [β], along the following lines:

(112) $V[\beta] \rightarrow V[\text{NonAct}] / _ \text{Fut}$

where [Fut] is a morphosyntactic feature which conditions the rule activating [β].

The problem with this type of statement as it stands is that there is no indication of how the features [NonAct] and [β] stand in relation to one another; as these are (by hypothesis) simply diacritics manipulated by the morphological component, nothing prevents any number of statements like (112) to be written in which completely unrelated morphological categories are related to one another. Without any sort of restriction, the statement in (112) looks suspiciously like a *Rule of Referral* of the type employed by Zwicky and Stump (refs.). On this sort of approach, rules like the following could be written, in which other features manipulated by the morphological component are related in a rule of the same form as (112):

(113) $V[\beta] \rightarrow V[\text{Perf Opt}] / _ \text{Fut}$

This would take a certain class of verbs and convert them into Perfect Optatives in the Future tense. If a rule schema of the type $[\beta] \rightarrow [\alpha] / _ X$ is accepted without further comment, nothing prevents other rules like this from being written, with other features arbitrarily substituted in for [Perf] [Opt] [Fut] etc. The point is that while Rules of Referral are clearly capable of describing the situation like the one under consideration, this is unsurprising. An approach proposing a Rule of Referral is no better than one which simply states the relevant descriptively generalization clearly.⁶⁶

The key to understanding the present case is found in the types of features at play. To begin with, the diacritics [NonAct] and [β] are on different planes. Whereas [NonAct] conditions vocabulary insertion (albeit contextually), [β] simply maps to another diacritic,

⁶⁶This is not to say, of course, that morphology never needs something like Rules of Referral. Rather, the point is simply that an appeal to something so arbitrary should only be a last resort, and should be recognized for what it is: a statement of the facts. For a discussion of approaches employing Rules of Referral as opposed to Impoverishment based systems of morphology, see Noyer (1995).

and only in a specific context. This restricts the potential effects of such a process. The restriction in the case under discussion is even stronger, given that the diacritic [β] is in fact a type of sub-case of the Non-Active diacritic [NonAct]. Thus a restriction of the following type could be stated for possible reference to the diacritics:

(114) Rules of the type [β] \rightarrow [α] are possible only if [β] is a context-sensitive version of [α]

This type of rule can be thought of as a sort of *Activation* of the feature [NonAct]. That is, rather than possessing [NonAct] itself, certain verbs will have a feature which, when properly activated in morphosyntactic context, is a version of [NonAct].

3.6.7.2.2 Implications: Feature Typology The distinctions being made here would allow for a typology of diacritics, especially when considered in a comparison with grammatical features like Gender. The relevant properties to consider are:⁶⁷

(115) Properties

- a. ability to condition Vocabulary Insertion directly, i.e. to appear in the entries of particular Vocabulary Items (VI);
- b. the presence of the feature in the syntax (In Syntax); and
- c. the origin of the feature, i.e. if it can originate both syntactically and as being inherent to a root.

(116) Feature Types

Type	VI	In Syntax	Mixed Origin
Gender	Yes	No	No
Type [α]	Yes	No	Yes
Type [β]	No	No	No

⁶⁷A full typology involving these features will be discussed in Part III.

A further distinction could thus be based on the type of feature involved. In the present case, only [β] type features figure in the rule (112). It might therefore be suggested that rules of this type are only applicable to features which are not introduced in the syntax, or not active in the syntax; this would have the effect of greatly reducing the cases which could be generated by Activation.

3.6.7.3 Override?

A further set of questions concerns the interaction of distinct Primary and Secondary specifications. To take a concrete example, the verb *boúloomai* is a Passive deponent, thus Passive only in the Aorist, but has only a Non-Active Future. Now, on the assumption that this verb bears the primary diacritics [Pass NonAct] determining its behavior in the Aorist (and in the Present and Perfect as well, although only non-active realization is possible), it appears that the workings of this diacritic are in effect neutralized in the Future, where distinctive passive morphology is an option. On the other hand, verbs like *hédōmai* are 'consistent' in being Passive in the Aorist, and in the Future as well. However, the latter pattern is the exception rather than the norm. Given the analysis according to which the feature [Pass] is always accompanied by the feature [Non-Active], we can hold that the [Pass] feature is Impoverished with certain verbs in the context of [Future], leaving the [Non-Active] feature by itself to condition insertion of the non-active endings.

This treatment renders unnecessary an analysis on which verbs are specified for two diacritics, one of which 'overrides' the effects of the other in a particular context. That is, the situation could be treated with verbs like *boúloomai* possessing the diacritic [β] for Future-sensitive Non-Active inflection, in addition to the features [Pass NonAct] which determines its passive (effectively Middle in two-form tenses) form elsewhere. The context-sensitive nature of [β] could in effect allow it to override the effects of [NonAct] so that the result would be Non-Active in form. No such double specification is necessary on the account of Passive/Non-Active interactions developed above.

3.6.8 Conclusions on Diacritics

The goal of the present section is not to provide a fully articulated theory of diacritic reference; rather, the points to be emphasized are (1) that aplanatics require diacritics, and (2) from the perspective of the facts examined here, a restrictive theory concerning the role of these diacritics in Morphology may be given. In other words, though the present theory employs diacritics it does not appeal to anything like a necessary level of inflectional classes as in Aronoff (1994), nor does it make use of Rules of Referral.

Part III. Discussion

3.7 Inherent Specification

In the preceding sections I have discussed deponent verbs, which I analyze as possessing a feature relating to voice inflection inherently. In the sections to come I will address more general questions, directed at (1) the status of diacritics in morphology, and (2) the question of what types of features are eligible for inherent specification. Before doing this, however, I will clarify precisely what inherent specification means.

As treated above, inherent specification involves a verb bearing a particular diacritic:

(117) $V_{[\alpha]}$

This is to be distinguished from elements being related to morphosyntactic features as conditions on their distribution. Thus, for instance, the spell out rule for something like /-z/ in English is as follows:

(118) $[Pl] \leftrightarrow -z$

The signal -z here instantiates morphosyntactic features, but it does not supply any. This is the nature of the distinction. The normal case is for vocabulary to instantiate features. The case of inherent specification is one in which an element instantiating a set

of features brings along an additional feature, which in turn affects further morphological realization.

3.8 Morphological Restrictions

I examine in this section the nature of diacritics in morphology, and discuss the nature of the diacritics required in systems with aplastic verbs.

3.8.1 Inflectional Classes, Diacritics, Lists

3.8.1.0.1 Diacritics and Inflectional Classes An initial point to be made is that theories which appeal to the existence of morphological diacritics are not *prima facie* less restrictive than theories which do not employ such devices (and which use e.g. lists; see below.) The question of restrictiveness can only be answered in light of a well-defined account of what such diacritics are and what type of processes they may be involved in.

On one approach to the syntax/morphology interface, the two components are mediated by a level which associates syntactic features with morphological functions. A related point is that theories employing such diacritics need not necessarily be fully committed to the existence of an intermediate grammatical level of inflectional classes, along the lines of the 'morphomic' level of Aronoff (1994). Once something like the morphomic level is admitted, the question to be posed is why one would expect to find any regularity in the syntax/morphology interface at all. On the approach to be advocated here, diacritics will instead be invoked only on the basis of absolute necessity, both from the perspective of the learner and the linguist.

3.8.1.0.2 Arguments for Diacritics The need for diacritics in the morphology can be seen in cases in which simple lists fail to characterize a phenomenon in a way that diacritics can. The differences between the listing and diacritical approaches may be examined with reference to a case of allomorphy in the English verbal system, covering the realization

of the Tense suffixes $-\emptyset/-d/-n$. On an approach appealing at the outset to diacritics, this would involve representing the particular verbs conditioning such allomorphy with a feature (e.g. $[\beta]$), with the morphological signals which instantiate this allomorphy realizing the complex of morphosyntactic features along with this diacritic; thus:

(119) $[+\text{participle } +\text{past } \beta] \leftrightarrow /-n/$

This could be specified differently, with the diacritic appearing as a contextual feature (the difference seems to be notational):

(120)

$$[+\text{participle } +\text{past}] \leftrightarrow /-n/ \text{ / } X + _ \\ X[\beta]$$

The second type of approach, opted for in Halle and Marantz (1993), involves listing with particular Vocabulary Items the verbs to which they apply; in such cases allomorphy is accounted for by virtue of a property which is encoded on the inflectional affix, not via a diacritic on the stem conditioning the allomorphy:

(121) Allomorphy encoded on Signal

$$[+\text{participle}, +\text{past}] \leftrightarrow /-n/ \text{ / } X + _ \\ X = \text{ }^{\wedge} \text{ hew, go, beat, ...}$$

In the case of English verbal endings, the listing approach is sufficient. The reason for this is that the generalizations intended to be captured by the lists extend only as far as single morphological signals. There is no need for an overarching diacritic, in that there is no further need to appeal to the same list of Vocabulary Items. The significance of this point can be seen when the listing approach is extended to the deponent verbs of Modern Greek. This could be done by modifying the relevant signals (i.e. the person/number endings appearing in non-active contexts) with a list of deponent verbs:

(122) Extension to Aplastics (MG)

$$[1 \text{ S}] \leftrightarrow /-me/ / X + _ \\ X = /N_1/ \dots /N_n/$$

The problem with this type of treatment becomes evident when we consider that the affix *-me* for 1S non-active voice is not the only morphological signal that is involved when a particular verb is aplastic. Aplastic verbs take the same voice form for all persons and numbers; thus, something like the following would be required to handle the distribution of non-active endings (these are not arranged disjunctively here; this is merely a list of the relevant signals):

(123) Full Array of Signals (MG)

$$[1 \text{ S}] \leftrightarrow /-me/ / X + _ \\ X = /N_1/ \dots /N_n/$$

$$[2 \text{ S}] \leftrightarrow /-se/ / X + _ \\ X = /N_1/ \dots /N_n/$$

$$[3 \text{ S}] \leftrightarrow /-te/ / X + _ \\ X = /N_1/ \dots /N_n/$$

$$[1 \text{ P}] \leftrightarrow /-maste/ / X + _ \\ X = /N_1/ \dots /N_n/$$

$$[2 \text{ P}] \leftrightarrow /-ste/ / X + _ \\ X = /N_1/ \dots /N_n/$$

$$[3 \text{ P}] \leftrightarrow /-nde/ / X + _ \\ X = /N_1/ \dots /N_n/$$

The problem is that there is nothing in the listing approach which ensures the identity of the classes $/N_1/ \dots /N_n/$ referred to. That is, the fact that a particular verb takes non-active inflection is a property which is prior to the specifications of the particular signals involved; it is a property of the verb root that non-active inflection is required, and this extends across Person and Number combinations.⁶⁸ Without an abstract diacritic, there is

⁶⁸Modulo further conditions in certain cases; e.g. in Classical Greek aplasticity is a property of a particular verb root in a particular Tense/Aspect. Nevertheless, within a Tense/Aspect the same set of non-active voice endings is required by a particular verb; cf. §3.6.7.2.

no means of encoding the fact that all of the lists in this particular instance are identical. If different lists were possible, then verbs which are aplastic only in certain Person/Number combinations should be attested, but they are not.⁶⁹ The listing approach is therefore also unrestrictive in cases like the present one, in that it allows for the existence of a large number of possible verbal classes, none of which are found.

The final aspect of the argument for voice diacritics is based on the following consideration. If there were no deponents in a system like that found in Modern Greek, the diacritic [NonAct] would not necessarily be required if the individual signals could be made sensitive to the syntactic environment. That is:

(124) [1 S] ↔ -me/_SYNTAX

The deponents, which lack the syntactic context, force the feature to be present.

The conclusion to be drawn from this is that the existence of aplastic classes like the Modern Greek deponents forces the use of morphological diacritics. As the property of aplasticity extends through the Person/Number system, the diacritic must be appealed to capture the fact that the same verbs (i.e. same Lists) are being referred to repeatedly in the morphological component (i.e. in the spell-out rules of a number of different affixes.)

3.8.2 The Nature of the Diacritics

As a result this treatment of aplastics, it must be recognized that voice morphology arises under heterogeneous conditions: in some cases as the result of a particular syntactic configuration, and in some cases by virtue of the properties of a particular Vocabulary Item. In order to unify these two, the mapping between syntactic configurations to voice morphology may be seen as mediated, with the syntax determining the appearance of the same diacritic which some Vocabulary Items possess inherently. The simple method of encoding this is to have particular vocabulary items bear a diacritic feature which determines the use of one type of morphology as opposed to another:

⁶⁹At least, this is the case in the languages analyzed here. As far as I am aware, nothing would preclude the appearance of verbs of this type.

(125) $V/[\alpha]$

This is one of two ways in which a verb could come to be inflected on the α -pattern. The other would be in a particular type of syntactic configuration, in which the verb would be targeted with a voice node and provided with $[\alpha]$ by virtue of the syntactic context:

(126)



Having brought the issue to this point, the questions to be addressed now concern the nature of something like $[\alpha]$. Morphologically, voice features like $[\alpha]$ figures in the conditions on insertion for various Vocabulary Items, whether directly as in the case of Classical Greek passive $-t^h\bar{e}-$, or indirectly (i.e. contextually) as in the case of non-active person/number endings.

3.8.2.0.3 Preliminary Conclusions Once diacritics are countenanced, several questions arise as to what properties possess, and how they function in various processes. The arguments in the section on Classical Greek above show that in cases in which the diacritics seem to figure significantly in interactions other than conditioning realization, these are tightly constrained. Other constraints on systems of possible inherent specifications are addressed in the sections to come. In addition, the cases discussed above provide different varieties of evidence for the question of whether aplastic verbs are really specified identically to verbs involved in a syntactic voice alternation; this issue will be discussed in §1.8 below.

3.8.3 Possible Aplastic Verbal Classes

In the abstract, the range of possible verbal classes which is generated on this type of treatment can be exhibited easily in the case of a language with two morphological

voices. In addition to being restricted to non-active or active morphology, or unrestricted morphologically, a particular verb could be restricted to either non-active or active syntactic environments, or unrestricted syntactically. For expository convenience, these possibilities are encoded in a feature $[\pm\alpha]$. Morphologically, the feature $[\pm\alpha]$ indicates that the relevant verb must be inflected in the indicated manner. On the syntactic side, the feature $[\alpha]$ indicates a restriction to the syntactic environments which systematically determine $[\alpha]$ morphology, while $[\neg\alpha]$ restricts the verb to the complement set. Finally, the lack of a restriction indicates that the verb may appear in either syntactic context or in either morphological voice. The combinations are as follows:

(127) Combinations for Feature α

Class	Morph.	Syntax	Name
a.	α	α	*
b.	α	$\neg\alpha$	Deponent
c.	$\neg\alpha$	α	*
d.	$\neg\alpha$	$\neg\alpha$	<i>Activa tantum?</i>
e.	α		Commūnia
f.		α	*
g.	$\neg\alpha$		*
h.		$\neg\alpha$	<i>Activa Tantum?</i>
i.			Normal

The class of *activa tantum* verbs within this system warrants further discussion, as the surface effects (morphologically active verbs in active syntactic environments) could be achieved either with (127d) or (127h). From the non-existence of two further classes of verbs, it can be argued that *activa tantum* verbs should be specified as in (127h). On the specification in (127d), the morphology refers to a feature $[\neg\alpha]$. For one, a morphological specification here is unnecessary; if a particular verb is prevented from appearing in non-active syntactic contexts, and is not morphologically specified as non-active, then it will

simply never appear as non-active. In addition to being unnecessary, if the morphology could refer to a feature $[\neg\alpha]$, then two further classes of verbs could be defined, those in (127c) and (127g). These would be, respectively, active verbs which could only appear with passive syntax, and active verbs which could appear with either active or non-active syntax. Part of what is being claimed here is that such classes do not exist. In some sense this follows somewhat naturally; active inflection is unmarked, and there is therefore no need to refer to it explicitly; in the absence of another specification (whatever its source), active morphology will be realized. Moreover, the syntactically oriented discussion above has shown that the extant classes of *activa tantum* verbs in the languages studied are active only for syntactic/semantic reasons.

(128) Revised Combinations

Morphology	Syntax	Name
α	$\neg\alpha$	Deponent
	$\neg\alpha$	<i>Activa Tantum</i>
α		Commūnia
		Normal

The revised feature combinations given here manifest important asymmetries, which are fundamental to the characterization of aplancticity:

Asymmetry 1 The feature $[\alpha]$ is active in morphology, while $[\neg\alpha]$ is not.

Asymmetry 2 The feature $[\neg\alpha]$ is active in syntax, while $[\alpha]$ is not.

Asymmetry 3 As a subset of *media tantum* verbs there is the class of Commūnia verbs; however, the *activa tantum* class is not divided into verbs which appear actively and verbs which are common to both active and passive.

The basis for the asymmetries concerning morphological specification has a natural explanation in terms of the notion of markedness. The feature which must be referred to is

that of the marked morphological class, the non-active, and, unlike the active, is required in the spell-out rules which result in the appearance of Vocabulary Items.

How (or if) the syntactic configuration referred to is to be understood in terms of markedness is less clear, and would seem to depend on a particular analysis of these restrictions. The simplest hypothesis concerning syntactic restrictions recognizes two cases. The first consists of verbs which cannot be passivized for systematic syntactic or semantic reasons. The second consists of verbs which are syntactically/semantically capable of appearing in passive syntax, but which are dispreferred there. Thus, for instance, it was shown above that in Latin a number of transitive deponents could appear in passive syntax, while the majority did not. This is the manifestation of a tendency, not an absolute, concerning the appearance of inherently specified forms.

3.8.4 Syntactic Restrictions

3.8.4.1 Passives in Disguise

I now address some possible responses to the treatment of aplastic verbs advanced above.

A possible reaction to the class of aplastic verbs, at least for those showing non-active morphology, would be to attempt to relate these directly to the more obviously syntactic cases, in other words, to argue that non-active aplastics were in fact 'disguised passives', with the morphology in such cases doing exactly what it does in passives of the more common type.

One point which becomes immediately evident is that this covertly passive syntax must disallow the insertion of normal transitive verbs. Otherwise one would expect to find cases in which the non-active forms of transitive verbs were found functioning exactly like active transitives, i.e. exactly like transitive deponents, in active syntactic configurations. Thus if there is a covertly passive syntactic configuration, it is required that a further stipulation be made concerning which verbs may appear in it; the difference between normal transitives and deponent transitives will not follow automatically.

A second point concerns the distinction between *deponent* and *communia* verb classes;

these are clearly different syntactically, in that the latter are able to appear in passive syntactic configurations. However, the 'covert passive' approach to deponents is in a bind when it comes to making this distinction. On this type of treatment, the appearance of non-active voice in transitive syntactic environments would be reduced to the particular environment being in some sense an actual passive in disguise. What could then be said about the *verba commūnia*, which have both the 'covert passive', and apparently an actual passive, both with non-active morphology? The situation with intransitive deponent verbs leads to similar conclusions. With such verbs, the possibility of assimilation to a type of covert passive does not arise.

A further area worth considering would be verbs in the Transitivity Alternation. First, the intransitive members of verbs in the TA which show non-active morphology are part of an alternation in which the marking of the intransitive member is systematic, i.e. which reflects the presence of a syntactically variable root in a particular syntactic configuration. Intransitive deponents do not have corresponding transitives, and it is therefore not possible to analyze them involving a single root in distinct syntactic environments.

3.8.4.2 Conditions on Insertion

3.8.4.2.1 A Treatment As noted above, there are transitive deponents which cannot appear in passive syntax. Although this does not appear to be a deep property, something must be said about how it is to be encoded; this is a particular manifestation of a broader question, which concerns more generally the relationship in a theory with Late Insertion between verbs and the syntactic structures in which they appear.

One option would involve placing restrictions on the environments in which a particular Vocabulary Item can appear by means of a direct encoding of conditions on its insertion. In the case under discussion, the relevant syntactic environment is one which results in the verb being targeted with a node with the feature [NonAct] for non-active voice; this is the same feature borne by deponent verbs, but originating from the syntax, not from a particular Vocabulary Item.

In the case of *media tantum* verbs, this would take the following form, in which the conditions on insertion prevent verbs with the morphological diacritic [α] from being inserted into positions in which the feature [NonAct] is provided by the syntax:

(129) $\sqrt{V}/[\text{NonAct}] \leftrightarrow V/_ V$ does not govern [NonAct]

Of course other conditions would be required here to ensure that the relevant verb would be inserted in a transitive/intransitive environment, etc.

In any case, restrictions of this type have to be acknowledged by any possible treatment of apletics. Such statements could take any number of possible forms, and be sensitive to any number of grammatical factors. As long as they take the general form of something like (129) their theoretical interest is extremely limited; really something like (129) states something which is certainly true, but which has little theoretical content in and of itself.

3.8.4.2.2 Learnability of the Classes The default assumption made by the learner is that morphological [α] does in fact entail exclusion from α syntactic environments. A learnability argument can be made to support this point. Effectively the syntactic restriction on Media Tantum verbs is assumed by the learner, on the basis of the morphological restriction, so that all apletic verbs are classified as syntactically prohibited from the relevant environment. This assumption is necessary for reasons relating to the type of evidence available to the learner. On the opposite assumption, namely that verbs with the diacritic [α] could be passivized, would lead to the problem that there would be no direct evidence to indicate that this was not the case with a particular verb. However, languages show both deponents and *verba commūnia*.

The basis for the assumption that α -verbs are unable to appear in environments which assign α operates at a low level. In a sense, inserting this type of verb in the α environment results in something which is difficult to interpret on the PF-branch, in that it is specified twice for the same diacritic. However, the existence of classes of *verba commūnia* shows that this is a default assumption, and not an inviolable principle. If verbs marked for α are seen to appear in α -syntax, the learner is able to reclassify them as *verba commūnia* rather

than deponents.

3.8.4.2.3 Option: A Crash at PF Another type of approach to be considered would attempt to derive the syntactic restrictions found with aplastics from the effects of a crash at PF. For instance, it might be thought that inserting an aplastic verb into a syntactic context in which the feature carried by the vocabulary item is also syntactically licensed could be ruled out due to some properties of the PF component. For instance, it could be stipulated that there it is simply not possible for something to be doubly specified for a single diacritic. This type of solution is available only to the extent that one is willing to accept a filtering morphology; moreover, in the case of the aplastics under discussion, it does not account for the full range of facts. As has been noted, the verbs which are classified as *media tantum* are in fact syntactically heterogeneous: some may not appear with passive syntax, while others may. Thus in certain cases, possession of the morphological feature [α] does not prevent insertion of a verb into an α syntactic environment. As long as the conditions on 'crashing' are violable in this sense, it is reasonable to analyze the behavior of particular verbs as not showing a deeper property, but root by root, as in the treatment above.

3.9 Voice, Aplasticity, and Inherent Specification

3.9.1 The Nature of Aplasticity

3.9.1.1 Conditions on Aplasticity

In this section I propose a theory of what features are candidates for inherent specification on roots. I develop a position which relates the manner in which voice behaves directly to the features which voice morphology instantiates. Specifically, the fact to be emphasized is that while voice morphology will, in systems with Dissociation, instantiate nodes that are provided in the morphology, other categories, e.g. Tense, Aspect, etc., will relate to features which are interpreted at the LF interface.

There are two issues to distinguish in an examination of the properties for which roots

may be specified. The first has to do with considerations of locality; it might be the case that verbs cannot be aplastic for certain morphosyntactic features (e.g. Agreement) because the morphological realization of this feature (i.e. the AGR node) is not local enough to the verb to be affected by an inherent specification on the verb. The second concerns the actual type of features which could be specified on a particular root, and concerns whether or not the types of features which may be specified aplanstically are uniform. I concentrate on the second issue in the discussion to come, acknowledging that the the first may play a role in defining the relevant class.

3.9.1.2 A Hypothesis

Concerning the features that a root could be specified for, the strongest hypothesis is that the features added on the PF branch are only features which are never relevant to LF interpretation in any form.⁷⁰ This includes things like arbitrary morphological features relating to conjugational or declensional class, and perhaps Gender features.⁷¹ This is stated in the following condition:

- (130) **Interpretability Condition on Aplasticity:** A root may not be specified for a morphosyntactic feature which is interpretable on the LF-branch.

The systems I have discussed in this chapter are of interest because they show verbs inherently specified with Voice features, and Voice is in other cases correlated with systematic syntactic alternations. In order for Voice to be eligible as a feature for inherent specification, it is therefore necessary that Voice morphology not correspond directly to

⁷⁰That is, the strongest hypothesis given the facts as they are. The 'cleanest' situation would involve no inherently specified features at all.

⁷¹This leaves open the question of what happens with -Interpretable features, more specifically the purely formal features which drive derivations (e.g. Case features, categorial features like [D], etc..) However, as these features are exclusively in the domain of the computational system, it seems plausible that the morphology has no access to them at all (although a distinction between syntactic Case and morphological case must be maintained for this to hold. On a theory in which certain syntactic features are converted into objects visible to the morphology, the considerations presented here would still play a role.)

features figuring in the syntactic computation. This means, then, that for Voice to be a possible aplanstically specified category, it must be Dissociated voice morphology. I therefore propose the following further condition:

- (131) **Dissociation Condition on Aplansticity:** Aplanstic inflection is only possible for features which are Dissociated.

The need for two conditions is clarified when it is recognized that the parameters \pm Interpretable and \pm Dissociated are independent of each other, and that the patterns of aplansticity and inherent specification found in natural language are sensitive to both. A cross-classification, illustrated with features corresponding to each type, is as follows:

- (132) Interpretability and Dissociation

	Dissociated	-Dissociated
Interpretable	Agreement	[Past]
-Interpretable	Voice	Syntactic <i>F</i> (?)

Beginning with Interpretable features, Tense features like [Past] are present in syntactic terminals, and receive interpretation at LF. In the case of Agreement, the features which are realized are assumed to be features present in the syntax, which are interpreted at LF. However, the position on which these features are copied, an AGR node, is added under structural conditions in accordance with the principles of Morphology. Thus Agreement morphemes are dissociated, despite the fact that the features they instantiate are in the strict sense features of the syntax (this is discussed in greater detail below.)⁷² The third

⁷²What emerges from this, and from the condition in (131), is the point that both features and signals may be spoken of as Dissociated. In part this is due to the manner in which Dissociation is defined, as relative to *features* or as relative to a *position*. The two relevant definitions are as follows:

- (133) a. **Dissociation of Features:** Feature α is dissociated iff it is not a feature present in the syntactic computation, but is added in Morphology
 b. **Dissociation of Positions:** Terminal node *X* is dissociated iff it is a position added in the Morphological Component, i.e. it is not present in the syntax

By definition, then, any signal instantiating a dissociated feature will itself be regarded as dissociated. The distinction between dissociated features and signals is crucial in the analysis of certain clitic-based voice

case, voice in the systems discussed above, is neither interpretable, nor does it correspond to a syntactic terminal. Finally, there are non-interpretable features which are present in the syntactic computation. I take this type to consist of the formal features which drive the syntactic derivation.

This clarifies how the two conditions are distinct from one another. The final statement of these conditions together, brought together, comprises the following hypothesis:

(134) **Hypothesis:** Aplastic inflection is only possible (1) with Dissociated features, which are (2) features not interpretable at LF

The hypothesis operates in terms of Feature Dissociation. In effect this is a statement of a particular type of modularity: Morphology (crucially including the Vocabulary) simply does not have access to features which are potentially interpretable, despite being able to manipulate (i.e. Delete, Move, realize) them. In interpreting the output of syntax, Morphology may not supply anything beyond what is relevant to its own concerns. The argument is relatively simple, and is derived from the notion that aplasticity, because it deals with properties of the vocabulary, shows what features are truly part of the workings of the Morphology.

This says something specific about how the Morphology handles the output of syntax, in the PF interface more broadly construed. Chomsky notes an asymmetry between the manner in which the two interfaces handle the output of syntax; the LF branch is assumed to be uniform, while the same is not true of PF. Thus for instance PF may delete certain features through Impoverishment, or fail to interpret them, through the underspecification of signals. These results have to do with purely interpretive matters, i.e. with what Morphology does with what it receives as input. The hypothesis above makes a proposal about what types of theoretical units belonging to PF are capable of being specified for, and

systems; recall the discussion of Chapter 1.

One further note. In the definition of Dissociated Positions, I intend to exclude positions created by Fission. For discussion of principles governing this operation see Noyer (1992) and Noyer (1997).

therefore capable of adding.⁷³ To the extent that the hypothesis is correct, there is additional support for an architecture in which the only elements that Morphology/Vocabulary may contribute to the syntax are irrelevant to the syntax, i.e. Late Insertion. At the very least, the importance of cases of inherent specification in determining aspects of modularity is highlighted.

3.9.2 Form and Aplasticity

In the languages discussed in this section the voice morphology was, with a few exceptions, in the form of a set of Person/Number endings distinct from those found with active verbs. In addition to this, there were specific voice morphemes, such as Classical Greek $-(r^h)\bar{e}-$, relevant for voice but invariant for Person and Number.

The patterns found in this type of system differ from those found in languages like English, where there is no voice system per se (as demonstrated in Chapter 2.) This is manifested in the fact that such languages do not have verbs that are aplastic for voice. Thus, for instance, in languages like English verbs like the following are not found:

(135) * John was V-ed Mary.

This follows if inherent specification presupposes Dissociation. In English there is no need to analyze anything in participial passives as involving dissociated voice morphology. Thus the lack of passive deponents follows. It is a further consequence of the compositional nature of the English passive.

3.9.3 Features

Features like the voice features discussed here have a dual origin, in that they may be either (1) assigned in syntactic configurations, or (2) possessed inherently by Vocabulary

⁷³Strictly speaking, it is possible that this is not a property of PF as a whole. Noyer (1995) argues that certain instances of apparently feature changing processes can be handled in two steps, with (1) Impoverishment deleting marked features, and (2) Redundancy rules filling in default features. If this characterization is correct, then the generalizations formed here about aplasticity are about the relationship between the Vocabulary and Interpretable features, not about the status of Interpretable features on the PF-branch as a whole.

Items. I suggest the following term as a cover for this:

- (136) A morphological feature α is *chimeric* if it has more than one source, i.e. is non-uniform in origin.

For the purposes of this definition features copied under Concord rules still only have one origin. Thus, for instance, Person/Number features copied by onto AGR nodes still have only a syntactic origin, and Gender features, on the assumption that Gender is a property of Vocabulary Items, are similarly homogeneous in origin. The entire typology is as follows:^{74,75}

(137) Origin of Features

Type	In Syntax	Assigned	Vocabulary
1. †	Yes	Yes	Yes
2. †	Yes	Yes	No
3. *	Yes	No	Yes
4. [Past]	Yes	No	No
5. Voice	No	Yes	Yes
6. (Voice)	No	Yes	No
7. Gender	No	No	Yes
8. --	No	No	No

NOTE:

* indicates a class ruled out by the hypothesis presented above

† indicates a class to be discussed in §1.8

Class 4 here consists of familiar morphosyntactic features present in the syntax. Class 5 and 6 are for dissociated voice features, in systems with and without deponent verbs

⁷⁴The parenthesized entry indicates a case in which a dissociated feature like Voice is not possessed inherently by Roots. Such is the case with Yucatec Maya 'antipassive' morphology, which was shown in Chapter 1 to be dissociated, but which, as far as I am aware, does not figure in a class of verbs inherently.

⁷⁵The final class is not ruled out by my approach, but simply cannot exist by definition.

respectively. Finally, class 7 covers features relevant only to Morphology, such as Gender or Conjugation class.

3.9.4 Diacritics and Inherent Specification

3.9.4.1 Sets of Signals

The identities found in systems of inherently specified verbs are, in comparison with this case, definitively identifiable. In the case of a system like Modern Greek, the argument hinges on the fact that there is a set of signals correlated with the non-active voice, and the fact that inherently specified verbs are identical for this entire set with verbs in the Non-Active syntactic environments (cf. §3.8.1.0.1.) On the analysis I have presented, there is a single feature, [NonAct], which is assigned in particular syntactic configurations, and in addition is possessed inherently by certain verbs. If the behavior of apletics and non-active verbs were not analyzed in this manner, the fact that there are entire sets of signals patterning identically in each of these two cases would be accidental. Similar reasoning can be applied to the deponents in Latin, and the Middle Deponents in Classical Greek.

3.9.4.2 Single Signal Identities

To illustrate, we may take the case of a language with a single 'passive morpheme' -X-, such that verbs in passive syntactic configurations appear as V-X. If such a language had a set of verbs which always appeared in the form V-X irrespective of syntactic context, the question of whether these verbs should be treated as inherently specified for a feature like [Pass] is unclear. It could, for instance, be the case that there are a number of verbs which, purely coincidentally, have stem-forms which contain as a subcomponent an -X- like the passive -X-. Concretely, we may consider the case in English of identity between the realization of Plural and the realization of Possessive, both /-z/. In this case it is clear that an analysis which does not treat this fact as systematic is not missing any fundamental generalizations

about English morphology. The only evidence to suggest that there might be a relationship here is the fact that there seems to be identical morphophonological behavior in these cases, but this speaks more to the regularity of English morphophonology than it does to any point concerning a more complex identity between Plural and Possessive.

In some cases, however, an identity can be shown to hold for the features underlying a single signal. The 'passive' in Classic Greek is realized as a single formant $-t^h\bar{e}/-\bar{e}$. However, the Passive Deponents which may not appear without $t^h\bar{e}$ in the Aorist are demonstrably not simply coincidentally in 'passive form'. Verbs of this type syncretize with the Non-Active in the Present Tense system, exactly as with syntactic passives. Thus even when a single signal is at issue it is possible to demonstrate conclusively that syntactic configurations and inherently specified verbs are both related to the same morphological feature.

3.9.4.3 Further Interactions

The evidence from Latin and Classical Greek is much stronger. In Latin, the operation of Merger to construct synthetic perfect forms is inhibited in both passive syntactic configurations and in the presence of an aplanic verb. In Classical Greek, the fact that there is a relationship among diacritics that is isomorphic to that determined by the syntactic assignment of features argues for the same point.

With this clarified, I proceed in the following sections to examine instances of apparent inherent specification found in morphosyntactic categories other than voice. I also examine other morphosyntactic features which behave like dissociated voice features.

3.10 Comparative Aplasticity

3.10.1 Morphosyntactic Categories without Inherent Specification

3.10.1.1 Agreement

A refinement on the Interpretability restriction on aplasticity (noted above) emerges from an examination of Agreement morphology. In the domain of Agreement it is clear what aplastics would look like: verbs which, whatever the Person/Number specification of the arguments with which they are in a local relationship, maintain a single type of Person/Number agreement:

(138) Normal Verb	(139) Aplastic Agr Verb
P/N V-AGR	P/N V-AGR
1S V-X	1S V-X
2S V-Y	2S V-X
3S V-Z	3S V-X
⋮ ⋮	⋮ ⋮

I do not know of any cases showing this type of aplasticity.

According to the theory of morphological Agreement developed in Marantz (1992a), the verb comes to agree with an argument by first being assigned an Agreement node in the Morphology, with this node subsequently having features of a local DP copied on to it. Thus the Morphology manipulates Interpretable features, and may (for instance) delete or ignore them (see Noyer (1992a) for a detailed study of Agreement systems.) The manipulation here amounts to copying features already present, which may be distinguished from adding features (through the insertion of Vocabulary Items possessing these inherently).⁷⁶

The difference between Agreement and Voice lies in the actual type of the features on the morphologically added node. In the case of Dissociated voice morphology, these are features of the syntactic environment, features which (as such) are irrelevant to LF. In

⁷⁶Other cases in which features are apparently added might involve the operation of Redundancy rules; see Noyer (1995) for discussion.

the case of Agreement, the features copied on to the AGR node are in fact features which figure in semantic interpretation.⁷⁷

3.10.1.2 Tense and Aspect

3.10.1.2.1 Aspect In a number of instances, cases of apparent aspectual aplasticity can be found. Based on the hypothesis outlined above, it would be expected that these cases should be directly relatable to the semantic (*Aktionsart*) properties of the roots involved. Alternatively, there is the possibility that such verb are light-verbs, and that there is suppletion in certain aspectual categories. Thus, for instance, the Latin verb *coepī* 'begin' appears only in perfect forms, and is replaced by *incipio* in the present system.⁷⁸

Phenomena of this type must be distinguished from a further type of apparent aplasticity. In some cases a verb may show a single form for Aspect, but may be interpretable as either Perfective or Imperfective, i.e. may appear in either Perfective or Imperfective syntax. An example of this is provided by the verb *kano* 'do' in Modern Greek, which appears only with Imperfective morphology, but with adverbials requiring both perfective and imperfective interpretations:

This would be possible if roots could be specified for 'special' Impoverishment, such that the aspectual feature would be deleted:

(140) Perf → ∅

This makes a particular prediction, which is that this sort of distribution should only be possible in cases in which the actual form taken is the default.

⁷⁷For Chomsky (1995), there is a distinction in interpretability for ϕ -features: assuming a theory of agreement based on feature checking, Chomsky takes the ϕ features of NPs to be Interpretable, while those of verbs are -Interpretable. What is relevant here is the fact that the features in question are potentially interpretable. That is, irrespective of their being available for copying through Concord processes, the features in questions are of a type that is interpretable, irrespective of whether or not they actually are interpreted.

⁷⁸The verb *coepī* is not, to my knowledge, typically regarded as involved in suppletion. However, the two clearest cases of stem suppletion in Latin do in fact involve distinctions between the Present and Perfect systems. These are *ferō* 'carry', Perfect *tul-ī*, and *sum* 'be', Perfect *fu-ī*.

3.10.1.2.2 Latin Perfect as Present A number of verbs in Latin appear to have Perfect form and present interpretation; these verbs, although they have present interpretation, have no Present form:⁷⁹

- (141) *ōdī* ‘hate’
cōnsuēvī ‘be accustomed’
vicī ‘be victorious’
meminī ‘remember’

These ‘Perfect-as-Present’ forms are united in their interpretation, in a way that is not accidental. They are all statives of a sort, and could thus be argued to be residual uses of the Indo-European perfect, which indicated a present state. If this is so then it could be argued that the morphosyntactic feature array into which these verbs are inserted contains the feature [+perfective], with their particular interpretation being in a sense archaic, in a sense the holdover of the earlier perfect interpretation. They are thus truly morphosyntactically defective in not appearing in the present-tense syntactic environment at all.

3.10.1.3 Inherent Number

3.10.1.3.1 English *Pluralia Tantum* Outside the verbal domain, a suitable comparison may be found in *pluralia tantum* nouns, e.g. *pants* or *scissors*. The question is this: do these nouns only appear in plural syntactic environments, i.e. DPs associated with the feature [Plural], or do they appear in DPs and supply the feature [Plural]? The answer to this question depends on whether the feature in question is one which needs to be interpreted at LF. If so, then the Plural feature must be present in the syntax (it would also seem to follow from an approach employing checking theory that the Plural feature would have to be present in the syntax, as the verb would also be marked for plurality, and would need

⁷⁹As Ernout/Thomas state (1951:233), these verbs, “...n’avaient ni présent correspondant, ni valeur passée.”

to check this (overtly or covertly) against the feature of the nominal.) The situation is complicated by the fact that the morphological status of the *-s* on such nouns is sometimes difficult to assess.⁸⁰

The conclusion that these nouns are inherently specified for [PL] is not necessary, and would only follow if it could be shown that there is no syntactically provided [PL]. A way of treating these nouns as relating to syntactic plurality in a specific way is as follows:

(142) /scissor/ ↔ N/_ PL

That is, there is a root SCISSOR specified such that it may only be inserted in environments with the syntactically provided feature [PL]. Thus while these nouns are special in terms of the conditions on their insertion, they are not aplastic in the relevant sense.⁸¹

3.10.1.3.2 Inherent Number in Kiowa/Tanoan Noyer (1992) discusses the fact that the languages of the Kiowa/Tanoan family go far beyond English with respect to inherent number marking on nouns. The language Jemez, for instance, has nouns inherently

⁸⁰The status of the *-s* (i.e. /-z/) in such cases is not always clear. The *-s* in some cases does seem to be the plural *-s*, as it is not present in denominal verbs, e.g. *He scissored his way through the newspaper*, as opposed to ??*He scissored his way through the paper*. With *pants* this is not the case, cp. *John pantsed Bill* with **John panted Bill*. I am not sure what to make of this.

In some cases *pluralia tantum* behave more uniformly. Latin has a large set of *pluralia tantum* nouns (see Allen and Greenough p.35 for a list) which behave always as plural for the purposes of Case/Number inflection and verbal agreement.

⁸¹Specifying conditions on insertion as above has implications for a particular approach to suppletion presented in Marantz (1995). Marantz hypothesizes that suppletion with non-light stems, which would involve insertion conditions like the following, do not exist:

(143) hounds ↔ [animate, count, N]/_[PL]

The point is that given the presence of (143) in the Vocabulary, all other (non-suppletive) nouns would be blocked from insertion in plural contexts, given the more specific conditions on the insertion of /hounds/. The argument is only meant to apply in cases in which the morphosyntactic features in question would be identical; this excludes from consideration any suppletion evidenced with 'light' items, which would be distinguished by feature content, and hence would not, if suppletive, block the insertion of other items. Nouns like *scissors* could not, then, be represented as follows:

(144) scissors ↔ [count, N]/_[PL]

The account given above could be modified, however. A different version of this type of treatment would be to say that the root SCISSORS is somehow inherently plural on a semantic level. One might then say that it may be inserted in singular syntactic environments, but is simply uninterpretable there.

specified on Noyer's analysis so that animate nouns are all marked as inherently [+sg], while inanimates may be either inherently [+augmented], inherently nondual, or inherently numberless; moreover nouns are inherently specified for syntactic agreement, such that they trigger basic or 'inverse' number agreement, with the latter showing forms agreeing with the noun in the number pattern opposite to that possessed by the noun inherently.

Noyer analyzes the four noun-classes of Jemez as follows:

(145) Class I: [+sg]

Class II: [+aug]

Class III: nondual

Class IV: (Mass)

This specification interacts with the Number present in the syntactic context of the noun. There is a single affix *-š* which appears on the various nouns in different contexts of syntactic Number. With the Number system consisting of [+sg], [+dual], and [+aug] (i.e. Plural), the distribution of *-š* is such that when it appears on a noun, the noun is interpreted as possessing the value for number that is the opposite of its inherent value. Thus a noun from Class I with *-š* is interpreted as [-sg], i.e. as Dual or Plural.

The interaction is between the inherent number specification of the noun, and a syntactically provided feature, which is associated with a particular signal *-š* when it is distinct from the inherently possessed feature. There are thus two types of number to be kept track of, number associated with particular Vocabulary Items, and Number associated with a syntactic head. I will not address the interaction of this inherent specification with verbal agreement here, and will concentrate instead on the nouns and their features. Specifically, I will focus on the nature of the inherently specified number component.

The first observation to be made given the description above is that Jemez nouns are not astatic: they come in two forms, N and N-*š*. What we are examining here is therefore not a case in which a noun remains invariant for a certain Number-morphology, despite the effects of a Number feature provided by syntax. Nevertheless, the situation does appear

to be one in which the feature borne by nouns inherently is classifiable as one which figures in interpretation, and thus warrants further discussion. I would like to suggest that the specification that Jemez nouns have inherently is for what amounts to a type of Noun Class (Gender) system which has a numerical semantic correlate. That is, that nouns are specified for a feature which is commensurable with but ontologically distinct from syntactic features like [+sg], [+aug], etc.. The manner in which the inverse *-š* appears may then be captured by a process in which the morphology assigns a feature INV when when the inherent and syntactic specifications do not match:⁸²

$$(146) \quad [\text{SEM } F] \neq [\text{SYN } F] \longrightarrow \text{INV}$$

The effect of this is to assign a feature INV morphologically in any cases in which the number specifications borne by a noun and the number specification which functions as a feature in the syntactic computation conflict with one another. The feature [INV] is then spelled out by *-š*.

3.10.2 Another Case of Inherent Specification

3.10.2.1 The Subjunctive

In many languages, the counterfactual conditional is expressed with a past-tense form of the verb, along with subjunctive morphology. Iatridou's (1997) discussion of counterfactuality identifies a Past tense component as being relevant to contributing to the semantics of counterfactual conditionals. Iatridou argues that in such cases the subjunctive is dissociated, and does not make any contribution to the semantics.

⁸²It is useful to think of this situation in comparison with two others. Based on the manner in which nominals are divided, the system is reminiscent of a Gender system, but one in which the Genders in some sense correspond to numbers. The distinction is plain in Gender systems, between *Natural* and *Grammatical* Gender, and figures in the analysis of complications arising from mismatches between the two (see, for instance, the discussions of Romanian in Farkas (1990), Lumsden (1992), and Farkas and Zec (1995).) Another relevant comparison might be with the interaction between *Aktionsart*, possessed by verbs inherently, and grammatical aspect, which is provided by the clause (i.e. perfective or imperfective).

3.11 Inherent Specification and Architecture

3.11.1 Overview

I turn now to some implications of the preceding discussion for the structure of the grammar. The point on which the following discussion is based is straight-forward. The arguments presented above show that the syntactic alternations and inherently specified verbs are related to the same morphological feature. I show now that this fact cannot be captured on Lexicalist approaches to syntax/morphology interactions, Minimalist or otherwise.

3.11.2 Untenable Alternatives

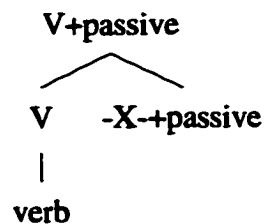
3.11.2.1 Standard Lexicalism

In standard Lexicalist treatment, the relevant forms, the voice morphology would play a role in defining the external syntactic behavior of the verb. Specifically, the passive/non-active affixes would contribute through percolation features making the entire verb+affix unit syntactically passive/non-active. That is, the voice morphology would be specified with features as follows (I am ignoring details of subcategorization for the moment):

- (147) $-X- = [[v] +\text{passive} +1]$
 $-Y- = [[v] +\text{passive} +2]$

Affixation produces a 'passive verb':

- (148) Passive Verb



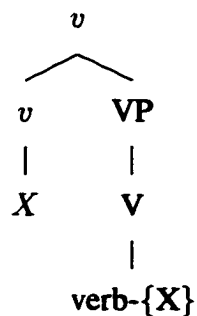
Affixation on this treatment determines external behavior. However, in the case of inherently specified verbs, the external behavior is not that of a passive verb. The affixes

found with inherently specified verbs must therefore be differently specified. As a result, this theory posits two sets of identical affixes, with these contributing distinct features (or possessing distinct subcategorization frames). The relationship between the two cases is entirely severed, contrary to the results established above.

3.11.2.2 The Minimalist/Lexicalist Treatment

The Minimalist/Lexicalist differs in implementation, but is subject to the same type of counterargument. On this type of account, morphology, in particular voice morphology, corresponds to features in the syntax which determine the syntax of voice alternations. Assuming for concreteness that *v* is the locus of such effects, the verb would, by virtue of having ‘passive morphology’, have a specific type of feature, here *X* to check in *v*:

(149) Minimalist/Lexicalist



The actual implementation is unimportant. What is crucial, however, is the fact that the voice morphology corresponds to a syntactic effect, i.e. a voice alternation, with this being encoded through the checking relationship. In a case in which *X* syntax is present, but the verb does not have *X*-morphology, the derivation will crash. This will also be the case in which the verb has *X*-morphology but *X*-syntax is not present; i.e., the case of an inherently specified verb.

If inherently specified verbs had the same feature that was correlated with the syntactic voice alternations, the derivation would crash. The only way for this type of morphology to be present on the Minimalist/Lexicalist treatment is for it to be correlated specifically

with a syntactic effect. In the case of inherently specified verbs it is not. Hence it must be concluded on this type of treatment that the relationship between the morphology found in inherently specified verbs and that found in syntactic alternations is entirely accidental. In light of the arguments presented here, this position must therefore be incorrect.

3.11.3 Assessment

A

Appendix: Latin Deponents

A.1 Deponent Verbs

(150) **First Conjugation**

adūlor 'fawn upon'	illacrimor 'weep over'
altercor 'wrangle'	interpretor 'interpret'
arbitror 'think'	luctor 'wrestle'
aucupor 'try to catch'	lūdificor 'make sport'
auguror 'take the auguries'	medicor 'heal'
auspicor 'take the auspices'	meditor 'think over'
comitor 'accompany'	mūneror 'bestow'
commentor 'discuss'	nūtrīcor 'suckle'
cōnflīcor 'struggle'	odōror 'smell'
cōnspicor 'descry'	opīnor 'think'
contemplor 'survey'	palpor 'stroke'
cōpulator 'join'	populor 'ravage'
crīminor 'charge'	scīscitor 'inquire'
cunctor 'delay'	scrūtor 'search'
dīgnor 'deem worthy'	sector 'pursue'
fabricor 'forge'	stabulor 'stable'
faeneror 'lend on interest'	tūtōr 'protect'
flutuor 'undulate'	tumultuor 'raise a riot'
(for) 'speak'	vagor 'wander'
frūstror 'deceive'	veneror 'reverence'

(151) Second Conjugation

fateor 'confess'
liceor 'bid'
mereor 'deserve'
misereor 'pity'
polliceor 'promise'
reor 'think'
tueor 'protect'
vereor 'fear'

(152) Third Conjugation

apīscor 'get'
amplector 'embrace'
comminīscor 'devise'
expergīscor 'awake'
fungor 'discharge'
fruor 'enjoy'
gradior 'step'
aggredior 'attack'
lābor 'glide'
loquor 'speak'
moriōr 'die'
nancīscor 'get'
nāscor 'be born'

nītor 'stay one's self on'
oblīvīscor 'forget'
pacīscor 'drive (a bargain)'
patior 'suffer'
perpetior 'endure to the end'
proficīscor 'set out'
queror 'complain'
sequor 'follow'
ulcīscor 'avenge'
ūtor 'use'
vehor 'ride'
vescor 'feed'

(153) Fourth Conjugation

assentior 'assent'
comperior 'find out'
largior 'bestow'
mentior 'lie'
mētior 'measure'
ōrdior 'begin'
orior 'arise'
partior 'share'
potior 'get possession of'
pūnior 'punish'
sortior 'cast lots'

A.2 Verba Commūnia

For the purposes of illustrating the behavior of these verbs in context, I will restrict the examples at present to the verbs listed above. Translations followed by '(AG)' are taken from the edition of Aulus Gellius cited in the References.

(154) a. **cohortor**

exercitum... parātum cohortātum ēdūxit.

Caton, Hist 101

b. **cōnsōlor**

At cum animum,... vestrum erga me video, vehementer cōnsōlor et fides virtusque vestra mihi ante oculos versatur.

'But, when I realize your feeling towards me, I am very greatly consoled, and your loyalty and worth are brought before my eyes.' (AG)

Metellus -Num. ap. Gell. 15, 13, 6

c. **dīlargior**

dīlargītūs proscriptorum bonis

'The goods of the proscribed having been given away.' (AG)

Sallust Hist. 1, 49

d. **interpretor**

somnium esse interpretatum

Cic. Div. 1, 543

e. **testor**

quī sē sieri testārier libripensve fuerit, ni testimonium fariatur, improbus in-
testabilisque esto.

'Whoever shall allow himself to be summoned as a witness or shall act as
a balance-holder, if he does not give his testimony, let him be regarded as
dishonored and incapable of giving testimony in the future.' (AG)

XII tab. 8, 22

f. **veneror**

eursusque dabit venerata secundos.

'Revered in prayer, shall grant a voyage safe.' (AG)

Aen. iii. 460

g. **vereor**

Em isto parentum est vita vilis liberis,

Ubi malunt metur, quam vereri se ab suis.

'Lo! there his children hold a sire's life cheap,

where rather feared than honoured he would be.' (AG)

Afranius, Consobrinis ('The Cousins')

h. **ūtor**

quia supellex multa quae nōn ūtitur, emitur tamen,

'Since a good deal of gear is bought which is not used.' (AG)

Nov. Com. 43

Novius, *Lignaria* ("The Wood-Dealer")

B

Appendix: Classical Greek Deponents and Voice

B.1 Additional Data

All of these have the future passive in late Greek, except for those marked with †:

(155) agnoēō ‘not to know’	†oikéō ‘inhabit’
agonízomai ‘contend’	omologéō ‘agree’
adikéō ‘wrong’	oneidízō ‘reproach’
†amp ^h isbetéō ‘dispute’	†paidagogéō ‘educate’
anoígnūmi ‘open’ C.I.A. 2.	poleméō ‘wage war’
1054	†proagoreúō ‘foretell’
árk ^h ō ‘rule’	stat ^h máo ‘measure’
didáskō ‘teach’	†streblōō ‘rack’
†eáō ‘permit’	†stugéō ‘hate’ (poetic)
†eírgō ‘shut’	taráttō ‘disturb’
ekplúnō ‘wash out’	teréō ‘guard’
†enedreúō ‘lie in wait for’	tréphō ‘nourish’
epibouleúō ‘plot against’	tríbō ‘rub’
ek ^h t ^h aírō ‘hate’	húō ‘rain’
ék ^h ō ‘have’	p ^h iléō ‘love’
t ^h erapeúō ‘tend’	p ^h uláttō ‘guard’
kolúō ‘prevent’	
mastígōō ‘whip’	

Smyth §1738 Verbs with difference in meaning between future middle/future passive

(156) ágō 'lead'
apatáō 'deceive'
auksánō 'increase'
bláptō 'hurt'
delóō 'manifest'
zemióō 'fine'
kaléō 'call'
kerúttō 'proclaim'
krínō 'judge'
légō 'say'

leípō 'leave'
marturéō 'bear witness'
poliorkéō 'besiege'
práttō 'do'
steréō 'deprive'
tīmáō 'honor'
hubrízō 'insult'
p^hérō 'bear'
p^hronéō: katap^hronésomai 'despise'
hop^helēō 'help'

No active future:

(157) alalázō 'raise the war cry'	néō 'swim'
badízō 'go'	oîda 'know'
baínō 'go'	ololúzō 'shout'
blóskō	horáō 'see'
gērúō 'speak out'	ototúzō 'lament'
gignósko 'know'	houréō 'make water'
dáknō 'bite'	paízō 'sport'
deídō (see 703)	pásk ^h ō 'suffer'
-didráskō 'run away'	pínō 'drink'
eimí 'be'	píptō 'fall'
eruggánō 'cast forth', 'eruct'	pléō 'sail'
est ^h íō 'eat'	pnéō 'breathe', 'blow'
t ^h aumázō 'wonder', 'admire'	rhéō 'flow'
-t ^h néskō 'die'	skóptō 'jeer'
t ^h róskō 'leap'	trék ^h ō 'run'
kámnō 'labor', 'be weary/sick'	trógō 'gnaw'
ki(g)k ^h ánō 'come upon', 'reach', 'find'	tugk ^h ánō 'hit', 'happen', 'obtain'
krázō 'cry out'	tut ^h ázō 'taunt'
lagk ^h ánō 'obtain by lot'	p ^h eúgō 'flee'
lambánō 'take'	k ^h áskō 'gape'
láskō 'speak'	k ^h ézō
mant ^h ánō 'learn'	

Future either Middle or Active :

(158) áđō ‘sing’	t ^h iggánō ‘touch’
harpázō ‘seize’	klázō ‘respond’
blépō ‘see’	klaíō ‘weep’
gērásķō ‘grow old’	neúō ‘nod’
grúzō ‘grunt’	pot ^h éō ‘desire’, ‘miss’
diókō ‘pursue’	rhop ^h éō ‘sup up’
egķōmiázō ‘praise’	tíktō ‘beget’, ‘bring forth’
eméō ‘vomit’	p ^h t ^h ánō ‘anticipate’
epainéō ??	k ^h ōréō ‘give place’, ‘go’
t ^h éō ‘run’	

Active Future in Late Greek

(159) akoúō ‘hear’	kōkúō ‘lament’
hamartánō ‘err’	oimózzō ‘lament’
apantáō ‘meet’	ómnnūmi ‘swear’
apolaúō ‘enjoy’	pēdáō ‘leap’
bióō ‘live’	sīgáō ‘be silent’
boáō ‘shout’	siōpáō ‘be silent’
geláō ‘laugh’	spoudázō ‘be eager’
kúptō ‘stoop’	tláō (étlen) ‘endure’

Note: All verbs adding *-an-* in the formation of the present stem have a middle future, except for *auksáno*, *lantháno*, and *ophliskáno*.

These verbs are singled out by Smyth on the basis that many also have both Middle and Passive Futures.

(160) Aorist Passive and Future Middle for verbs of this type

aisk^húno ‘disgrace’, esk^húnt^hen ‘felt ashamed’, aisk^hunoúmai
 aniáo ‘vex’, eniát^hen ‘felt vexed’, aniásomai
 epeígo ‘urge’, epeícht^hen ‘urged’, epeíksomai

eup^hraíno ‘gladden’, eup^hránt^hen ‘rejoiced’, eup^hranoúmai
kīnéo ‘move’, ekīnét^hen ‘moved (bestirred) myself’, kīnésomai
koimáo ‘put to sleep’, ekoimét^hen ‘lay down to sleep’, koimésomai
lūpéo ‘vex’, elūpét^hen ‘grieved’, lūpésomai
orgízo ‘anger’, orgíst^hen ‘became angry’, orgioúmai
hormáo ‘incite’, hormét^hen ‘set out’, hormésomai
peít^ho ‘persuade’, epeíst^hen ‘obeyed’, peísomai
planáo ‘cause to wander’, eplanét^hen ‘wandered’, planésomai
poreúo ‘convey’, eporeút^hen ‘marched’, poreúsomai
p^hobéo ‘terrify’, ep^hobéthen ‘was afraid’, p^hobésomai

Bibliography

- Allen, J. H. (1931) *Allen and Greenough's New Latin Grammar for schools and colleges*, Ginn, New York.
- Anagnostopoulou, E. (1997) "On Experiencers," to appear in Alexiadou, Horrocks, and Stavrou eds. *Studies in Greek Syntax*, Kluwer.
- Anagnostopoulou, E., and M. Everaert (1997) "Towards a More Complete Typology of Anaphoric Expressions," OTS Working Papers in Linguistics, Utrecht.
- Andersen, P. (1991) *A New Look at the Passive*, Peter Lang, Frankfurt am Main.
- Anderson, S. (1982) "Where's Morphology?" *Linguistic Inquiry* 13:4, 571–612.
- Anderson, S. (1992) *Amorphous Morphology*, Cambridge University Press, Cambridge.
- Arnott, D. W. (1956) "The Middle Voice in Fula," *Bulletin of the School of Oriental and African Studies* 28:1, 130–44.
- Arnott, D. W. (1970) *The Nominal and Verbal Systems of Fula*, Oxford University Press, Oxford.
- Aronoff, M. (1994) *Morphology by Itself: Stems and Inflectional Classes*, MIT Press, Cambridge, MA.
- Aulus Gellius (2nd Cent., 1927) *The Attic Nights of Aulus Gellius, with an English translation by John C. Rolfe*, W. Heinemann, London.
- Babby, L. (1975) "A Transformational Analysis of Transitive -sja Verbs in Russian," *Lingua* 35, 297–332.
- Babby, L., and R. Brecht (1975) "The Syntax of Voice in Russian," *Language* 51, 342–67.

- Baker, M. (1985) "The Mirror Principle and Morphosyntactic Explanation," *Linguistic Inquiry* 16, 373–416.
- Baker, M. (1988) *Incorporation: A Theory of Grammatical Function Changing*, University of Chicago Press, Chicago.
- Baker, M., K. Johnson, and I. Roberts (1989) "Passive Arguments Raised," *Linguistic Inquiry* 20:2, 219–251.
- Bakker, E. (1994) "Voice, Aspect and Aktionsart: Middle and Passive in Ancient Greek," in B. Fox and P. J. Hopper, eds., *Voice: Form and Function*, John Benjamins, Amsterdam.
- Baldi, P. (1976) "Remarks on the Latin R-form Verbs," *Zeitschrift für Vergleichende Sprachforschung* 90, 222–57.
- Barber, E. J. W. (1975) "Voice – Beyond the Passive," proceedings of BLS 1.
- Beard, R. (1990) "The Nature and Origins of Derivational Polysemy," *Lingua* 81:1, 101–140.
- Beard, R. (1995) *Lexeme-morpheme Based Morphology: A General Theory of Inflection and Word Formation*, State University of New York Press, Albany.
- Beedham, C. (1982) *The Passive Aspect in English, German, and Russian*, Gunter Narr Verlag, Tübingen.
- Belletti, A., and L. Rizzi (1988) "Psych-Verbs and θ -Theory," *Natural Language and Linguistic Theory* 6:3, 291–352.
- Blair, R., and R. Salas (1965) *Spoken Yucatec Maya*, Department of Anthropology, University of Chicago, Chicago.
- Bonet, E. (1991) *Morphology After Syntax: Pronominal Clitics in Romance*, Doctoral dissertation, MIT.
- Bresnan, J. (1982) "The Passive in Lexical Theory," in J. Bresnan, ed., *The Mental Representation of Grammatical Relations*, MIT Press, Cambridge.

- Bricker, V. (1978) "Antipassive Constructions in Yucatec Maya," in N. England, ed., *Papers in Mayan Linguistics*, Museum of Anthropology, University of Missouri, Columbia.
- Bricker, V. (1981) "Grammatical Introduction," in E. Po'ot Yah, ed., *Yucatec Maya Verbs (Hocaba Dialect)*, Center for Latin American Studies, Tulane University, New Orleans.
- Buck, C. D. (1955) *Greek Dialects*, University of Chicago Press, Chicago.
- Burzio, L. (1986) *Italian Syntax: A Government-Binding Approach*, Reidel, Dordrecht.
- Campos, H. (1987) "Passives in Modern Greek," *Lingua* 73:4, 301–12.
- Carmichael, A. N. (1841) *Greek Verbs; Their Leading Formations, Defects, and Irregularities*, John Murray, London.
- Carstairs, A. (1987) *Allomorphy in Inflexion*, Croom Helm, London.
- Carstairs-McCarthy, A. (1992) *Morphological Theory*, Routledge, London.
- Castañeda, H.-N. (1966) "Comments on Donald Davidson's 'The Logical Form of Action Sentences'," in N. Rescher, ed., *The Logic of Decision and Action*, University of Pittsburgh Press, Pittsburgh.
- Chantraine, P. (1927) *Histoire du Parfait Grec*, H. Champion, Paris.
- Chomsky, N. (1970) "Remarks on Nominalization," in R. Jacobs and P. Rosenbaum, eds., *Readings in English Transformational Grammar*, Georgetown University Press, Washington D.C.
- Chomsky, N. (1981) *Lectures on Government and Binding*, Foris, Dordrecht.
- Chomsky, N. (1993) "A Minimalist Program for Linguistic Theory," in K. Hale and S. Keyser, eds., *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, MIT Press, Cambridge, MA.
- Chomsky, N. (1995) *The Minimalist Program*, The MIT Press, Cambridge, MA.

- Cinque, G. (1988) "On *Si* Constructions and the Theory of *Arb*," *Linguistic Inquiry* 19:4, 529–81.
- Clark, R. (1994) "Kolmogorov Complexity and the Information Content of Parameters," technical Report 94-17, Institute for Research in Cognitive Science, University of Pennsylvania.
- Comrie, B. (1976) *Aspect: an Introduction to the Study of Verbal Aspect and Related Problems*, Cambridge University Press, Cambridge.
- Cranmer, D. (1976) *Derived Intransitivity, a Contrastive Analysis of Certain Reflexive Verbs in German, Russian and English*, Niemeyer, Tübingen.
- Croft, W., H. Shyldkrot, and S. Kemmer (1987) "Diachronic Semantic Processes in the Middle Voice," in A. Giacalone Ramat, O. Carruba, and G. Bernini, eds., *Papers from the 7th International Conference on Historical Linguistics*, John Benjamins, Amsterdam.
- Davidson, D. (1966) "The Logical Form of Action Sentences," in N. Rescher, ed., *The Logic of Decision and Action*, University of Pittsburgh Press, Pittsburgh.
- Davis, R. (1991) "Allomorphy in Spanish," uNC Chapel Hill Ph.D. Dissertation.
- Dayley, J. P. (1981) "Voice and Ergativity in Mayan Languages," *Journal of Mayan Linguistics* 2:2, 3–82.
- Diesing, M. (1992) *Indefinites*, MIT Press, Cambridge, MA.
- Dubinsky, S., and S. R. Simango (1996) "Passive and Stative in Chichewa: Evidence for Modular Distinctions in Grammar," *Language* 72:4, 749–781.
- Durbin, M., and F. Ojeda (1978) "Basic Word-Order in Yucatec Maya," in N. England, C. Craig, and L. Furbee-Losee, eds., *Papers in Mayan Linguistics*, University of Missouri, Columbia.
- Embick, D. (1996) "Causativization in Hupa," in the Proceedings of BLS 22.
- Embick, D. (1997) "The Latin Analytic/Synthetic Perfect(s)," ms., University of Pennsylvania.

- Embick, D., and R. Noyer (1997) "Locality and Post-Syntactic Operations," Ms., MIT/UPenn.
- Ernout, A., and F. Thomas (1951) *Syntaxe Latine*, Klincksieck, Paris.
- Farkas, D. (1990) "Two Cases of Underspecification in Morphology," *Linguistic Inquiry* 21:4, 539–550.
- Farkas, D., and D. Zec (1995) "Agreement and Pronominal Reference," in G. Cinque and G. Giusti, eds., *Advances in Romanian Linguistics*, Benjamins, Amsterdam.
- Flobert, P. (1975) *Les Verbes Déponents Latins des Origines à Charlemagne*, Belle Lettres, Paris.
- Freeze, R. (1992) "Existentials and Other Locatives," *Language* 68, 553–595.
- Freidin, R. (1975) "The Analysis of Passives," *Language* 51:2, 384–405.
- Geniušienė, E. (1987) *The Typology of Reflexives*, Mouton de Gruyter, Berlin.
- Gildersleeve, B., and G. Lodge (1895) *Latin Grammar*, MacMillan, London.
- Golla, V. (1970) *Hupa Grammar*, Doctoral dissertation, University of California at Berkeley.
- Gonda, J. (1960a) "Reflections on the Indo-European Medium I," *Lingua* 9:1, 30–67.
- Gonda, J. (1960b) "Reflections on the Indo-European Medium II," *Lingua* 9:2, 175–193.
- Goodell, T. D. (1902) *A School Grammar of Attic Greek*, D. Appleton and Company, New York.
- Goodwin, W. W. (1876) *Elementary Greek Grammar*, Ginn Brothers, Boston.
- Grimshaw, J. (1990) *Argument Structure*, MIT Press, Cambridge, MA.
- Hale, K., and S. Keyser (1993) "Argument Structure," in K. Hale and S. Keyser, eds., *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, MIT Press, Cambridge, MA.
- Hale, K., and P. Platero (1996) "Navajo Reflections of a General Theory of Lexical Argument Structure," in E. Jelinek, S. Midgette, K. Rice, and L. Saxon, eds.,

- Athabaskan Language Studies: Essays in Honor of Robert W. Young*, University of New Mexico Press, Albuquerque.
- Halle, M., and A. Marantz (1993) "Distributed Morphology and the Pieces of Inflection," in K. Hale and S. Keyser, eds., *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, MIT Press, Cambridge, MA.
- Halle, M., and A. Marantz (1994) "Some Key Features of Distributed Morphology," in A. Carnie, H. Harley, and T. Bures, eds., *Papers on Phonology and Morphology*, MITWPL, Cambridge, MA.
- Hardy, D. E. (1994) "Middle Voice in Creek," *International Journal of American Linguistics* 60:1, 39–68.
- Haspelmath, M. (1990) "The Grammaticization of Passive Morphology," *Studies in Language* 14:1, 25–72.
- Haspelmath, M. (1993) "More on the Typology of Inchoative/Causative Verb Alternations," in B. Comrie and M. Polinsky, eds., *Causatives and Transitivity*, Benjamins, Amsterdam.
- Haspelmath, M. (1994) "Passive Participles across Languages," in B. Fox and P. J. Hopper, eds., *Voice: Form and Function*, Benjamins, Amsterdam.
- Hoekstra, T. (1984) *Transitivity: Grammatical Relations in Government-Binding Theory*, Foris, Dordrecht.
- Hofling, C. A. (1991) *Itzá Maya Texts with a Grammatical Overview*, University of Utah Press, Salt Lake City.
- Hofmann, J. B., and A. Szantyr (1963) *Lateinische Grammatik, auf der Grundlage des Werkes von Friedrich Stolz und Joseph Hermann Schmalz; 2. Band Lateinische Syntax und Stilistik*, Beck'sche Verlagsbuchhandlung, München.
- Iatridou, S. (1986) "An Anaphor not Bound in its Governing Category," *Linguistic Inquiry* 17:4, 766–772.
- Iatridou, S. (1997) "The Grammatical Ingredients of Counterfactuality," ms, MIT.

- Jaeggli, O. (1986) "Passive," *Linguistic Inquiry* 17:4, 587–622.
- Jankuhn, H. (1969) *Die passive Bedeutung medialer Formen untersucht an der Sprache Homers*, Vondenhoeck und Ruprecht, Göttingen.
- Joseph, B., and J. Smirniotopoulos (1993) "The Morphosyntax of the Modern Greek Verb as Morphology and not Syntax," *Linguistic Inquiry* 24:3, 388–398.
- Kaufman, T. (1971) *Tzeltal Phonology and Morphology*, volume 61 of *University of California Publications in Linguistics*, University of California Press, Berkeley.
- Kayne, R. (1989) "Facets of Romance Past Participle Agreement," in P. Benincà, ed., *Dialect Variation and the Theory of Grammar*, Foris, Dordrecht.
- Kayne, R. (1993) "Towards a Modular Theory of Auxiliary Selection," *Studia Linguistica* 47:1, 3–33.
- Keenan, E. (1985) "Passive in the World's Languages," in T. Shopen, ed., *Language Typology and Syntactic Description I: Clause Structure*, Cambridge University Press, Cambridge.
- Kemmer, S. (1993) *The Middle Voice*, Benjamins, Amsterdam.
- Kemmer, S. (1994) "Middle Voice, Transitivity, and the Elaboration of Events," in B. Fox and P. J. Hopper, eds., *Voice: Form and Function*, John Benjamins, Amsterdam.
- Kiparsky, P. (1982) "Lexical Morphology and Phonology," in L. S. of Korea, ed., *Linguistics in the Morning Calm: Selected Papers from SICOL-1981*, Hanshin, Seoul.
- Klaiman, M. H. (1991) *Grammatical Voice*, Cambridge University Press, Cambridge.
- Klaiman, M. H. (1992) "Middle Verbs, Reflexive Middle Constructions, and Middle Voice," *Studies in Language* 16:1, 35–62.
- Klein, W. (1994) *Time in Language*, Routledge, London.
- Kostopoulou, E. (1989) "On Noun Incorporation in Modern Greek," *Cahiers Linguistiques d'Ottawa*.

- Kratzer, A. (1993) "The Event Argument and the Semantics of Voice," Ms., UMass Amherst.
- Kubo, M. (1990) "The Structure of the Japanese Passive," Ms., MIT.
- Lakoff, R. (1971) "Passive Resistance," proceedings of the Chicago Linguistic Society.
- Lasnik, H. (1988) "Subjects and the Theta-Criterion," *Natural Language and Linguistic Theory* 6:1, 1–18.
- Leumann, M. (1963) *Lateinische Grammatik, auf der Grundlage des Werkes von Friedrich Stolz und Joseph Hermann Schmalz; 1. Band Lateinische Laut- und Formenlehre*, Beck'sche Verlagsbuchhandlung, München.
- Levin, B., and M. Rappaport (1986) "The Formation of Adjectival Passives," *Linguistic Inquiry* 17:4, 623–661.
- Lewis, D. (1973) *Counterfactuals*, Harvard University Press, Cambridge, MA.
- Lidz, J. (1996) "Dimensions of Reflexivity," Ph.D Dissertation, University of Delaware.
- Lieber, R. (1980) *The Organization of the Lexicon*, Doctoral dissertation, MIT.
- Lindsay, W. M. (1915) *A Short Historical Latin Grammar*, Oxford University Press, Oxford.
- Lumsden, J. (1992) "Underspecification in Grammatical and Natural Gender," *Linguistic Inquiry* 23:3, 469–86.
- Mackridge, P. (1987) *The Modern Greek Language*, Oxford University Press, Oxford.
- Marantz, A. (1984) *On the Nature of Grammatical Relations*, MIT Press, Cambridge, MA.
- Marantz, A. (1992a) "Case and Licensing," *ESCOL 91*, 234–53.
- Marantz, A. (1992b) "What Kind of Pieces are Inflectional Morphemes?" paper presented at the Berkeley Linguistics Society.
- Marantz, A. (1995) "'Cat' as a Phrasal Idiom: Consequences of Late Insertion in Distributed Morphology," ms., MIT.

- Marcus Terentius Varro (1st Cent. B.C., 1938) *On the Latin Language, with an English translation by Roland G. Kent*, Harvard University Press, Cambridge MA.
- Martin, J. (1991) *The Determination of Grammatical Relations in Syntax*, Doctoral dissertation, UCLA.
- Masica, C. (1976) *Defining a Linguistic Area: South Asia*, University of Chicago Press, Chicago.
- McCartney, E. S. (1926) "Makeshifts for the Passive of Deponent Verbs in Latin," *Philological Quarterly* 5:4, 289–298.
- McGinnis, M. (1997) "Reflexive Binding and Lethal Ambiguity," to appear the Proceedings of WCCFL 16.
- Mirambel, A. (1949) "Remarques sur les voix du verbe grec moderne," *Bulletin de la Société de la Linguistique* 45, 111–127.
- Nedjalkov, V., and S. Jaxontov (1988) "The Typology of Resultative Constructions," in V. Nedjalkov and B. Comrie, eds., *Typology of Resultative Constructions*, Benjamins, Amsterdam.
- Nida, E., and M. Romero C. (1950) "The Pronominal Series in Maya (Yucatec)," *International Journal of American Linguistics* 16:2, 193–7.
- Noyer, R. (1992) *Features, Affixes, and Positions in Autonomous Morphological Structure*, Doctoral dissertation, MIT.
- Noyer, R. (1995) "Impoverishment Theory and Morphosyntactic Markedness," in S. Lapointe, D. Brentari, and P. Farrell, eds., *Morphology and Its Relation to Syntax and Phonology*, CSLI, Stanford.
- Noyer, R. (1997) "A Plan for a Theory of Spell-out," ms. University of Pennsylvania.
- Parsons, T. (1990) *Events in the Semantics of English: A Study in Subatomic Semantics*, MIT Press, Cambridge, MA.
- Pesetsky, D. (1995) *Zero Syntax: Experiencers and Cascades*, MIT Press, Cambridge, MA.

- Philipakki-Warburton, I. (1973) "Modern Greek Verb Conjugation: Inflectional Morphology in a Transformational Grammar," *Lingua* 32, 193–226.
- Pinkster, H. (1992) "The Latin Impersonal Passive," *Mnemosyne* XLV:2, 159–77.
- Po'ot Yah, E. (1981) *Yucatec Maya Verbs (Hocaba Dialect)*, Center for Latin American Studies, Tulane University, New Orleans.
- Postal, P. M. (1986) *Studies in Passive Clauses*, State University of New York Press, Albany.
- Reinhart, T., and E. Reuland (1991) "Anaphors and Logophors: An Argument Structure Perspective," in J. Koster and E. Reuland, eds., *Long Distance Anaphora*, Cambridge University Press, Cambridge.
- Reinhart, T., and E. Reuland (1993) "Reflexivity," *Linguistic Inquiry* 24:4, 657–720.
- Reuland, E. J. (1983) "Govern- -ing," *Linguistic Inquiry* 14:1, 101–136.
- Rijksbaron, A. (1984) *The Syntax and Semantics of the Verb in Classical Greek: An Introduction*, J.C. Gieben, Amsterdam.
- Risselada, R. (1987) "Voice in Ancient Greek: reflexives and passives," in J. van der Auwera and L. Goossens, eds., *Ins and Outs of the Predication*, Foris, Dordrecht.
- Rivero, M.-L. (1992) "Adverb Incorporation and the Syntax of Adverbs in Modern Greek," *Linguistics and Philosophy* 15, 289–331.
- Rizzi, L. (1986) "Null Objects in Italian and the Theory of *pro*," *Linguistic Inquiry* 14:4, 501–555.
- Sapir, E. (1922) *Language*, University of Chicago Press, Chicago.
- Schwyzler, E. (1953-71) *Griechische Grammatik 1. Band: Allgemeiner Teil, Lautlehre, Wortbildung, Flexion*, C.H. Beck'sche Verlagsbuchhandlung, München.
- Schwyzler, E., and A. Debrunner (1953-71) *Griechische Grammatik 2. Band: Syntax und syntaktische Stilistik*, C.H. Beck'sche Verlagsbuchhandlung, München.

- Sicking, C. M. J., and P. Stork (1996) "The Synthetic Perfect in Classical Greek," in C. M. J. Sicking and P. Stork, eds., *Two Studies in the Semantics of the Verb in Classical Greek*, E. J. Brill, Leiden.
- Siewierska, A. (1979) *The Passive: A Comparative Linguistic Analysis*, Croom Helm, London.
- Sihler, A. L. (1995) *New Comparative Grammar of Greek and Latin*, Oxford University Press, New York.
- Smith-Stark, T. (1978) "The Mayan Antipassive: Some Facts and Fictions," in N. England, ed., *Papers in Mayan Linguistics*, Museum of Anthropology, University of Missouri, Columbia.
- Smyth, H. W. (1920) *Greek Grammar*, Harvard University Press, Cambridge, MA.
- Sobin, N. (1985) "Case Assignment in Ukrainian Morphological Passive Constructions," *Linguistic Inquiry* 16:4, 649–662.
- Sommer, F. (1914) *Handbuch der Lateinischen Laut- und Formenlehre*, Carl Winters Universitätsbuchhandlung, Heidelberg.
- Stahl, J. M. (1907) *Kritisch-Historische Syntax des Griechischen Verbums der Klassischen Zeit*, Carl Winter, Heidelberg.
- Stump, G. T. (1983) *The Semantic Variability of Absolute Constructions*, D. Reidel, Dordrecht.
- Sullivan, P. R. (1984) "Noun Incorporation in Yucatec Maya," *Anthropological Linguistics* 26:2, 138–160.
- Tsimpli, I.-M. (1989) "On the Properties of the Passive Affix in Modern Greek," ms., University College London.
- Urushibara, S. (1997) "Facets of the English Past Participle," to appear in *A Festschrift for Akira Ota on the Occasion of his 80th Birthday*.
- Veitch, W. (1871) *Greek Verbs, Irregular and Defective*, Clarendon Press, Oxford.

- Wackernagel, J. (1904) "Studien zum Griechischen Perfektum," in *Kleine Schriften, Band II*, Vandenhoeck and Rupprecht, Göttingen.
- Wackernagel, J. (1920) *Vorlesungen über Syntax, mit besonderer Berücksichtigung von Griechisch, Lateinisch, und Deutsch*, Philologischen Seminar der Universität Basel, Basel.
- Wasow, T. (1977) "Transformations and the Lexicon," in P. Culicover, T. Wasow, and A. Akmajian, eds., *Formal Syntax*, Academic Press, New York.
- Wetzer, H. (1996) *The Typology of Adjectival Predication*, Mouton de Gruyter, Berlin.
- Williams, E. (1985) "PRO and Subject of NP," *Natural Language and Linguistic Theory* 3:3, 297–317.
- Williams, E. (1994) *Thematic Structure in Syntax*, MIT Press, Cambridge, MA.
- Zwicky, A. (1985) "Clitics and Particles," *Language* 61:2, 283–305.