

Split intransitivity
Thematic roles, case and agreement

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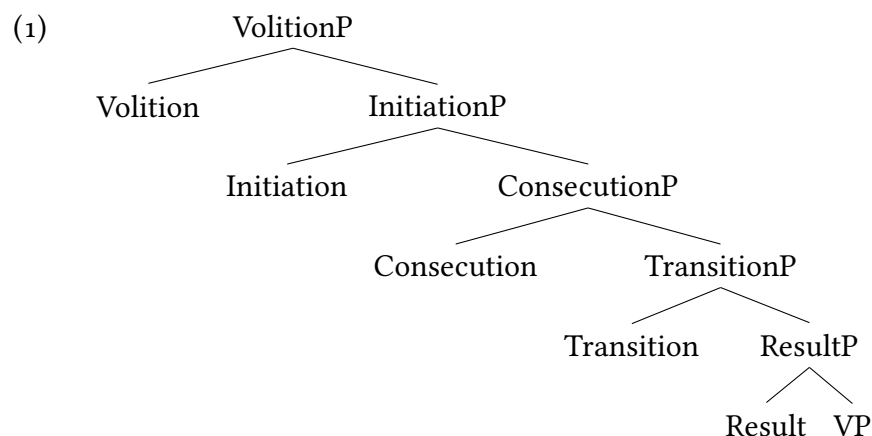
*This dissertation is submitted for the degree of Doctor of
Philosophy*

Abstract

Split intransitivity: Thematic roles, case and agreement

James Baker

This dissertation is an extended argument for the syntactic structure proposed in (1), referred to as the *VICTR Hierarchy* after the initials of the five functional heads it comprises:



The VICTR Hierarchy is a hierarchy of functional heads corresponding to the part of the clause generally known in the minimalist literature as ‘vP’ or the ‘thematic domain’. Nominal arguments are merged in the specifiers of one or more of these heads and receive their thematic interpretations on the basis of their merged positions.

Evidence for a model of thematic roles and syntactic argument structure based in the VICTR Hierarchy is presented for a range of domains, with a focus on *split intransitivity*.

Split intransitivity is explored initially in regard to English, with close consideration of a range of split intransitive diagnostics (e.g. *out*-prefixation, the resultative construction); a VICTR account of these patterns is presented. A VICTR account of auxiliary selection patterns in Western European languages is also given.

This is followed by analysis of split intransitive case and agreement systems. A formal account of the case and agreement patterns in these languages based in the VICTR hierarchy is presented, derived in part from the inherent case theory of ergativity (Legate 2002, Aldridge 2004 and others) and drawing on a detailed typology. The dissertation then proceeds to detailed analysis of the semantic basis of split intransitive alignment in two languages, Basque

and Georgian. Other split intransitive behaviours in these languages are also considered in VICTR terms.

Throughout, the VICTR approach is compared to other approaches to split intransitivity following Perlmutter's (1978) Unaccusative Hypothesis. The VICTR Hierarchy is also compared to the similar proposal of Ramchand (2008). It is argued that the VICTR Hierarchy accounts more readily than these other approaches for the particular classes of verbs identified by split intransitivity diagnostics in the languages considered, and also for cross-linguistic variation in split intransitive behaviours.

Much support, with some caveats, is also found in the data considered for the applicability of Sorace's (2000) Auxiliary Selection Hierarchy (ASH) to a range of split intransitive phenomena cross-linguistically. Together with acquisitional considerations, the VICTR features are argued to allow for a formalisation of the patterns described by the ASH.

*To my parents
for their support*

and to Abisola

Preface

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the Preface and specified in the text.

It is not substantially the same as any that I have submitted, or, is being concurrently submitted for a degree or diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text. I further state that no substantial part of my dissertation has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text.

It does not exceed the prescribed word limit for the relevant Degree Committee.

James Baker
September 2018

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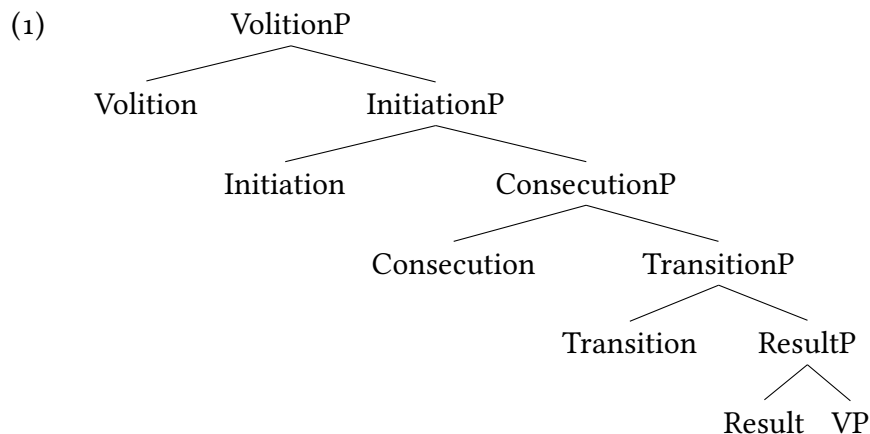
Chapter 1

Introduction

1.1 Aims and overview

1.1.1 The VICTR Hierarchy

This dissertation is an extended argument for the syntactic structure proposed in (1), referred to as the *VICTR Hierarchy*:



The VICTR Hierarchy is a hierarchy of functional heads corresponding to the part of the clause generally known in the minimalist literature as ‘vP’ or the ‘thematic domain’. It is the lowest part of the clausal spine and is where nominal arguments are first-merged and receive their thematic interpretations. The lexical verb is also merged within this part of the clause. The VICTR Hierarchy expands and adapts the hierarchy proposed in Ramchand (2008), a point which is discussed further in §1.1.2 and throughout the dissertation.

The VICTR Hierarchy comprises five *thematic functional heads*, each instantiating one of five functional categories: Volition, Initiation, Consecution, Transition and Result. These five together yield the ‘VICTR’ acronym. I also assume a VP headed by a lexical head of category V to be merged at the bottom of the structure.

Each of the five VICTR heads comprises various features. These include what I call the *category-defining features*, where ‘category’ refers to one of the five functional categories just

listed. Each of these categories corresponds to a different category-defining feature: respectively, these features are termed $[\pm\text{volition}]$, $[\pm\text{initiation}]$, $[\pm\text{consecution}]$, $[\pm\text{transition}]$ and $[\pm\text{result}]$. These features have been identified on the grounds that they identify (separately or in combination) precisely the semantic classes of verbs to which syntactic split intransitive behaviours are pervasively sensitive across the wide range of languages to be considered.

Formally, the category-defining features are (interpretable) valued features consisting of an attribute *Att* and a value *val*, i.e. features of the sort standardly assumed in minimalism. Taken together, these define the principal semantic contribution of the head: the attribute denotes a particular semantic property, and the value whether that property holds or does not hold of the predicate in question. Thus there are two possible values for each attribute, represented here in the format $[\pm\text{att}]$. For example, the attribute ‘Transition’ may be valued as either $[\text{+transition}]$, in which case the predicate is interpreted as expressing a transition event (i.e. a change of state or location; see §1.1.3 for more details) or else as $[\text{–transition}]$, in which case the predicate is interpreted as *not* expressing a transition. This should be taken as merely a notational variant on the format $[\text{Att:val}]$, so $[\text{+transition}]$ is equivalent to $[\text{Transition:}+]$ and $[\text{–transition}]$ to $[\text{Transition:–}]$, and so forth. The use of the symbol ‘ \pm ’ indicates that either possible value of the feature can hold in a particular context, or else refers to the feature independently of the value it bears. A head bearing the ‘+’ value may be referred to as ‘positively-valued’, one with the ‘–’ value as ‘negatively-valued’.

I assume all five of the VICTR heads are projected in each clausal structure, and incorporate into one another via head movement (the lexical verb *V* also incorporates into this complex). Any combination of the values of the heads is possible at least in principle. Arguments may be merged in the specifier positions of any of the thematic functional heads and also in the complement position to *V*. Specifically, if a thematic head bears a positive value for its category-defining feature (e.g. if Volition bears $[\text{+volition}]$) then an argument must be merged in its specifier, and if it bears a negative value for that feature (e.g. if Volition bears $[\text{–volition}]$) then no argument may be merged in the specifier. In more formal terms, it can be stated that a positively-valued VICTR head *necessarily bears* a selectional feature that causes a DP to be merged in its specifier, and a negatively-valued VICTR head *necessarily lacks* such a selectional feature.

The heads also bear other sorts of features (e.g. case-, ϕ -features); these will be discussed in §1.3.2.

The position or positions in which an argument is merged determine its thematic interpretation. An argument merged in Spec,VolitionP is referred to as bearing the thematic role θ -VOLITION, one merged in Spec,InitiationP as bearing θ -INITIATION, and so forth.

These thematic roles correspond roughly, in general, to the following interpretations of the arguments which bear them (more formal definitions and some caveats will be given in §1.1.3):

- (2) θ -VOLITION: argument in volitional control of the event
 θ -INITIATION: argument initiating the event
 θ -CONSECUTION: argument of which a series of identical subevents is predicated
 θ -TRANSITION: argument of which a change (of state or location) is predicated
 θ -RESULT: argument of which a result state is predicated

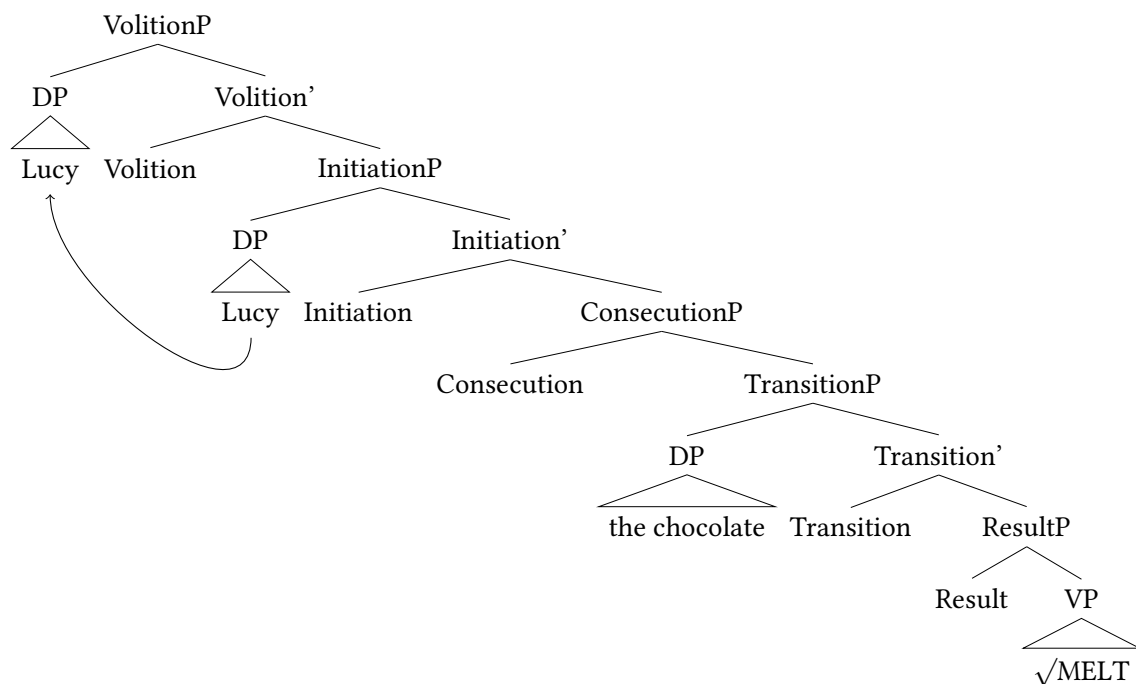
It is possible for an argument to be merged in multiple thematic positions and thus to receive multiple thematic roles. (This is in contrast to the traditional Theta Criterion, a point to which I will return in §1.2.2.) Thus for example an argument merged in Spec,VolitionP (bearing θ -VOLITION) will often also have been merged in Spec,InitiationP (and bear θ -INITIATION). The resulting thematic role complex is referred to as θ -INITIATION+ θ -VOLITION. The roles may also be borne independently, however.

The general correspondence between the thematic functional heads, their category-defining features and the thematic roles of their arguments is summarised as follows:

- (3) Where a thematic functional head X bears a category-defining feature [+x], an argument merged in Spec,XP is interpreted as bearing the thematic role θ -x.

This may be made clearer through a concrete example; many more will follow throughout the dissertation. Consider the following English sentence and its representation:¹

- (4) *Lucy is melting the chocolate.*



1. In this and most subsequent examples, the higher part of the clause (the temporal and discourse domains) is omitted from the diagram. I also omit representation of the movement of the verb and the thematic heads to form a single incorporated complex.

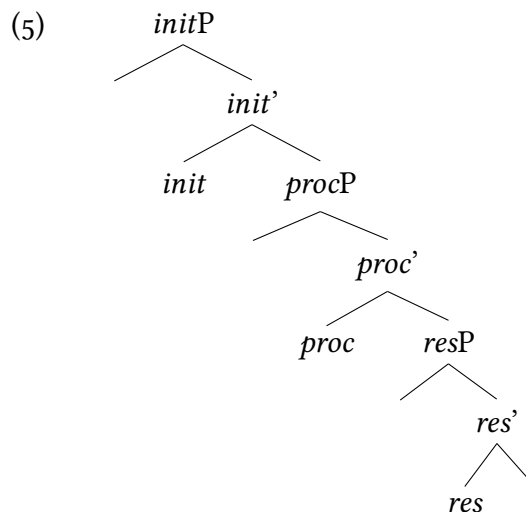
Lucy refers to the volitional initiator of the event; the argument is thus merged in both Spec,InitiationP and Spec,VolitionP and receives the thematic interpretation θ -INITIATION+ θ -VOLITION. *the chocolate* refers to an entity which undergoes a change of state (namely melting); it is therefore merged in Spec,TransitionP and receives the thematic interpretation θ -TRANSITION.

The category-defining feature values of the thematic heads can be inferred by the reader from the presence or absence of an argument in the specifier positions of those heads. Here, Volition, Initiation and Transition have arguments merged in their specifiers, showing that they bear [+volition], [+initiation] and [+transition] respectively; Consecution and Result lack arguments, showing that they bear [–consecution] and [–result].

This concludes the basic overview of the VICTR Hierarchy and its relation to syntactic argument structure and thematic roles. Further details will be discussed throughout this dissertation. Before this, however, it will be helpful firstly to compare the approach to that of Ramchand (2008) (§1.1.2), and then to discuss the relation of the hierarchy to semantics in more detail (§1.1.3). §1.1.4 then presents the main aims of the dissertation.

1.1.2 Comparison with Ramchand (2008)

As mentioned, the VICTR Hierarchy expands a similar proposal by Ramchand (2008). To a certain extent, the differences are essentially notational, but some are more substantial. Ramchand posits just three argument-introducing functional heads, *init*, *proc* and *res*, arranged in a hierarchical structure:



Arguments must be merged in the specifiers of these functional heads where those heads are projected (alternatively, one or two of the heads may be omitted). An argument merged in Spec,*initP* receives the semantic interpretation INITIATOR, one in Spec,*procP* that of UNDERGOER, one in Spec,*resP* that of RESULTEE. Importantly, an argument may be merged in more than one of these positions, and thus receive a multi-faceted interpretation—an idea which I also adopt for the VICTR Hierarchy. Arguments may also be merged in complement positions; these arguments are called ‘RHEMES’.

The most important difference between Ramchand’s approach and mine concerns the number and nature of the heads in this domain. My Initiation and Result are essentially equivalent to Ramchand’s *init* and *res* (though see the next subsection for some caveats regarding the semantics of Initiation). I decompose the function of Ramchand’s *proc*, however, into two separate features, $[\pm\text{consecution}]$ and $[\pm\text{transition}]$, which I represent as each being represented on their own head. I also posit a distinction $[\pm\text{volition}]$, represented on a head at the top of the hierarchy.

I will argue at various points throughout for the importance of making these additional featural distinctions (see especially §2.3.2, §2.4.3, §3.7.2.3, §4.5.2, §5.7.2, §6.2.2). The central prediction is that all and only the five main featural distinctions posited are necessary to capture the argument structure and thematic distinctions of the world’s languages, particularly in regard to split intransitivity, and that Ramchand’s model does not appear sufficient to make these distinctions (cf. Ramchand 2008: 41).

It would be possible to construe an alternative version of the hierarchy in which the features are ‘bundled’ onto a smaller number of heads. One possibility is that $[\pm\text{volition}]$ and $[\pm\text{initiation}]$ could be on a single head, as could $[\pm\text{consecution}]$ and $[\pm\text{transition}]$. (This would be similar to Ramchand’s original proposal in terms of the number of heads, with *init* and *proc* simply more featurally specified.) We would thus have different ‘flavours’ of these heads depending on which feature values they occur with (cf. certain of the approaches to argument structure discussion in §1.2.4). It is also possible that there is cross-linguistic variation in how the features and heads are associated (cf. Giorgi and Pianesi 1997). Which option is selected here is not in fact crucial for the overall analysis, though various small points would have to be presented differently on the feature-bundling approach. Some evidence for keeping the features ‘scattered’ on separate heads is however presented in a few places throughout, not least the proposal for the relation of the VICTR Hierarchy to semantics sketched in §1.1.3. This approach also allows the VICTR Hierarchy to be situated firmly within the cartographic enterprise (see §1.2.1) and permits a straightforward approach to the linking of syntax and semantics (§1.3.1). It will be argued consistently that each of the VICTR features should be represented on a functional head, and that multiple heads are desirable—regardless of whether some heads might bear more than one feature as is assumed.

Another important difference between the VICTR Hierarchy and Ramchand’s hierarchy is that the five VICTR heads are all always present in any thematically complete clause, whereas in Ramchand’s approach any of the heads can be omitted when they do not contribute directly to the semantics of the predicate. The presence of a head of Ramchand’s system is equivalent to a positively-valued category-defining feature (e.g. $[\text{+initiation}]$) on the current approach; the absence of a head for Ramchand is equivalent to a negative-valued category defining feature (e.g. $[\text{–initiation}]$).

There are various reasons for taking the heads to be always present. Many of the phenomena to be discussed are captured in terms of selectional properties which make reference to negatively-valued features (for example §2.2.4 argues that the attributive past participle suffix

in English selects for [–consecution,+transition] verbs, e.g. *fall* in *fallen leaves*); this is more easily stated than selection for the absence of a head. The present approach also allows for an analysis of various types of variation with stative intransitives which is not addressed on Ramchand’s system (see §1.1.3).

Another difference concerns the status of the verbal root. Ramchand assumes the verbal root to be initially merged directly into one of the positions occupied by *res*, *proc* or *init* (see particularly her reasoning in Ramchand 2008: 39–40). I, however, include a separate V projection where the lexical verb is first inserted. This more conservative assumption is not crucial for the arguments made here, however, and could plausibly be interpreted as merely a notational difference adopted for convenience of representation. (See §1.2.4.1 for further discussion of a consequence of the present decision.)

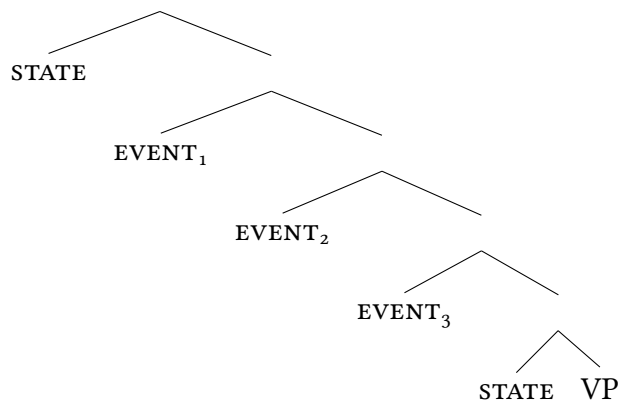
There is at least one point in which these latter two differences are of importance; however, this need not be of particular concern in the present discussion. This point concerns RHEMES. In Ramchand’s approach these are merged in the complement positions of one of the functional heads, and can be distinguished on the basis of the position in which they are merged. The object of transitive *eat*, for example, is merged in *Comp,procP* and is interpreted as a PATH, whereas the object of *enter* is merged in *Comp,resP* and is interpreted as a RESULT-RHEME (Ramchand 2008: see particularly chapters 3, 4 and 5). The present argument focuses almost exclusively on monovalent verbs (see §1.1.4), and does not attempt to address these cases; on those few occasions where it is necessary to represent apparently rhematic material, I will place it in the *Comp,VP* position.

1.1.3 The semantics of the VICTR Hierarchy

In this subsection I sketch a more detailed overview of the relation of the VICTR Hierarchy to semantic interpretation, in the form of a modified and expanded version of the approach to the relation between syntax and semantics in this domain presented by Ramchand (2008: see particularly chapter 3). This dissertation as a whole will concern itself more with syntax than semantics directly, and other possible understandings of the relations between the proposed heads and their semantics are possible, but this subsection aims to show that a relation between the VICTR Hierarchy and compositional semantics is at least plausible.

Ramchand proposes that there are heads corresponding to subevents of the event expressed by the predicate as a whole. On her approach, the highest and lowest heads *init* and *res* denote states; the middle head *proc* denotes an dynamic subevent. I propose an expansion of this here: Volition and Result are stative heads, whereas Initiation, Consecution and Transition each denote different sorts of event. Specifically, this holds when these heads bear positively-valued category-defining features; negative-valued features denote the absence of the sort of subevent encoded by the positive value. Thus the VICTR Hierarchy might alternatively be represented as follows:

(6)



Again broadly following Ramchand, I assume the following principle of semantic interpretation:

- (7) **Event composition:** where a thematic functional head $[+x]$ X c-commands another thematic functional head $[+y]$ Y, and no thematic functional head $[+z]$ Z intervenes, the subevent denoted by X ‘leads to’ or causally implicates the subevent denoted by Y.²

Let us begin by discussing the EVENT heads, which are more straightforwardly described. On the present approach there are three such heads, as opposed to one in the approach of Ramchand (2008). One reason for this difference is that, unlike Initiation/EVENT₁, Ramchand’s *init* is stative (like Volition here and *res*/Result). I adopt this view in light of sentences like the following:

- (8) Lucy broke the bicycle.

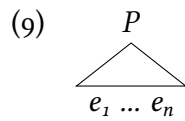
The state of one participant cannot lead directly to an event affecting another. It is not a state of *Lucy* that leads to the event of breaking which *the bicycle* undergoes; rather, it is some dynamic action Lucy performs—another event, in other words. However, this is not a central claim and the analysis presented here could be maintained with only small revisions under an understanding of Initiation as stative.

I will not attempt to characterise exactly what sort of event is denoted by Initiation/EVENT₁; perhaps it is not defined specifically at all. However, a semantic difference is apparent between Consecution/EVENT₂ and Transition/EVENT₃. These heads can both be seen to correspond to Ramchand’s *proc*; however, I will present evidence at various points that it is helpful to keep the $[\pm\text{consecution}]$ and $[\pm\text{transition}]$ features distinct.

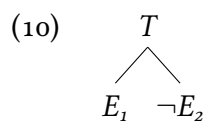
$[+\text{consecution}]$ Consecution denotes the sort of event called a ‘process’ by Pustejovsky (1991). I introduce the terminology ‘consecution’ here to ensure that the distinction from Ramchand’s ‘*proc(ess)*’ is clear: not all processes in Ramchand’s sense are processes in Pustejovsky’s sense. Briefly, a consecution is ‘a sequence of events denoting the same semantic expression’ (Pustejovsky 1991: 40), i.e. a series of *consecutive* subevents (hence the name adopted here).

2. See Rizzi (1990) on relativised minimality.

Examples of consecutions include *work*, *play*, *talk* and *tremble* (Sorace 2000). Pustejovsky represents this sort of event as follows (1991: 40), where *e* represents a subevent:



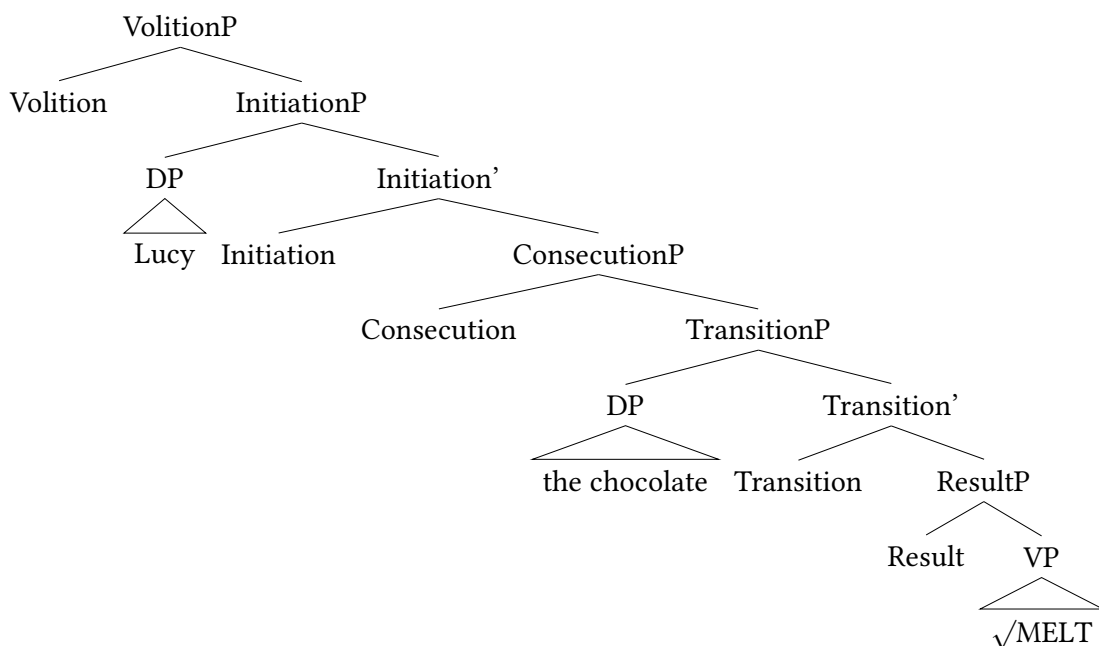
A transition (denoted by [+transition] Transition) is ‘an event identifying a semantic expression, which is evaluated relative to its opposition’ (Pustejovsky 1991: 40). Pustejovsky represents transitions as follows (1991: 40), where *E* represents the semantic expression in question:



This sort of event is expressed for example by *melt*, which identifies a transition from ‘not melted’ to ‘melted’. (This transition does not have to run to completion—i.e. *melt* can be used of an entity which does not end up fully melted.) Other transition verbs include *burn*, *break* etc.

It is now possible to illustrate a simple example of the event composition rule given in (7). Take the following:

- (11) *Lucy was inadvertently melting the chocolate.*



Here, the initiation event of which *Lucy* is the argument is interpreted as leading to the

transition event which *the chocolate* undergoes. (The Consecution head has a negative [–consecution] value and so plays no part in the causal implication.)³

Sorace (2000) considers change of location verbs like *go*, *arrive* etc. to be a type of transition. The expression and opposition expressed here can be seen in general terms as ‘be at *L*’ vs. ‘not be at *L*’, where *L* is some location. Rappaport Hovav’s (2008) notion of ‘scalar change’ corresponds closely to the class of verbs identified as transitions by Sorace.

For Pustejovsky and Sorace, manner of motion verbs like *walk*, *run* and *swim* are ‘processes’, i.e. consecutions. However, these could alternatively be analysed as [+consecution, +transition]—i.e. involving both sorts of event. (Thus the values of these two features are independent, as table 1.1 illustrates.) The consecution component is the movement of the parts of the body; the transition the change of location that is (usually) involved.⁴ This analysis of these verbs, which will be adopted here, provides a way of understanding why they sometimes act like both [+consecution] verbs and [+transition] ones in respect to different diagnostics: see §2.2, §2.4.2.3. This is just one example of the value of employing multiple features, with particular values, to identify a natural class: not every class of verbs with shared behaviour requires its own feature. Note also that it is the consecution which leads to or causes the transition in this case (cf. (7)), which is one further reason for assuming Consecution and Transition to be separate heads of which Consecution is the higher.

	[–consecution]	[+consecution]
[–transition]	<i>exist, remain</i>	<i>work, cough</i>
[+transition]	<i>go, arrive</i>	<i>swim, walk</i>

Table 1.1: Values of [±consecution] and [±transition] with exemplary verbs from English

Let us turn now to the two STATE heads, Volition and Result. I assume that these do not *inherently* denote volition or result. They may in principle, when positively valued, denote any state. The volition and result readings come about as a result of the values of the other heads with which they are combined. This follows, with some adaptation, Ramchand’s view of her stative heads *init* and *res*.

According to (7), if Volition and Initiation are both positively valued for their category-defining feature, what is denoted is a state leading to an event. Specifically, STATE is interpreted here as a mental state of desire which causally implicates the event which takes place.⁵

3. This need not mean it is of no semantic import: the [–consecution] value expressly indicates a predicate as *not* a consecution, thus preventing it from occurring with verbal roots whose conceptual semantics means they must denote consecutions, and keeping such verbs from exhibiting behaviours associated only with non-consecution predicates.

4. Though note the examples below where no change of location is involved:

(i) a. Lucy is running on the spot.

b. Lucy swam as hard as she could, but the current was strong and she didn’t get anywhere.

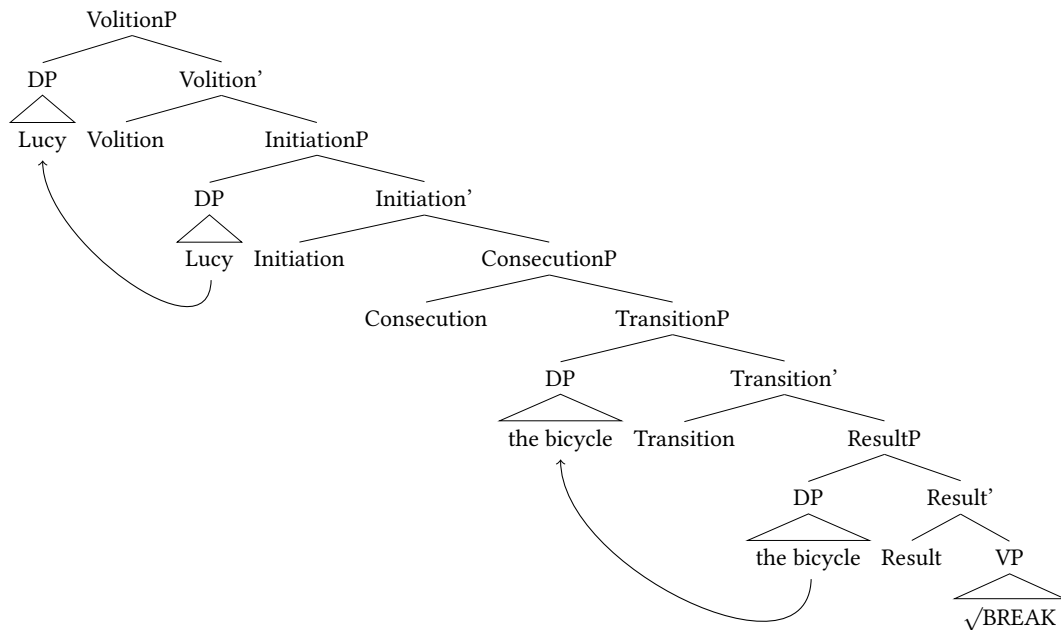
These predicates would appear to be [+consecution, –transition].

5. This particular interpretation might be seen as deriving from the conceptual semantic content associated with the verbal root: e.g. a typically volitional verb like *talk* is interpreted as volitional on account of the properties of the root, rather than directly from the [+volition] value itself: although this value is required with all conceptually volitional verbs.

Or if one of the EVENT heads (Initiation, Consecution or Transition) is positively valued and c-commands a positively valued STATE (i.e. [+result] Result) with no intervening positively valued heads, the event denoted by the higher head is interpreted as leading to a result state denoted by the lower (once again following Ramchand).

The following example can be used to illustrate the contribution of the stative heads:

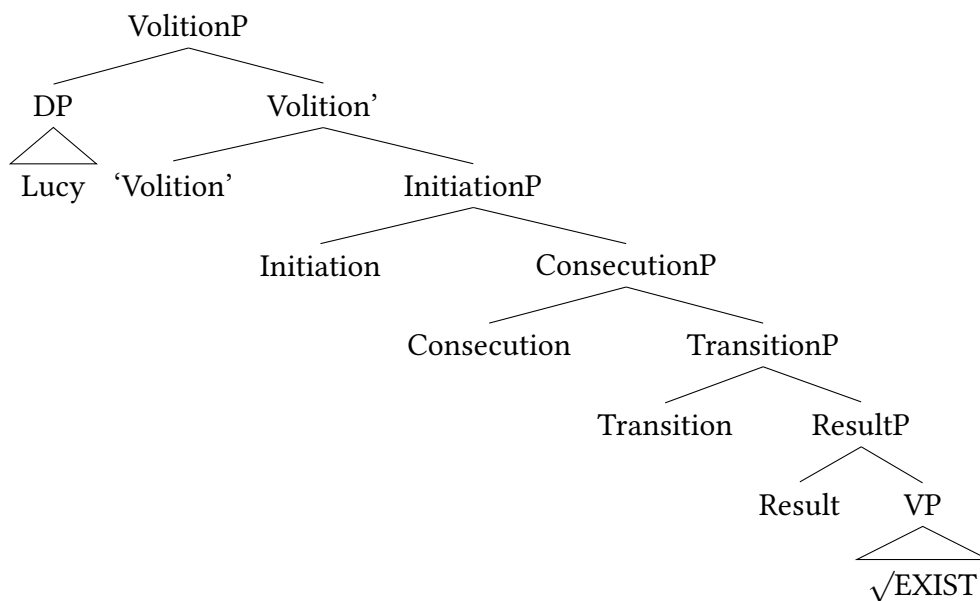
(12) *Lucy broke the bicycle.*



The state predicated of *Lucy* by the Volition head leads to the initiation event of which *Lucy* is also the argument. This in turn leads to the transition event predicated of *the bicycle*, which leads to the final (broken) state of *the bicycle* predicated by Result. Note the distinction between ‘inherently telic’ verbs like *break* which are [+result], and [–result] verbs like *melt* where the final result state is not necessarily reached (see §2.2 for more discussion, and cf. also Ramchand 2008: 40).

Still following Ramchand, in the absence of other positively valued heads, a STATE head can be interpreted as denoting a purely stative predicate with no volition or result content. Where such an interpretation holds I will denote the heads, features and associated roles in quotation marks as ‘Volition’, [+‘volition’] and θ -‘VOLITION’ / ‘Result’, [+‘result’] and θ -‘RESULT’. For example:

(13) *Lucy exists.*



There is no implication here that Lucy is in volitional control of her existence; rather, the higher STATE head (labelled 'Volition') merely indicates that a state is predicated of the argument. Because 'Volition' and 'Result' are in and of themselves semantically equivalent, it is in principle possible for stative verbs to have either θ -'VOLITION' or θ -'RESULT' arguments. This possibility is utilised in accounting for variation in behaviours within the class of state verbs in various languages; in German, for example, some state verbs in the perfect take auxiliary *haben* HAVE and others auxiliary *sein* BE:

- (14) a. *Hans **hat** überlebt.*
 Hans **has** survived.
 'Hans survived.'
- b. *Hans **ist** geblieben.*
 Hans **is** remained
 'Hans remained.'

This is attributed to verbs like *überleben* 'to survive' being [+ 'volition'] and ones like *bleiben* 'to remain' being [+ 'result']. See §2.4.2.4 for further discussion. On this analysis, the values of [\pm volition] and [\pm result] are wholly independent of those of other heads.

The five VICTR heads can be thus seen as forming a syntactic 'field' in that they all contribute to semantic interpretation in a similar way. This is further seen in their various shared properties, e.g. in the introduction of arguments in the specifiers. Plausibly this field forms a 'phase' in the sense of Chomsky (2000): compare the standard understanding of vP, and Ramchand's (2008) 'first phase', i.e. the part of the clause given in (5), which both corresponds to the same domain.

Having outlined the semantic model here adopted, I now continue to set out the main aims of this dissertation.

1.1.4 Aims: split intransitivity, case and agreement

1.1.4.1 General aims

To reiterate, the principle aim of the work is to provide an extended argument for the VICTR Hierarchy. Major issues to be addressed include:

(I) Why should argument structure and thematic roles be described in terms of this sort of structure of thematic functional heads, as opposed to some other sort of analysis?

(II) Why should these particular thematic heads be posited?

Both of these questions will be addressed at length. However, as it is impossible in a single work to examine more than a small part of the data bearing on these issues, they will be considered in relation to a number of subsidiary aims relating to particular linguistic phenomena, which I now turn to in the following subsections.

1.1.4.2 Split intransitivity

The principal set of behaviours which I mean to capture under the VICTR Hierarchy, in turn providing arguments for the hierarchy itself, are those which fall into the category of *split intransitivity* phenomena.

These have already been well-studied. Perlmutter (1978) is the best known early observation of the way in which intransitive predicates in many, if not all, languages divide into (apparently) two groups. Perlmutter called these groups ‘unergative’ and ‘unaccusative’, relating the distinction to a difference in grammatical relations termed the Unaccusative Hypothesis (see §1.2.4); a close equivalent term to ‘split intransitivity’, therefore, is *unaccusativity*. In English, for example, the prefix *out-* and the agentive suffix *-er* generally only occur with unergatives, the causative alternation and prenominal past participles only with unaccusatives:

(15) Unergatives, e.g. *talk*:

- a. Lucy outtalked Chris.
- b. talker
- c. *Chris talked Lucy. [= ‘Chris made Lucy talk’]
- d. *the talked woman

- (16) Unaccusatives, e.g. *tear*:
- a. *Lucy's dress outtore Sarah's dress.
 - b. *tearer [= 'a thing which tears [intrans.]]'
 - c. Lucy tore the dress.
 - d. the torn dress

Many more such examples will be discussed in chapter 2.

Given the focus on split intransitive phenomena, this dissertation will mainly consider *intransitive* predicates; other sorts of predicate will be touched on only relatively briefly at various points. A new question which arises, therefore, is as follows:

- (III) How does the VICTR Hierarchy account for the argument structure and thematic roles of intransitive predicates specifically, especially in comparison to existing approaches?

Chapter 2 will focus on a range of split intransitive behaviours in English, with a short section on auxiliary selection in other Western European languages. This will provide a basis for the main assumptions about the VICTR Hierarchy, which will then be explored further in subsequent chapters in regard particularly to the specific split intransitive phenomena of *split intransitive case and agreement*.

At this juncture it is helpful to clarify the use of the term 'intransitive' (and 'intransitivity'). Transitivity is a notoriously difficult concept to define; here, I adopt a definition following that of traditional grammar (other definitions are of course possible):

- (17) Intransitive predicates typically allow exactly one overt argument that bears semantic content, and no other complements.

This thus includes both of what are traditionally termed 'unergative' (e.g. (18)) and 'unaccusative' predicates ((18b)):

- (18) a. Lucy works.
b. Lucy arrives.

It excludes monotransitive predicates (with two arguments, e.g. (19a)) and ditransitive predicates (with three, (19b)), e.g.:

- (19) a. Lucy eats cake.
b. Lucy gives Chris the book.

I also exclude from the definition of 'intransitive' predicates which lack arguments with obvious semantic content altogether (such as weather verbs; (20a)), two-argument predicates where one argument is in a non-core case such as dative ((20b)) and verbs which take complements other than argumental DPs (e.g. CPs; (20c)):

- (20) a. It rains.
 b. Diamonds appeal to Lucy.
 c. Lucy *wanted* to go.

As the main focus of the dissertation is on intransitives, and these types of predicate are excluded from this definition, they will generally be set aside. (This is for practical reasons; all of these types of predicate are of course worth studying.)

In general, I assume that if a predicate is intransitive in one language its translational equivalent in another language is likely to also be intransitive. This point and the definition of intransitivity adopted here are important in relation to certain of the languages considered, for which the terms ‘transitive’ and ‘intransitive’ are often used differently. The literature on Basque and Georgian (see chapters 4 and 5) often excludes predicates such as the following, which have only one overt argument marked in the agentive case, from the term ‘intransitive’:

- (21) Basque:

Gizon-a-k ikasi du.
 man-DEF-AGT studied has
 ‘The man has studied.’

- (22) Georgian:

Nino-m daamtknara.
 Nino-AGT she.yawned
 ‘Nino yawned.’

(Harris 1981: 40)

I do *not* follow this practice here, and count all such predicates as intransitive for cross-linguistic consistency.

I eschew here the traditional terminology of ‘external arguments’ and ‘internal arguments’, except in discussion specifically of the traditional view of syntactic argument structure following the Unaccusative Hypothesis (see §1.2.4). These terms are less helpful in the VICTR approach, which makes a range of finer-grained distinctions in argument positions, and allows for arguments to be merged in more than one thematic position.

It is often useful, however, to make a terminological distinction between the arguments of transitives when these are brought into the discussion (the terms ‘subject’ and ‘object’ can be somewhat problematic). Thus, in addition to the labels **A** and **P** from the typological literature (see §3.1), and various thematic role labels, I will also employ the terms ‘*higher argument*’ and ‘*lower argument*’. These can be formally defined as follows:

- (23) In a clause with two arguments X and Y, where the first-merge position of X c-commands the first-merge position of Y, X is the *higher argument* and Y is the *lower argument*.

The rough correspondences between these different terms are as follows:

- (24) a. Higher argument \approx **A** \approx external argument \approx active voice subject
 b. Lower argument \approx **P** \approx internal argument \approx direct object

One further matter which is ultimately of value in arguing for the VICTR Hierarchy will be a robust defence of the particular hierarchical ordering of heads posited. This will not, however, be a major focus here, as the hierarchical ordering of argument-introducing heads is most easily evidenced through the consideration of predicates with more than one argument, i.e. precisely those predicates which are not focused on here. Some evidence for the hierarchical ordering of heads will be presented at various points (see particularly §6.2.2), but a full exploration of this order will remain a matter for future research.

1.1.4.3 Split intransitive alignment

Returning to the main foci of the dissertation, consider now the phenomenon of split intransitive alignment (also called ‘split-S’ alignment and by various other names; see §3.1.2), which arises when different intransitive predicates occur with different case-marking on and/or different sorts of agreement with their subjects, as for example in the following from Basque and Chol (with much further discussion and very many more examples to follow throughout):

- (25) Basque:

- a. *Gizon-a-k ikasi du.*
 man-DEF-AGT studied has
 ‘The man has studied.’
 b. *Gizon-a-Ø etorri da.*
 man-DEF-PAT came is
 ‘The man has come.’

- (26) Chol (Mayan, Mexico):

- a. *Tyi a-cha‘l-e ts’ijb.*
 PRFV 2.AGT-do-DTV write
 ‘You wrote.’ (Coon 2010: 58)
 b. *Tyi k’oty-i-yety.*
 PRFV arrive.there-ITV-2.PAT
 ‘You arrived there.’ (Coon 2010: 56)

Split intransitive alignment is fairly widespread in the case and agreement systems of the world's languages (about 6% of languages have split intransitive alignment in their agreement systems according to Siewierska 2013a). However, in comparison to the more common alignment types of nominative-accusative and ergative-absolutive it remains understudied, both from descriptive and typological perspectives and from generative ones. (A few individual languages with split intransitive case/agreement systems have been well researched, but systematic cross-linguistic study has been limited.) This dissertation will attempt to address somewhat this shortcoming of the existing literature, by making split intransitive case and agreement systems a major focus. One final, but central, question I mean to give an answer for is thus as follows:

- (IV) How can split intransitive case and agreement systems be accounted for, specifically in terms of the VICTR Hierarchy, especially in comparison to existing approaches?

The answer to this question will form a subpart of the answers to questions (I–III) posed above.

Chapter 3 will provide a typological overview of split intransitive case/agreement in various respects, with some bearing on the VICTR model. It will also discuss the basis of the theoretical approach to case and agreement adopted here. Chapters 4 and 5, then, will look in more detail at split intransitive case and agreement in two languages: Basque and then Georgian. The split intransitive alignment of these languages will be described in detail and captured in terms of the VICTR model initially argued for on the basis of English; certain other split intransitive phenomena in these languages will also be considered. The VICTR Hierarchy will also be compared to other potential approaches to split intransitivity in these languages.

The exclusion of non-intransitive predicates from consideration means I will also, in general, have little to say on case assignment and agreement in these contexts—for example, the inventories of case-assigning heads proposed for each language will in general be limited to those heads which are relevant in intransitive contexts.

I also exclude from the discussion much consideration of what might be termed ‘split split intransitivity’. In parallel to the established term ‘split ergativity’, this describes situations where a language possesses a split intransitive alignment in some contexts but not others, as in the following examples from Georgian:

- (27) a. *Nino-m daamtknara.*
 Nino-**AGT** she.yawned
 ‘Nino yawned.’ (Harris 1981: 40)
- b. *Namtskhvar-i gamotskhva.*
 pastry-**PAT** it.baked
 ‘The pastry baked.’ (Harris 1981: 43)

- (28) a. *Nino-Ø amtknarebs.*
 Nino-**NOM** she.yawns
 ‘Nino yawns.’ (Harris 1981: 39)
- b. *Namtskhvar-i tskhveba.*
 pastry-**NOM** it.bakes
 ‘The pastry is baking.’ (Harris 1981: 30)

We observe a split intransitive alignment in the aorist (27); however, in the present tense Georgian has a nominative-accusative alignment, and both arguments receive nominative marking (28).

Such patterns are very important—they are found in very many languages with split intransitive alignment discussed here, to varying extents. However, the additional complications they introduce are too much to be covered here, and I will in general set them aside, focusing only on the (sub)systems which do have split intransitive alignment. (An exception to this will be found in §3.4.4, where I incorporate some discussion of split ergativity and split intransitivity in relation to the general typology of split intransitive alignment.) See Laka (2006a), Coon and Preminger (2017) (amongst others) for some theoretical approaches to split ergativity.

1.1.4.4 Summary and outlook

In sum, then, this dissertation is an argument for the VICTR Hierarchy given in (1). As such, it focuses principally on split intransitive behaviours, and in particular on split intransitive case and agreement. The remainder of this introductory chapter will cover some important foundational issues for the theory to be propounded in the rest of the work. §1.2 discusses the VICTR Hierarchy in a wider theoretical context, discussing its relation to cartography and existing approaches to thematic roles and argument/event structure. Given this background, §1.3 will overview how the VICTR approach accounts for and constrains cross-linguistic variation in split intransitive patterns, before I continue to the main body of the work.

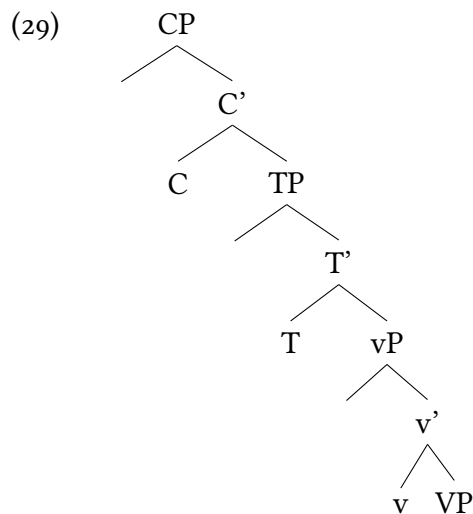
1.2 The VICTR Hierarchy in the wider theoretical context

The VICTR Hierarchy given in (1) has already been discussed in relation to Ramchand (2008), an approach which it directly modifies. However, it will be helpful to briefly overview its relation to some other theoretical proposals. §1.2.1 discusses the relation of the VICTR approach to the broader ‘cartographic’ enterprise. Subsequently, §§1.2.2–4 consider existing approaches to argument and event structure.

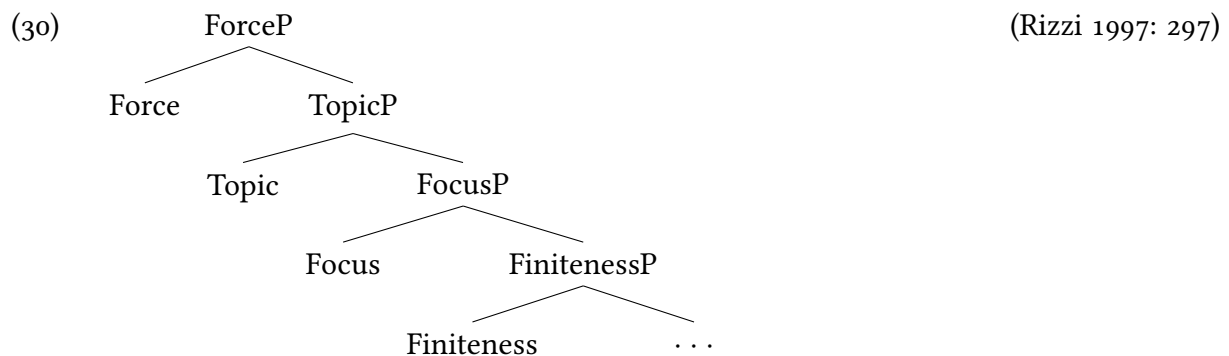
1.2.1 The cartographic enterprise

The VICTR Hierarchy can be seen as situated broadly within the *cartographic* approach to syntax. More traditional, non-cartographic approaches propose a basic clausal structure along

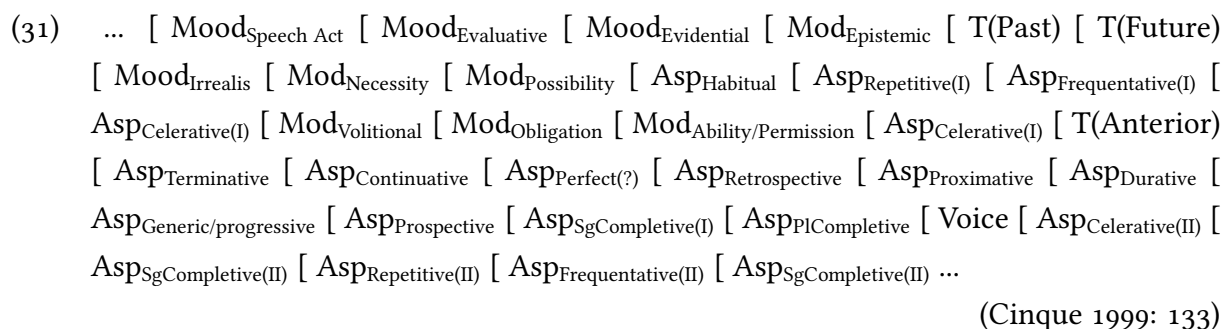
the following lines:



The cartographic programme suggests that (at least) the CP and TP layers of the clausal spine in fact correspond to more articulated structures (similar claims have been made for DP, AdjP etc.; see chapters in Cinque 2002a amongst other work). Rizzi's (1997) structure for 'CP' is as follows:



Cinque (1999), meanwhile, proposes the following structure for 'TP' (given here as labelled brackets for reasons of space):



The portion of the clause given in (30), corresponding to the traditional CP, has been called the 'discourse domain', that given in (31), the traditional TP, the 'temporal domain'. Much subsequent work has focused on the cartographic approach to these domains. There is a third

clausal domain, however, the ‘thematic domain’ (vP in most minimalist work). This has received rather little attention from a cartographic perspective: that is, there has not been much attempt to elaborate the vP along lines comparable to the elaborated CP in (30) or the elaborated TP in (31)—Ramchand (2008) being a notable exception, along with work building on that research. One motivation behind the VICTR approach adopted here, then, is to further apply the ideas of cartography to the thematic domain.

The cartographic approach in general makes a number of assumptions about syntactic structure. These are reflected in my assumptions about the thematic domain. One such assumption is that expressed by Cinque and Rizzi (2009: 61) by the maxim ‘*one (morphosyntactic) property—one feature—one head*’. According to this guiding principle, each identifiable syntactic feature will correspond to a dedicated functional head. Thus, for example, the CP domain features of [topic] and [focus] correspond to heads Topic and Focus, past tense is encoded in a head T(Past), and so forth. On the same principle, the features [\pm volition], [\pm initiation], [\pm consecution], [\pm transition] and [\pm result] for which evidence is presented throughout this dissertation are assumed to correspond to the heads Volition, Initiation, Consecution, Transition and Result.

Of course, ‘one feature—one head’ is not strictly accurate: the heads in question also bear case features, ϕ -features, selectional features etc.—see §1.3.2. Thus the actual generalisation seems to be that each thematic functional head bears one *interpretable* feature which is already valued at the point it enters the derivation (the ‘category-defining feature’: [+volition], [–initiation] etc.). The other features found on the VICTR heads, though syntactically important, do not bear directly on the semantic interpretation of the head.

Another key assumption of the cartographic approach which is particularly relevant here is that functional heads occur *universally* in a *universal hierarchical ordering* (van Craenenbroeck 2009: 1; see also Cinque 2002b). Thus, it is held that all languages have all of the heads proposed. Further, in all languages Topic asymmetrically c-commands Focus, T(Past) asymmetrically c-commands Asp_{Habitual}, and so forth. Likewise, I take as my working hypothesis here the position that the heads given in (1), and their ordering, are universal, so that every language has Volition, Initiation, Consecution, Transition and Result and in every language Volition asymmetrically c-commands Initiation, Initiation asymmetrically c-commands Consecution, etc. Note, however, that this is only a working hypothesis; it is possible, for instance, that certain of these heads are not present at all in some languages.⁶ The reader will note that although for many languages evidence for many of the features in question is presented, I do not present evidence for all of the heads/features in every case. However, for the languages which are considered in depth (English, Basque and Georgian) there is good evidence for all or nearly all the VICTR features, and it is predicted that evidence for all five could be found in any language. However, this is only a prediction, and amenable to falsification; the overall analysis need not be greatly affected if some heads/features are absent in some languages. It is striking, however, the degree to which syntactic phenomena in unrelated languages appear

6. This could, however, potentially be problematic for aspects of the semantic analysis sketched in §1.1.3: if, for example, a language lacks Transition/[\pm transition], where are the arguments of transition predicates merged?

to be sensitive to similar sets of features, which is evidence in favour of (though of course not decisive proof for) the universalist view.

Another possibility is that the heads are universal but featurally underspecified in Universal Grammar (cf. the Universal Spine Hypothesis of Wiltschko 2014), in which case each head might be associated with similar but slightly different semantic content in different languages. Again, this possibility is amenable to testing, but the investigation undertaken in the present work does not yield any clear instances of languages varying in this way (e.g. [+transition] identifying a different semantic classes in different languages): where languages do vary, other explanations present themselves (typically, sensitivity of syntactic phenomena to different feature sets). There would also be a clear risk here that, in weakening the link between the features and their semantic content, we would greatly reduce the predictive power of the hierarchy—as it may not be possible to straightforwardly predict how a given verb or verb class should pattern featurally, and hence which syntactic properties it would be associated with. This would seem a further reason to disprefer this approach.

1.2.2 Approaches to thematic roles

Thematic roles and argument structure have of course received a great deal of attention in the literature over the past several decades. This subsection considers some approaches to the thematic roles themselves, whereas §1.2.3 considers approaches in terms of event structures, and §1.2.4 discusses some approaches to the encoding of thematic or event-related properties in terms of syntactic structures (including the ‘lexicalist’ versus ‘constructivist’ debate and the position of the current proposal in relation to that). I here outline three classes of approach to thematic roles, which I denote the ‘atomic’, ‘molecular’ and ‘proto-roles’ approaches, and briefly compare them to the present approach.

In *atomic* approaches, thematic roles are generally treated as indivisible units (Fillmore 1968, Jackendoff 1972, Chomsky 1981, Grimshaw 1990 and many others). In these approaches, roles are typically given labels like Agent, Cause, Theme, Instrument etc., though there is little agreement as to which roles should be identified. A potentially major flaw of these approaches, overcome by the VICTR approach, is that they cannot capture relations between roles such as the fact that Agents and Causes are both subsets of a general ‘initiator’ category: under the VICTR model, Agents are θ -INITIATION+ θ -VOLITION and Causes are θ -INITIATION alone; the shared θ -INITIATION element derives their shared behaviour.

These sorts of approach have tended to assume something along the lines of Chomsky’s (1981) Theta Criterion,⁷ which states:

- (32) Each argument bears one and only one θ -role⁸, and each θ -role is assigned to one and only one argument. (Chomsky 1981: 35)

7. Though cf. Hornstein (1999) and other work on the ‘movement theory of control’.

8. At least for present purposes, ‘ θ -role’ is equivalent to ‘thematic role’.

Another important idea originally proposed in this context is M. Baker's (1988, 1997) Uniformity of Theta Role Assignment Hypothesis (UTAH). This will be discussed further in §1.3.1.

A second group of theories I term *molecular* approaches. The primary existing exemplars of this sort of approach are Ramchand (2008), described above, and Reinhart (2002). Under such approaches, the thematic properties of an argument are decomposable into clearly defined primitives. For Ramchand, for example, an argument may be both INITIATOR and UNDERGOER—note that Ramchand's roles connect directly to event structure, a notion discussed more generally in the following subsection. For Reinhart, the features /*c* (cause) and /*m* (mental state) combine or occur alone to produce roles like [+*c*+*m*] (**agent**), [−*c*−*m*] (**theme/patient**), [+*c*] (**cause**) etc. I will not discuss Reinhart's approach in any detail, though it can be observed that (if the thematic roles I identify are the correct ones) it both under- and overgenerates, failing to capture some syntactic distinctions that apparently relate to thematic properties, whilst simultaneously making thematic distinctions that do not correspond to any syntactic distinction.

A third approach is that of Dowty (1991): the *proto-roles* approach (cf. the 'hyperroles' of Kibrik 1997). Dowty identifies a number of 'Proto-Agent' properties (summarising: volitional involvement, sentience, causing an event or state, movement, independent existence) and corresponding 'Proto-Patient' properties (e.g. undergoing change of state). Some arguments correspond closer to one or the other proto-role than others. I will not have much to say here about the proto-roles approach, though I do discuss (§3.7.2.2) its inadequacy in accounting for split intransitive case and agreement systems.

Note that certain of Dowty's Proto-Agent and Proto-Patient properties correspond to the thematic properties I identify; the VICTR Hierarchy, together with acquisitional considerations, may be able to account for prototypicality effects in terms of how roles combine and arguments' positions in the structure. This is explored further in §2.4 and subsequently.

Overall, however, the VICTR approach to thematic roles bears strongest similarity to the molecular approaches, particularly Ramchand (2008). On the face of it, this sort of approach may appear to violate the Theta Criterion given in (32) above. Thus, if we take θ -VOLITION, θ -INITIATION, θ -CONSECUTION etc. to be roles in and of themselves (and they can occur independently) then the fact that they may combine is at odds with the Criterion. One solution would be that θ -VOLITION etc. are merely 'primitives' or 'features', not roles per se, and it is only the resulting complex that arises once an argument has reached the top of the thematic domain that bears the 'thematic role' label and is subject to the Criterion. This would predict that an argument cannot pick up additional primitives at a higher position in the structure, but is not how I have chosen to refer to these elements here, terming them each 'roles' in their own right. In any case, the VICTR approach certainly departs from traditional assumptions in that an argument can receive part of its thematic interpretation in positions where it is not first-merged. (Possibly this movement to thematic positions is restricted to movement of an argument first-merged within the same domain—e.g. the same phase or extended projection

of the same lexical V—and not one that is part of a lower clause.)⁹ But a weaker version of the Theta Criterion—that arguments cannot occur without thematic roles, and that each thematic role or feature must be assigned only once—is nevertheless retained.

1.2.3 Event-structure based approaches

Some research has attempted not to explain argument structure in terms of thematic roles of the sort described above, but rather in terms of relations between events (see discussion in Marantz 2013). For example, Postal (1970) and other work in ‘Generative Semantics’ makes use of relations such as CAUSE and BECOME (cf. Reinhart’s (2000) /c feature, discussed above, denoting a cause argument). In common with other current approaches, the VICTR approach bears some similarities to both of these ‘general ideas’. The primitives CAUSE and BECOME relate somewhat to the [+initiation] and [+transition] features (though they are not identical to them): more generally, the sort of semantic account sketched in §1.1.3 is very much based in properties of events. However, there are also similarities to traditional role-based approaches: e.g. the parallels between ‘Agent’ and θ -INITIATION+ θ -VOLITION.

Another important approach which identifies various classes of verbs in terms of their event structure properties is that of Vendler (1957) and Dowty (1979). These authors identify four aspectual classes: States, Achievements, Accomplishments and Activities. Dowty-Vendler States correspond to the stative verbs discussed here ([+‘volition’] and [+‘result’] verbs, with negative values for the other heads): e.g. *sit*, *stand*. As for the other classes, broadly speaking, [+result] verbs are Achievements (*break*, *arrive*), (the remaining) [+transition] verbs are Accomplishments (*melt*), and other verbs are Activities (*work*, *run*). There are, however, various further complications which I will not explore here. These parallels between the Dowty-Vendler classes and the VICTR features reveal that the two are similar in many ways; however, the VICTR approach makes more fine-grained distinctions and is thus able to account for various syntactic behaviours which are not made on the Dowty-Vendler system.

1.2.4 Syntactic approaches to argument structure

In addition to work attempting to identify thematic roles and event structures, many researchers have also considered the question of how the thematic or event-related properties of arguments relate to syntactic argument structure. The approach of Ramchand (2008) has already been discussed; here, I consider some others.

Firstly, take the approach deriving from the Unaccusative Hypothesis of Perlmutter (1978). Originally formulated in the framework of Relational Grammar, the Unaccusative Hypothe-

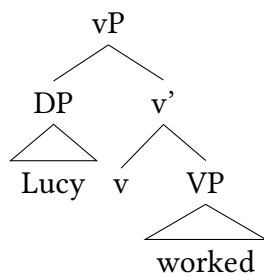
9. There may be further restrictions, e.g. it may be necessary in some cases to specify whether a head can trigger movement of a lower DP (see fn. 10). The presence or absence of this possibility with transitive [+initiation] Initiation depending on which verb it selects may derive the difference between the following:

- (i) Lucy_i washes t_i.
- (ii) *Lucy_i hits t_i.

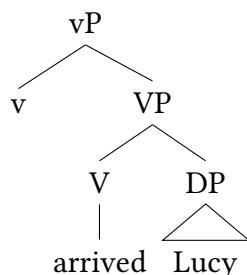
However as this concerns transitives it is not of central interest here.

sis was recast in standard generative terms by Burzio (1981, 1986) and has been widely accepted since. The Unaccusative Hypothesis distinguishes between two classes of intransitives: ‘unergatives’ and ‘unaccusatives’. These differ as regards the grammatical relation borne by their single argument, or in GB and minimalist terms the deep structure / first-merged position of that argument. The argument of unaccusatives is at some level like a (direct) object of a transitive verb; the argument of unergatives behaves more like an (active voice) transitive subject. Under minimalist assumptions these two classes are typically represented as follows:

(33) Unergatives, e.g. *Lucy worked*:



(34) Unaccusatives, e.g. *Lucy arrived*:

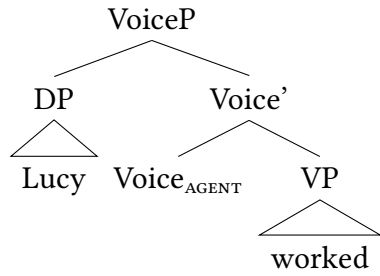


Thus, unergatives are said to have an external argument, first-merged in the specifier position of vP (as are the subjects, in the active voice, of transitive verbs). Unaccusatives have an internal argument which is merged as the complement to the lexical verb V (i.e. in the same position as transitive objects).

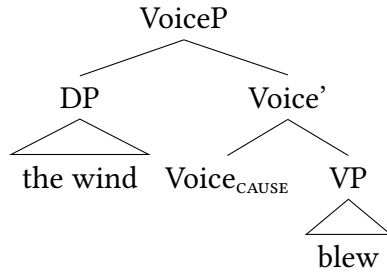
Other important works concerning the Unaccusative Hypothesis include Rosen (1984), Van Valin (1990) and Levin and Rappaport Hovav (1995). The VICTR approach has various advantages over the Unaccusative Hypothesis, as I will argue at numerous points throughout this dissertation.

Various extensions to the approach outlined above posit different flavours of the head which introduces the external argument (labelled v or Voice). This is exemplified by authors including Kratzer (1996), Alexiadou et al. (2006) and Folli and Harley (2004). On the Kratzer/Alexiadou et al. approach, varieties of Voice have been posited named Voice_{AGENT}, Voice_{CAUSE} and Voice_{HOLDER}, illustrated in the following structures:

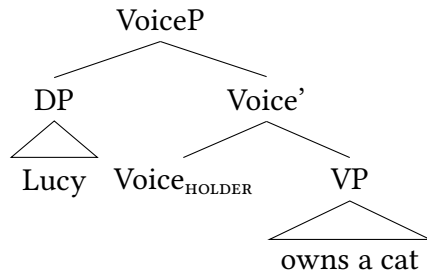
(35) a. *Lucy worked.*



b. *The wind blew.*



b. *Lucy owns a cat.*



I will not say much on this approach in the present work. Note, though, that these three Voice heads correspond broadly to my thematic functional heads as follows:

- (36)
- | | | |
|-------------------------|---|---|
| Voice _{AGENT} | ≈ | [+initiation] Initiation + [+volition] Volition |
| Voice _{CAUSE} | ≈ | [+initiation] Initiation + [−volition] Volition |
| Voice _{HOLDER} | ≈ | [−initiation] Initiation + [+‘volition’] (stative) Volition |

The approach thus makes many of the same distinctions as the VICTR Hierarchy, which are not represented syntactically on the more traditional Unaccusative Hypothesis approach. The VICTR approach though, by decomposing the relations AGENT/CAUSE/HOLDER in terms of the $[\pm\text{initiation}]$ and $[\pm\text{volition}]$ features and associated thematic roles, makes various additional predictions: prominently among them, that ‘AGENTS’ (θ -INITIATION+ θ -VOLITION) should act as a subset of initiators more generally. This is borne out: there are behaviours which are found exclusively with θ -INITIATION+ θ -VOLITION arguments (in a given language); there are not behaviours which are found exclusively with non-volitional θ -INITIATION arguments (‘CAUSES’). For example, in intransitives clauses in many languages volitional agents are associated with

‘agentive’ case-marking, whereas non-volitional causes take the unmarked ‘patientive’ case. This is broadly the situation in Tibetan:

- (37) a. [+volition]:
Kho-s phyin-song.
 3SG-**AGT** went-AUX
 ‘He went.’
- b. [–volition]:
Kho-Ø na-song.
 3SG-**PAT** be.ill-AUX
 ‘He was ill.’ (Denwood 1999: 194)

There do not, however, seem to be languages which have one case for non-volitional causes and another for all other intransitive arguments. Similar patterns are found with various other phenomena, some of which will be presented at various points in the coming chapters. This sort of evidence can be seen as favouring the VICTR approach over that of Kratzer and the other authors cited, as the latter approaches do not encode the same prediction.

Another difference between the VICTR approach and these other approaches is that the latter make no distinctions corresponding to the VICTR features [\pm consecution], [\pm transition] or [\pm result]. As will be shown, these features are however useful for capturing various distinctions; this is another way in which the VICTR approach seems preferable, therefore.

1.2.4.1 Lexicalism vs. constructivism

It is possible to identify two broad strands in the study of argument structure: ‘lexicalism’ and ‘constructivism’. (See Marantz 2013: §2 for a more detailed overview of the two approaches.) The lexicalist tradition (originating in Chomsky 1970) considers argument structure to be part of the lexical entry of verbs; in the constructivist approach (of e.g. Hale and Keyser 1993, 2002), differences in argument structure correspond to different syntactic structures.

The present approach is broadly constructivist, with the syntactically significant aspects of verbal meaning derived from the VICTR heads. But it is undeniable that not all verbs pattern in the same way: some permit constructions others do not, meaning the combination of verbs and heads cannot be totally free (see Ramchand 2008: §1.2 for discussion)—indeed, most individual verbs seem only to occur with one or two possible combinations of the VICTR features.

Ramchand’s (2008: §3.2) solution to this is that *init*, *proc* and/or *res* are part of the lexical entries of verbs: specifically, they are verbs’ categorial features. This is a departure from the conservative position that each lexical item has a just one such feature; here I have assumed a lexical verb of category V (see §1.1.2). We could, however, make the not dissimilar claim that lexical verbs themselves contain the features [+volition], [+initiation] etc., which constrains the VICTR heads with which they can combine. However, I am inclined to believe that the ‘encyclopaedic content’ associated with a verbal root is enough to constrain which VICTR

heads it can occur with in the majority of cases (cf. Borer 2005) and that it is unnecessary for this information to be consistently represented in formal features on the verb itself. This is not a central claim, however, and the analyses presented could to a very large extent easily be recast in more straightforwardly Ramchandian terms in this regard.

There are however a couple of possible advantages to the present approach. Consider firstly lexically idiosyncratic behaviours: for example, most [–initiation] verbs allow the causative alternation (§2.2.2), but *die* (which on semantic grounds appears to be part of this class) does not:

- (38) a. The chocolate melted.
b. Lucy melted the chocolate.

- (39) a. Lucy died.
b. *Chris died Lucy.

If the initiation property (or rather, its absence) were part of the lexical entry of *die* itself, we would expect it to pattern with verbs like *melt*. Assigning [–initiation] wholly to a functional head, however, gives us another option: there are multiple flavours of [–initiation] Initiation, one of which selects specifically for *die* and pre-empts it from being selected by the [+initiation] Initiation which would introduce a higher argument. I explore this option briefly in §2.2.2.

Secondly, consider uncertain acceptability judgements, e.g.:

- (40) ?The tree was growing away.

The V *away* construction is in general limited to [+consecution] verbs, and *grow* generally patterns as a [–consecution,+transition] verb. On the view that the featural reading is forced by encyclopaedic information, it is plausible that *grow* is marginally able to be ‘reconceptualised’ as [+consecution]. The marginal availability of this conceptualisation leads to the marginality of the judgement. (See §2.2.6 for discussion of this and other similar patterns.) By contrast, if [–consecution,+transition] was defined lexically for this item, we would expect it to be categorically rejected with *away*.

I will at various points write of ‘verb classes’; by this I mean verbs which combine with VICTR heads with the same values. I will also speak of individual verbs as if they themselves bear particular features (e.g. ‘*play* is [+initiation]’), but in light of the above this should not necessarily be understood to mean anything more than that the *predicate* contains these features.

1.3 The loci and limits of variation

As will be made clear throughout the dissertation, the VICTR Hierarchy provides a way of constraining the variation permitted between languages whilst nevertheless allowing for a

considerable amount of variation to occur. This section overviews the mechanisms by which this can be achieved, discussing first some ways in which languages are taken not to vary (§1.3.1), followed by consideration of the mechanisms through which variation is possible (§1.3.2).

1.3.1 UTAH and a Generalised Linking Rule

A major limit on possible variation is the VICTR Hierarchy itself, if the hypothesis that it is universal is correct (see §1.2.1 above). Certainly, the effects of the VICTR Hierarchy can be observed across many languages, as is to be demonstrated. The VICTR Hierarchy restricts the ways in which argument structure and other phenomena sensitive to it may vary, and constrains which thematic roles occur (with the prediction that the same roles occur in all languages, associated with the same positions).

This latter point of course strongly resembles M. Baker's (1988) Uniformity of Theta Role Assignment Hypothesis (UTAH) (see also M. Baker 1997):

- (41) **Uniformity of Theta Assignment Hypothesis (UTAH):** Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

'D-structure' can here be seen to correspond to the positions in which arguments are merged in the thematic domain. The VICTR approach can be seen as an attempt to take the UTAH seriously, in spite of variation in split intransitive behaviours between languages. A key claim here is that, although the semantically equivalent verb might behave differently with regard to split intransitive phenomena in different languages, this does not reduce to differences in thematic structure (at least not generally—see below): a phenomenon which will be observed at various points throughout. The hypothesis that the VICTR Hierarchy is universal, therefore, is a more specific proposal along the same lines as the UTAH—provided we also assume a universal mapping of arguments with particular thematic properties to structural positions, to which I now turn.

All approaches to syntactic argument structure must address the so-called 'linking problem': the issue of capturing the mapping from semantics to syntax. Levin and Rappaport Hovav's (1995) defence of the Unaccusative Hypothesis achieves this in terms of 'linking rules', as follows:

- (42) a. **Directed Change Linking Rule:** 'The argument of a verb that corresponds to the entity undergoing the directed change described by that verb is its direct internal argument.' (p. 146)
- b. **Existence Linking Rule:** 'The argument of a verb whose existence is asserted or denied is its direct internal argument.' (p. 153)
- c. **Immediate Cause Linking Rule:** 'The argument of a verb that denotes the immediate cause of the eventuality described by the verb is its external argument.' (p.

- d. **Default Linking Rule:** ‘The argument of a verb that does not fall under the scope of any of the other linking rules is its direct internal argument.’ (p. 154)

This set of linking rules presents a number of problems. For example, it is unclear why these rules should take the forms they do, how they might be constrained (i.e. which rules could not occur) or how they are acquired (if they are not innate). On the present approach, however, it is possible to draw up a much more general way of linking from semantics to syntax, utilising the VICTR Hierarchy:

- (43) **Generalised Linking Rule:** An argument of which the lexical semantic property corresponding to the syntactic feature [+a] is predicated is merged in the corresponding Spec,AP.

Hence, an argument which is an initiator (of which the property [+initiation] is predicated) is merged in Spec,InitiationP, an argument of which a consecution (the property [+consecution]) is predicated is merged in Spec,ConsecutionP, etc. (Note the value of the one feature—one head assumption here, allowing for a straightforward and universal mapping between role and position and vice versa.) This constrains the possible forms of the rules considerably, which may in turn ease the process of acquisition and/or the amount of innate knowledge required to be posited as part of Universal Grammar. Thus, the VICTR approach allows us to simplify the linking problem considerably, provided the learner is able to acquire the VICTR Hierarchy itself. (This general issue of the acquisition of the hierarchy is of course an extremely important one, although regrettably not one on which I am able to say much here. As noted, I am assuming for the sake of argument that it is universal, which suggests it may either be part of Universal Grammar or else that innate general cognition relating to the conceptualisation of event structure plays a major role.)

There is one set of cases in which (43) permits variation: arguments of intransitive stative verbs (i.e. arguments of which states are predicated) may be merged in either Spec,‘Volition’P or Spec,‘Result’P, because [+‘volition’] and [+‘result’] are semantically equivalent; they both denote states, as discussed in §1.1.3 (recall that the specifically *volitional* reading of [+volition] only comes about in combination with [+initiation] Initiation). The prediction here is that the optionality inherent in the system will lead to variation, which corresponds with the observed variation in regard to the behaviour of stative verbs in relation to split intransitivity diagnostics seen in many languages and between languages, to be discussed at various points throughout.

1.3.2 The Borer-Chomsky Conjecture and variation in formal features

The above discussion focuses on cross-linguistic similarities: but how, then, is the observed variation to be derived? Here, I will treat syntactic variation as reducible to variation in formal features, in the spirit of the ‘Borer-Chomsky conjecture’ (BCC; named and formulated by M. Baker 2008, after Borer 1984, Chomsky 2001):

- (44) All parameters of variation are attributable to differences in features of particular items (e.g. the functional heads) in the lexicon. (M. Baker 2008: 156)

This will be seen at various places relating to various split intransitive properties. Hence, in addition to taking the UTAH seriously, I also aim to take the BCC seriously.

One justification for this concerns the observable nature of thematic roles and case. We know for sure that case varies between languages, and thus need to account for this somehow. However, it is a lot less clear that thematic properties vary (see M. Baker 1997 for some discussion), and thus—if we can—it makes sense to assume they do not. Variation concerning split intransitive phenomena is located, to a very large degree, in the variation of formal features associated with the functional heads of the VICTR Hierarchy, and limited by the fact that other syntactic properties do not vary.

On the model thus adopted, variation is permitted to occur in the ways in which syntactic behaviours (such as case, agreement and the various diagnostics of split intransitivity) interact with the features encoded on the VICTR heads. Thus, although languages generally do not differ in the mapping of similar arguments to syntactic positions, similar arguments may nevertheless be associated with different syntactic behaviours in cross-linguistically variable ways. For example, in different split intransitive case systems the assignment of agentive case is sensitive to different VICTR values (see particularly §3.3). In Eastern Pomo (Pomoan, California) it is sensitive to [\pm volition]:

- (45) a. [+volition]:
Mí·p'-Ø q'a·lálmàya.
 3SG-**AGT** went.home
 'He went home.'
- b. [-volition]:
*Mí·p-**al** káluhuya.*
 3SG-**PAT** got.sick
 'He got sick.' (McLendon 1978: 7)

In Chol, however, it is sensitive in general to [\pm consecution] (note that both the following examples have [+volition] readings):

- (46) a. [+consecution]:
Tyi a-cha'l-e ts'ijb.
 PRFV 2.**AGT**-do-DTV write
 'You wrote.' (Coon 2010: 58)
- b. [-consecution]:
Tyi k'oty-i-yety.
 PRFV arrive.there-ITV-2.**PAT**
 'You arrived there.' (Coon 2010: 56)

This sort of variation is constrained first of all by the VICTR features themselves; only certain features are available to which split intransitive behaviours may be sensitive. Further constraints on variation may be imposed by acquisitional concerns. In §2.4 and §3.6, it is suggested certain features (e.g. [+volition], [+initiation], [+consecution]) are prototypically associated with ‘agentive’ behaviours (e.g. agentive case or auxiliary HAVE); others (e.g. [+transition], [+result]) with ‘patientive’ ones (e.g. patientive case or auxiliary BE). These split intransitive behaviours may be associated with the VICTR features in various ways—e.g. prioritising certain of the features of the agentive or patientive ‘core feature sets’ over others. However, an intransitive behaviour associated with one or more of the agentive core features is likely to exhibit parallels between the arguments of those intransitives it affects and transitive (active voice) subjects, and an intransitive behaviour associated with an patientive core feature between the relevant intransitive arguments and transitive objects. Thus, a case found with transitive subjects may also be found with only θ -VOLITION arguments of intransitives; we do not expect the same case to be found with both and only transitive subjects and θ -TRANSITION intransitive arguments. All this is discussed in more detail in the relevant sections just referenced.

It is helpful at this point to spell out more explicitly the model of the featural make-up of lexical items (including functional items) that will be assumed in the formal implementation of the various (morpho)syntactic phenomena under discussion. The approach adopted is a broadly standard one within the minimalist framework. Heads are bundles of features of various sorts, of which syntactic formal features are of principal importance here—though, as is standardly assumed, phonological and semantic information can also be taken to be encoded on featural lexical items, and many formal features have semantic content. A major class of features which has already been discussed are the category-defining features of the VICTR heads themselves, [\pm volition], [\pm initiation] etc. These features can be either valued or unvalued, and are interpreted at the semantic interface. Standard categorial features found on other sorts of heads—such as V, D, Adj, P—will also be important at various points.

Various other features can also be found on heads; particularly important in the present context (from chapter 3 onward) are person/number/gender (‘ ϕ ’) features and case features. These are given in the standard format [ϕ :*val*] and [Case:*val*], where *val* stands for some value; unvalued features are given in the forms [ϕ :_], [Case:_]. Following Chomsky (2000, 2001), two heads may enter into an Agree relation, whereby an unvalued feature of one (e.g. [Case:_]) is valued by a corresponding valued feature of the other (e.g. [Case:AGT]). Case assignment and ϕ -agreement on the present model are discussed in more detail in §3.2.3.

Another sort of feature which is central to the analyses presented are selectional features, which determine the sorts of complement or specifier a head takes. Assume that each VICTR head always selects for the head below it in the hierarchy as the head of its complement—Volition for Initiation, Initiation for Consecution, etc.—and Result always selects for a complement headed by the lexical V. Many particular phenomena may be profitably analysed by assuming more specific selectional criteria, however. For example, agentive suffix *-er* (in *walker*,

talker) is analysed in §2.2.6 as selecting specifically for a [+consecution] complement: hence, it is possible with [+consecution] verbs like *walk* and *talk* but not with [–consecution] ones like *arrive* (hence **arriver*).

The VICTR heads may also select for other categories. This will be seen at a few points, but by far the most important example of this has already been mentioned: the positively-valued heads ([+volition] Volition, [+initiation] Initiation etc.) select for phrases headed by D—i.e. nominal arguments, which are merged in the specifier position of the head in question. Negative-valued VICTR heads do not select for DPs in this way.¹⁰

Which particular features are available on the VICTR heads is the principle determinant of the patterns of variation seen in the phenomena under discussion, and the classes of verbs with which different constructions occur. Each language has multiple varieties of each of Volition, Initiation etc., each associated with a different set of features of the sorts discussed above. Thus for example in a language like Eastern Pomo where agentive is only found in [\pm volition] contexts, this is because [+volition] Volition has a [Case:AGT] feature and [–volition] Volition does not. Similar analyses will be presented for various phenomena throughout. Thus, a fairly simple model of features on functional heads is argued to account for a wide variety of properties of languages.

Some variation also occurs as a result of which verbal roots (here denoted as lexical items of category V) combine with which particular VICTR heads. For example, as discussed above, state verbs may combine with either [+‘result’] Result or [+‘volition’] Volition; verbs which undergo the causative alternation may combine with either [+initiation] Initiation or [–initiation] Initiation, yielding the transitive and intransitive alternants respectively.

1.3.3 Summary and outlook

In summary, then, I adopt a formal, featural approach to variation, based in the heads of the VICTR Hierarchy which is itself taken to be universal. Specific implementations of this approach will be seen throughout, as the dissertation continues into its main body according to the outline presented in §1.1.4: exploring the VICTR Hierarchy by considering first split intransitivity in English and other Western European languages (chapter 2), followed by split intransitive alignment both generally (chapter 3) and in two particular languages (Basque, chapter 4, and Georgian, chapter 5). Chapter 6 concludes by summarising the central findings.

10. In a full theory would also be helpful to specify whether the DP in question is introduced as the specifier by internal or external merge (cf. the EPP diacritic of Chomsky 2001). This could derive certain differences in transitivity: for example, both *go* and *destroy* occur with [+initiation] Initiation, but the first—which is intransitive—moves a DP already merged lower in the structure, whereas the second—which is transitive—must introduce a new argument, even though a lower DP is present. Given the focus on intransitives here, however, this distinction is not generally of direct importance at present (§2.2.2 presents one exception).

Chapter 2

English (and other Western European languages)

2.1 Introduction

In this chapter I discuss the VICTR Hierarchy in relation to split intransitive behaviours in English and other Western European languages. §2.2 considers several split intransitive diagnostics in English, with further discussion in §2.3. §2.4 focuses on auxiliary selection in other European languages, with a brief discussion toward the end (§2.4.4) of how the analysis of these languages might also inform our understanding of English.¹

2.2 Split intransitivity diagnostics in English

In this section I present data on a range of split intransitivity diagnostics that have been proposed for English, and give arguments that these data are best analysed in terms of the VICTR Hierarchy approach. I begin with a discussion of my methodology (§2.2.1). I consider, in turn: the causative alternation (§2.2.2), the resultative construction (§2.2.3), prenominal past participles (§2.2.4), *for hours* (§2.2.5), and what I term the ‘consecution’ diagnostics—V *one’s way into*, V *away*, the cognate object construction, agentive suffix *-er*, and prefix *out-* (all covered in §2.2.6). In §2.2.7 I discuss specifically the class of non-agentive verbs of internal causation, which display rather unusual behaviour in regard to these diagnostics. Finally, in §2.2.8 I discuss two proposed diagnostics (locative inversion and *there*-insertion) which I argue should not be related to argument structure.

For each diagnostic, I provide a brief proposed analysis. If more space were available, much more could be said in every case—the purpose of these analyses is merely to demonstrate the plausibility of accounting for these constructions in a formal model based in the VICTR approach, not to argue that the particular analyses proposed are definitively correct. As will be seen, the analyses are mostly formulated in terms of selectional features; the reader is referred

1. This chapter is adapted and expanded from an article published in *English Language and Linguistics* under the title *Split intransitivity in English*.

back to the general model of features proposed in §1.3.2; the main heads involved in each construction on the proposed analyses are given in figures 2.1–2.8.² The question of why each of the constructions should have come to be associated with these particular formal feature sets will be addressed in §2.4.4.

For reference, the main classes of verbs I will identify are summarised in table 2.1.³

	[volition]	[initiation]	[consecution]	[transition]	[result]
A. <i>talk, cough</i> ...	+/-	+	+	-	+/-
B. <i>swim, slide</i> ...	+/-	+	+	+	+/-
C. <i>shine, stink</i> ...	-	-	+	-	+/-
D. <i>stay, sit</i> ...	+	-	-	-	-
E. <i>melt, sink</i> ...	-	-	-	+	-
F. <i>break, tear</i> ...	-	-	-	+	+
G. <i>come, arrive</i> ...	+/-	+	-	+	+

Table 2.1: Classes of intransitives in English

2.2.1 Methodology

The classification of verb classes to follow, as summarised in table 2.1, is based primarily on the analysis of a core sample of around 35 verbs from a range of semantic classes, namely those discussed by Sorace (2000) in relation to their crosslinguistic auxiliary selection behaviour (see table 2.2), plus some additional verbs which undergo the (anti)causative alternation like *burn* and *tear*. Note again that I use the term ‘consecution’ in place of Sorace’s term ‘process’, to avoid confusion with Ramchand’s (2008) *proc(ess)* which encompasses a wider set of verbs (see §1.1.3). I will also use the term ‘manner of motion’ interchangeably with ‘motional consecution’ (for verbs like *swim, walk*), and ‘directed motion’ interchangeably with ‘change of location’ (for *come, arrive*, etc.). The change of state and change of location classes together with the motional consecutions comprise the verbs referred to as ‘transitions’, i.e. ‘change’ as it is used here is synonymous with ‘transition’ according to the definition given in §1.1.3.⁴

2. Note the following conventions concerning selection, in addition to those discussed in §1.3.2: complements are listed before specifiers; the category of the complement is given first and any other features required to be contained within the complement follow in square brackets. In some cases the last sort of feature may appear to be non-local; however, it may be possible to reduce all selection of complements to selection of the head of the complement, given that this also bears all the features of the lower thematic heads and lexical V which have incorporated into it.

3. Classes A and B can be further subdivided according to $[\pm\text{volition}]$, which typically distinguishes verbs like *talk* from ones like *cough*, though this feature does not play as strong a role as others in acceptability judgements (see §2.2.6). Another distinction not made in the table is between semelfactive and non-semelfactive $[+\text{consecution}]$ verbs; the latter may occur with either value of the $[\pm]$ result feature (see §2.2.5). Some other, minor classes are proposed in §2.2.7.

4. In spite of the similarities between the VICTR features and Sorace’s categories, the former should not be thought of as merely calques on the latter. It will be demonstrated throughout this chapter and those which follow that the VICTR features allow the identification of various natural classes of predicate, identified on the basis of many more syntactic behaviours than that discussed by Sorace; furthermore, they correspond to independently proposed semantic properties as discussed in §1.1.3. Sorace’s categorisation remains a useful descriptive and investigatory tool, however.

HAVE	Controlled non-motional consecution	<i>work, play, talk ...</i>
↑	Controlled motional consecution	<i>swim, run, walk ...</i>
	Uncontrolled consecution	<i>tremble, skid, cough, rumble ...</i>
	Existence of state	<i>be, belong, sit ...</i>
	Continuation of pre-existing state	<i>stay, remain, last, survive, persist ...</i>
↓	Change of state	<i>rise, decay, die, grow ...</i>
BE	Change of location	<i>come, arrive, leave, fall ...</i>

Table 2.2: Categories of intransitives identified by Sorace (2000)

Excluded from analysis are verbs which do not have exactly one argument or which take non-DP complements (see §1.1.4). Also not considered are intransitive particle verbs (*blow up, go up, work out, break down* etc.): the behaviour of these verbs in regard to the diagnostics remains a matter for further study, with provisional research suggesting they do not behave in ways that can be entirely predicted from their semantics and should be treated separately from the simple verbs discussed here.⁵ Verbs in these categories which are considered by Sorace but excluded here include *please* and *catch on*, as well as *be born* and *be useful* which are excluded on account of their phrasal nature in English.

The results presented here are drawn primarily from online surveys, supplemented by my own judgements as a native speaker in a few cases. Six surveys were undertaken in all; I give here an overview of the most important features. I focus on the first survey which provided most of the data; other surveys were of similar design though differing in slight details, and generally much shorter.

Respondents were presented in each survey with a series of items designed to test the constructions under consideration, in an order randomised for each respondent. These included full sentences (e.g. *Lucy outarrived Chris*), shorter phrases (e.g. *the arrived man*) and single words (e.g. *arriver*). Respondents were asked to judge whether each item constituted a natural example of English (something they might say themselves, or expect to hear). By and large, the first survey tested each verb in the core sample with each construction, although some verb/construction pairs were omitted: 241 items were tested in all. Most of the constructions were presented in simple sentences with semantically-appropriate arguments: a subject (most often *Lucy*) and, where relevant, also an object, e.g. *Lucy was talking away, Lucy outtalked Chris, Lucy broke the window, The lake froze solid*. Occasionally a longer context was provided for the full-sentence items to clarify the intended meaning (e.g. *Lucy was swimming away, round and round the lake*). Judgements were requested in terms of a three-way choice between ‘OK’, ‘Not OK’ and ‘Not sure’ responses. This survey drew the largest number of respondents, with around 110 useable responses per item.

The results as presented here represent an ‘average’ speaker drawn from a numerical idealisation of these results. Each judgement was valued as follows:

5. For example: several apparently [+transition] particle verbs do not allow the causative alteration, e.g. *nod off, grow up*; the availability of most of the other diagnostic constructions appears to be severely restricted across the board.

- (1) OK: +1
Not OK: -1
Not sure: 0

An average response value was then calculated for each item. With a very small number of exceptions, an average less than -0.6 is idealised as an ungrammatical ('*') judgement, an average between -0.6 and +0.6 as an uncertain ('?') judgement and one above +0.6 as a grammatical judgement. Thus, an ungrammatical judgement as presented here corresponds to agreement among about 80% of respondents that an item was 'Not OK' and a grammatical judgement to about 80% agreement that an item was 'OK'.

In general these idealised judgements correspond closely to my personal native-speaker judgements. Most sentences marked here as grammatical (on the basis of the surveys) are those I myself consider grammatical, most marked ungrammatical are ones I consider ungrammatical, and most marked as uncertain I myself do not have clear-cut judgements for. I believe this is good reason to be confident in the reliability of the results.

The rest of this section discusses the findings of this study; judgements for each diagnostic with each verb tested are presented in table 2.3.

	causative	resultative	prenominal past participle	for hours	V one's way into	V-ing away	cognate object	-er	out-	there-insertion	locative inversion
<i>work</i>	(✓)	*	*	✓	✓	✓	(✓)	✓	?	?	✓
<i>play</i>	*	*	*	✓	✓	✓	(✓)	✓	✓	?	?
<i>talk</i>	*	*	*	✓	✓	✓	(✓)	✓	✓	?	?
<i>swim</i>	*	✓	*	✓	✓	✓	✓	✓	✓	?	✓
<i>run</i>	(✓)	✓	*	✓	?	✓	✓	✓	✓	?	?
<i>walk</i>	(✓)	✓	*	✓	?	?	✓	✓	✓	?	✓
<i>tremble</i>	*	*	*	✓	?	?	?	?	?	?	?
<i>cough</i>	*	*	*	✓	?	✓	✓	?	?	?	?
<i>skid</i>	*	*	*	?	✓	✓	?	?	?	?	?
<i>rumble</i>	*	*	*	✓	✓	✓	?	?	*	?	?
<i>be</i>	*	*	*	✓	*	*	*	*	*	✓	✓
<i>belong</i>	*	*	*	✓	*	*	*	*	*	*	*
<i>sit</i>	*	*	*	✓	*	*	*	*	?	✓	✓
<i>stay</i>	*	*	*	✓	*	*	*	(✓)	✓	?	?
<i>remain</i>	*	*	*	✓	*	*	*	*	*	✓	?
<i>last</i>	*	*	*	✓	*	*	*	(✓)	✓	?	?
<i>survive</i>	*	*	*	✓	?	?	*	✓	?	?	?
<i>persist</i>	*	*	*	✓	?	?	*	*	?	?	?
<i>die</i>	*	*	*	?	*	*	✓	*	*	?	?
<i>decay</i>	✓	*	✓	✓	?	?	*	*	?	?	?
<i>grow</i>	✓	✓	✓	✓	✓	?	*	*	✓	✓	✓
<i>wilt</i>	✓	?	✓	✓	?	?	*	*	?	?	?
<i>melt</i>	✓	?	✓	✓	?	?	*	*	?	?	?
<i>burn</i>	✓	✓	✓	✓	✓	?	*	*	?	✓	?
<i>freeze</i>	✓	✓	✓	?	✓	✓	*	*	?	?	?
<i>break</i>	✓	*	✓	*	*	*	*	*	*	?	*
<i>tear</i>	✓	*	✓	?	*	*	*	*	*	*	*
<i>rise</i>	*	✓	✓	✓	?	?	*	(✓)	?	✓	✓
<i>sink</i>	✓	✓	✓	✓	?	?	*	*	?	?	?
<i>come</i>	*	✓	*	*	*	*	*	(✓)	*	?	✓
<i>arrive</i>	*	✓	(✓)	*	*	*	*	*	*	?	?
<i>leave</i>	*	✓	*	?	*	*	*	✓	*	*	*
<i>fall</i>	*	✓	✓	?	*	*	*	*	?	?	✓

Table 2.3: Typical judgements for each diagnostic. Key: ✓ – grammatical; * – ungrammatical; ? – uncertain judgements; (✓) – grammatical in restricted contexts only.

2.2.2 The causative alternation

A subset of intransitive verbs allow the causative alternation, i.e. those verbs which have a transitive alternant where the higher argument is the external cause of the change:

- (2) a. The ice cream froze.
b. Lucy froze the ice cream.

An analysis of the causative alternation as the addition or removal of an external argument (see Schäfer 2009: §§3.1–2 for references to both sides of this debate) also makes it a candidate diagnostic for unaccusativity (Perlmutter 1978: 162).

Intransitive verbs denoting changes of state generally have causative alternants:

- (3) a. Lucy froze the ice cream.
b. Chris broke the window.

sink, a change of location verb which is not inherently telic (see §2.2.5), also allows the alternation:

- (4) The storm sank the ship.

Other intransitives do not—given below are examples of verbs belonging to the controlled consecution (motional and non-motional), uncontrolled consecution, state and telic change of location classes:

- (5) *Chris talked/ran/coughed/survived/came Lucy. (intended meaning: ‘Chris made Lucy V’)

Closely following Ramchand (2008), we can identify those verbs which allow the causative alternation as those which are [–initiation] when used intransitively. However, it is helpful to be slightly more specific on this point. On the present approach, stative intransitives are [–initiation] but do not allow the alternation; this contrasts to Ramchand’s approach where these verbs do have an *init* component (see §1.1.3). There are also restrictions on the availability of the alternation with verbs here analysed as [–initiation,+consecution]: see §2.2.7 below. The central class of intransitives which allow causatives in English, therefore, are those which are typically [–initiation,+transition].

I will take it as a fact of English syntax that intransitive transition verbs do not take initiators (they occur with [–initiation]), with the exceptions of manner of motion verbs and inherently telic changes of location verbs which occur with [+initiation] by default (this is perhaps lexically encoded, see §1.2.4.1) and hence disallow the causative alternation. Thus, for example, *melt*, *break*, *sink* etc. are [–initiation] but *swim*, *run*, *come*, *arrive* are ordinarily [+initiation]. Note however that the inherently telic change of location verbs may also have non-initiated readings:

(6) The letters arrived.

These verbs nevertheless never allow causatives (or resultatives; see the next subsection). Only verbs which never have [+initiation] interpretations when intransitive allow the alternation, therefore.

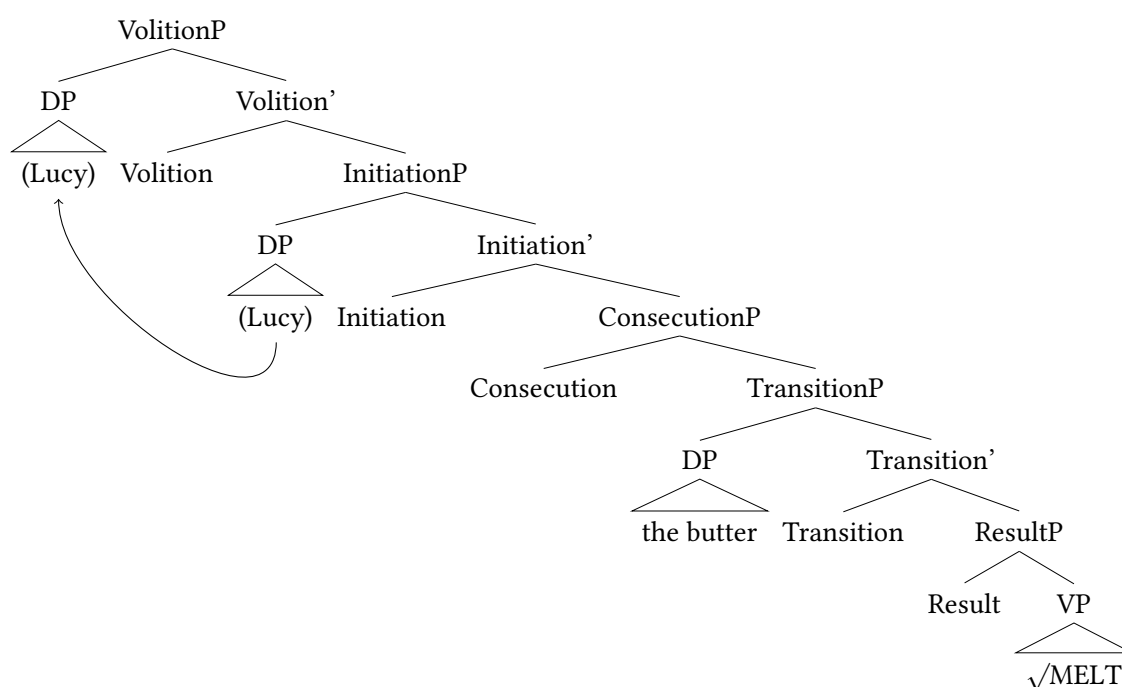
One other exception to the general rule that verbs denoting non-initiated transitions allow the alternation is *die*:

(7) *Curiosity died the cat.

Note that the event described by *die* is not typically initiated by its subject. It is possible *die* is merely a lexical exception to the general rule (as a very frequent verb, it would be a prime candidate for lexically idiosyncratic behaviour).

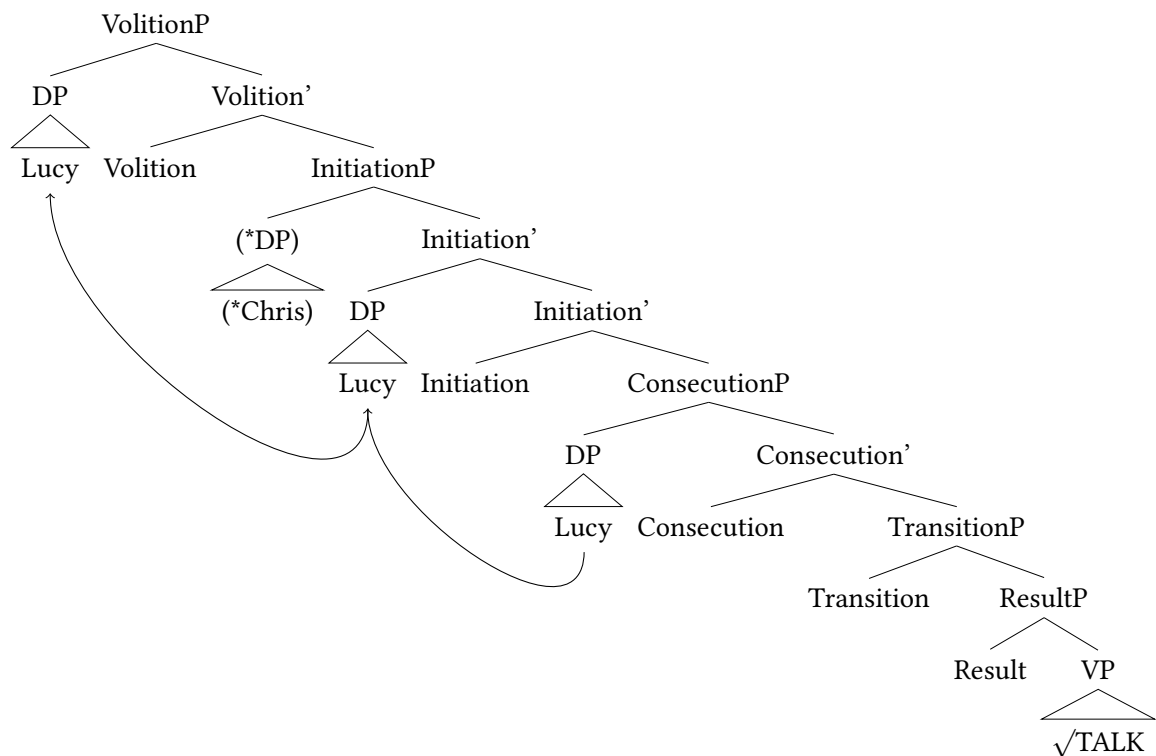
Whether it is viewed as the addition of an argument to an intransitive base, or as the removal of an argument from a transitive, the argument that is present in the transitive but not the intransitive alternant is that which is merged in Spec,InitiationP (again, following Ramchand 2008):

(8) *The butter melted.* / *Lucy melted the butter.*



The alternation is thus ruled out with any intransitive verb that is already [+initiation], as Spec,InitiationP is already filled by an argument: e.g. a verb like *talk* does not have a causative alternant as it already takes a θ -INITIATION argument—there is no position for an additional causer to be merged and the same role cannot be assigned twice:

(9) *Lucy talked.* / **Chris talked Lucy.*



Formally, then, the difference between the intransitive and transitive alternants of verbs undergoing the alternation is merely determined by whether they merge with an Initiation head valued as [–initiation] or one valued as [+initiation]; furthermore, the latter sort generally selects for a [+transition] complement. It is also necessary to stipulate that the transitive Initiation cannot merely trigger the movement of the lower argument to its specifier (for example, following Chomsky 2001, because it lacks an EPP diacritic on its D feature).

[Initiation]
	+initiation	
	Select:Consecution[+transition]	
	Select:D	

Figure 2.1: Causative Initiation

In a full model it may be desirable to also account in some way for lexically idiosyncratic patterns. An example of such a pattern is the behaviour of *die*. However, the formalisation of these patterns is a fairly marginal issue, and I will not give it much attention here. Linguistic exceptions are discussed extensively by Yang (2016), who argues in essence that rules tolerate exceptions provided these do not affect more than a certain proportion of instances. The focus of Yang’s discussion of exceptions is mostly on phonological and morphological phenomena, and though he does discuss a few instances of exceptions to syntactic regularities—including non-nominative cases on Icelandic subjects and the availability of the double object construc-

tion in English—he does not discuss in detail how these should be accounted for formally. I will assume that the various idiosyncratic behaviours considered here come about as a result of the combination of particular flavours of the VICTR heads (with idiosyncratic featural properties) which select for particular lexical verbs; some variety of the Elsewhere Condition operating on Merge ensures that only these idiosyncratic heads can select for the verbs in question (i.e. the more specific selecting head must be merged preferentially to the more general head found with verbs exhibiting ‘regular’ behaviours).

Thus, *die* in this instance is selected specifically by a special variety of Initiation which pre-empts it from occurring with the [+initiation] causative variety (see §1.3.2).⁶ I will not discuss the formal approach to exceptions further in this chapter, though there will be some brief discussion of it in relation to idiosyncratic case and agreement in the chapters subsequent.

2.2.3 The resultative construction

A number of intransitive verbs in English may participate in the resultative construction, denoting a change with an end-state expressed through an adjective or preposition phrase. With transitives employing this construction, the affected argument is always the lower argument (i.e. the traditional ‘internal argument’; see §1.1.4), e.g.:

- (10) Lucy hammered the metal flat.

This provides a basis for the argument that resultatives are a diagnostic of the presence of an internal argument and hence of unaccusativity (see Levin and Rappaport Hovav 1995: chapter 2).⁷ Resultatives occur with very almost the same class of intransitives as allow the causative alternation; however, the differences, though small, are significant to the featural characterisation of this class. Firstly, they occurs with intransitives denoting a change of state:

- (11) a. The lake froze solid.
b. The window broke into pieces.

The construction also occurs with change of location verbs, assuming elements like *high* and *low* are adjectival in these contexts:

- (12) a. The sun sank low.
b. The balloon went high.

The construction is also permitted with manner of motion verbs, e.g. *run*, *swim* and *walk* (L&RH: 186):

6. Another possibility is that *die* is not syntactically exceptional at all, but *kill* acts as its (morphologically suppletive) alternant (cf. McCawley 1968, Dowty 1979: 44–51).

7. I subsequently refer to this work by the abbreviation ‘L&RH’.

- (13) a. Lucy and Chris ran/swam/walked apart.
b. Lucy danced free.

Note that sentences like these, with resultative meaning, require a change of location. These predicates are analysed here as being both consecutions and transitions ([+consecution,+transition]; see §1.1.3).

Resultatives do not occur with verbs denoting states (e.g. *stay, sit*). Neither do they occur with most consecution verbs (e.g. *work, play, cough*).

The overall characterisation, then, is that intransitive verbs which are [+transition] allow this construction; [-transition] verbs do not.

One class of systematic exceptions to this general pattern are verbs formed from adjectives with the *-en* suffix; though these allow causatives, they do not permit resultatives:

- (14) a. The heat reddened Lucy's skin.
b. *Lucy reddened red.

An analysis of these is that they are in fact underlyingly resultative, consisting of a verbal root *-en* into which the adjectival result state incorporates (Hale and Keyser 2002: 48). The resultative construction is thus not so much ruled out with these verbs as inherent in them.

die, which does not allow the causative alternation (see (7) above), also does not allow resultatives:

- (15) *The man died lifeless.

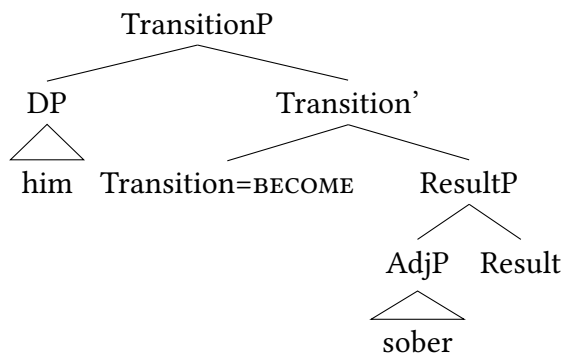
Thus this verb appears to exhibit lexically idiosyncratic behaviour in relation to this construction also.

Hoekstra (1988) analyses the affected argument plus result phrase part of a resultative as a small clause.⁸ I suggest eventive small clauses can be conceptualised as TransitionPs containing an argument and a modifier; the Transition head is interpreted as an abstract verbal element BECOME. I am agnostic as to the precise position of the modifier; assume for present purposes it is merged in the specifier of the lower ResultP (as it denotes the state resulting from the transition; cf. the approach to modifiers of Cinque 1999). For example:⁹

8. See Zhang (2009: §2) for an overview of other approaches to resultatives.

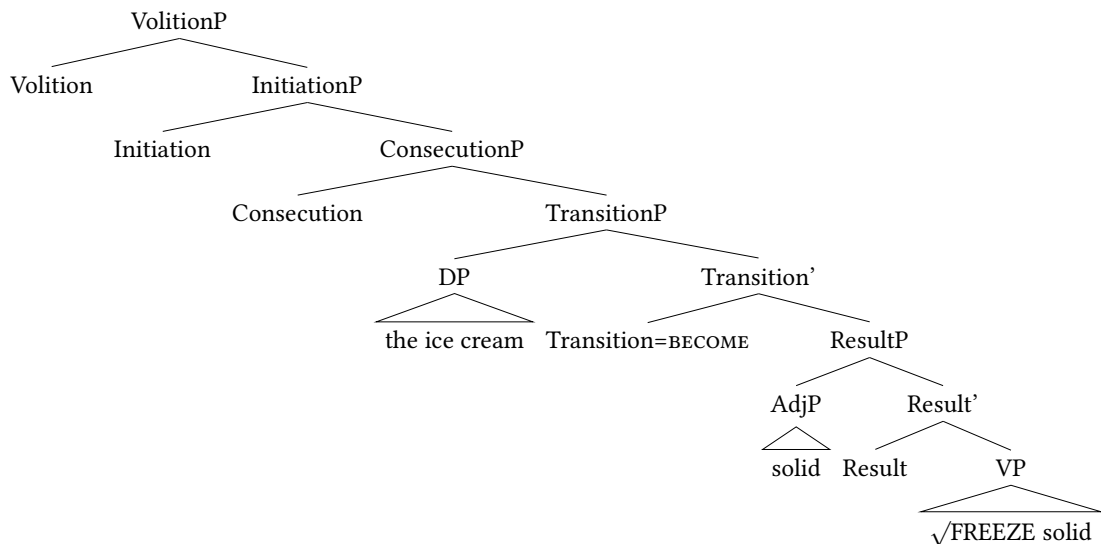
9. The upper part of this structure is omitted from the diagram.

(16) *(Lucy wants) him sober.*



Resultatives also contain a **TransitionP** and a modifier:

(17) *The ice cream is freezing solid.*



More formally, then, a resultative construction occurs when a [+transition] **Transition** head selects for a complement containing an **AdjP** or a **PP**, leading to a small clause interpretation. It is ruled out with [−transition] verbs, as these cannot occur with the [+transition] head in question.

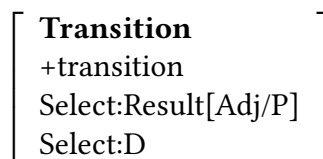


Figure 2.2: Resultative Transition

The analyses presented in the last two subsections have various advantages over the traditional approach to argument structure of the Unaccusative Hypothesis; I will consider here

those which are relevant to these constructions specifically (see following subsections and §2.3.1 for further discussion). The traditional approach, if it assumes (as is usual) that stative verbs are unaccusative, must also postulate that these are an exception to the general rule that the resultative and causative constructions occur with unaccusatives (see e.g. L&RH: §2.3.3)—an exception which does not necessarily appear particularly well motivated. On the present approach, [+transition] verbs form an entirely separate class from the statives: we can state that resultatives/causatives are only generally available with the latter, and do not need to postulate an exceptional class. Additionally, the association of Transition with the abstract element BECOME allows for a neat formalisation of the parallels between small clauses and resultatives. Further, more general advantages of the multiple-head approach will be presented in subsequent sections.

2.2.4 Attributive past participles

Prenominal past participles (e.g. *melted butter*, *risen sun*) are another purported diagnostic of unaccusativity in English (Levin and Rappaport 1986: 654). This construction has been considered diagnostic of unaccusativity on the grounds that it picks out a subset of intransitives, and the same construction with transitive verbs is used to describe nouns which would be the lower arguments of equivalent clausal constructions, for example *the destroyed city* (a city that has been destroyed, not a city that destroys). This is evidence, then, that the construction, like the resultative construction and causative alternation discussed above, should be analysed in terms of argument structure—an analysis which the present approach retains.

Amongst intransitives, prenominal past participles are restricted to certain transition verbs: that is, verbs of change of state, including those which undergo the causative alternation,¹⁰ and verbs of (inherent) change of location:

- (18) a. fallen leaves
 b. a decayed corpse
 c. the broken window
 d. *the remained/trembled/talked man

Note in particular that prenominal past participles of manner of motion verbs (analysed as [+consecution,+transition]) do not occur:

- (19) *the run/walked/swum man

Thus, verbs must be [−consecution,+transition] to allow this construction.

Amongst the verbs which allow the construction, however, there are further restrictions. For example, *arrived* can only occur prenominally with certain modifiers, e.g. *the recently arrived recruits*. Furthermore, some verbs of change (e.g. *come*, *go*, *die*) do not seem to allow the

10. With the alternating verbs, however, it could be argued that this construction is derived from the transitive alternant.

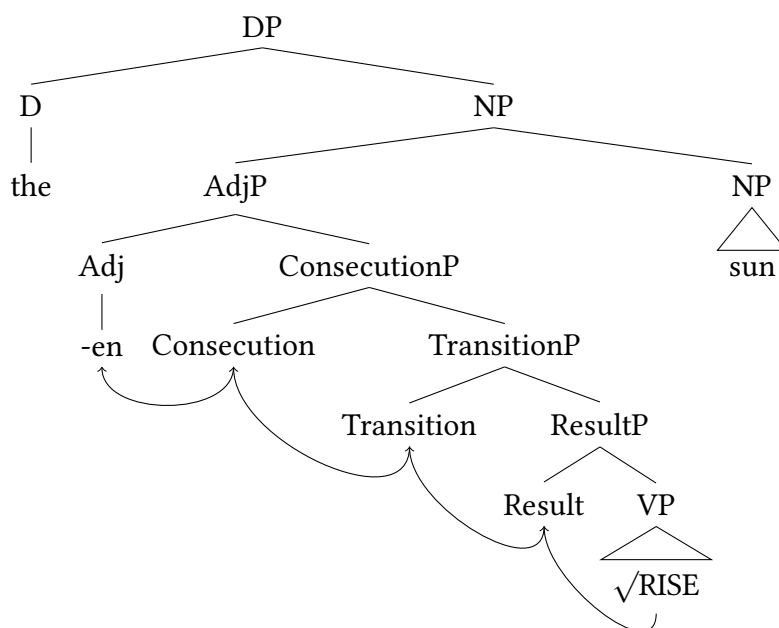
construction at all. Note, however, that (with the exception of *die*, which shows exceptional behaviour in regard to several diagnostics) these verbs do allow past participles to occur post-nominally, whereas other verbs do not:

- (20) a. The man gone to the market returned.
 b. *The man swum to the island returned.

Thus, setting aside restrictions on the position of an attributive past participle, it seems to be quite generally available with [–consecution,+transition] verbs.

An analysis of this behaviour can be formulated in terms of selectional restrictions under a Distributed Morphology-type framework in which the morphological processes which derive these constructions take place in the syntax according to the usual constraints on syntactic formations. Under such an approach, the past participle morphology (realised in various ways, often as *-ed* or *-en*—I shall denote it here by the latter) can be viewed as an Adj head, which incorporates the root and categorises it as an adjective.¹¹ That the past participle is restricted to [–consecution,+transition] verbs suggests *-en* selects a [–consecution,+transition] ConsecutionP with intransitives:

- (21) *the risen sun*



The present proposal, which distinguishes [+transition] verbs from stative verbs in terms of the positions of their arguments, is thus able to capture the occurrence of attributive past participles with the latter but not the former in terms of structural considerations alone. This dis-

11. In standard Distributed Morphology, roots do not themselves bear category labels and categorisation is via heads bearing the labels *n*, *v*, *a* etc. (Embick and Noyer 2007: 296). For consistency—I have elsewhere denoted the verbal root as of category *V*—I do not reflect this in my notation here, although my examples could easily be reworked to fit. I do not intend to make any claims about the categorial status of roots here.

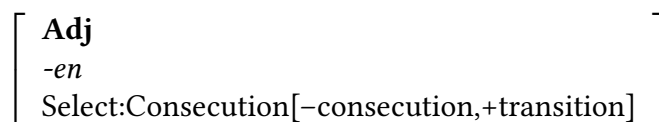


Figure 2.3: The *-en* head

tinguishes it favourably from the traditional approach to syntactic argument structure, which in addition to restricting attributive past participles to ‘unaccusative’ verbs (i.e. those which take only an internal argument) must also provide some separate explanation for the non-occurrence of the construction with state verbs (which are also held to be unaccusative).

The three diagnostics so far discussed—the causative alternation, resultative construction and attributive past participles—have all been analysed in terms of a $[\pm\text{transition}]$ feature; $[\pm\text{consecution}]$ has also been appealed to. These distinctions, which are of great use in characterising the classes of verbs identified by these diagnostics, but do not have equivalents on the approach of Ramchand (2008)—a point in favour of the current approach. I discuss this further, along with other issues concerning the comparison to Ramchand (2008), in §2.3.2.

2.2.5 Inherent telicity

Split intransitivity has often been connected in various ways to telicity (see Tenny 1987, Zae-nen 1988, Sorace 2000, Borer 2005 and many others). Diagnostics of telicity and hence purportedly unaccusativity in English are adverbials like *for hours*, *for seconds*, *for years* etc., which (amongst intransitives) supposedly only occur with atelic/‘unergative’ verbs (Schoorlemmer 2004: 227). Most intransitive verbs in English occur with phrases like *for hours* very freely:

- (22) Lucy stayed/sat/coughed/swam/worked for hours.

Some verbs, however, allow *for hours* more restrictedly. These verbs belong to the change of location and change of state classes:

- (23) a. *Lucy arrived/died for hours.
b. *The window broke for hours.

I will describe verbs like those in (23) as ‘inherently telic’. Note, however, that most of these do allow *for hours* in specific contexts; these contexts vary from verb to verb:

- (24) a. Lucy came for hours. (= ‘Lucy came and stayed for hours’)
b. The guests were arriving for hours.

Very many change of state verbs do freely allow the construction, e.g.

- (25) a. The corpse decayed for years.
b. The butter melted for hours.

The overall generalisation I propose is that the inherently telic verbs comprise the change of location verbs and a subset of the (uninitiated) change of state verbs, but that the inherent telicity of these verbs can be overridden in certain contexts. Formally, the inherently telic verbs can be associated with the feature [+result] (on the Result head). [+result], which is equivalent to *res* in Ramchand (2008), is a feature associated with inherent telicity, not telicity alone. Adverbial phrases like *for hours*, which require atelic readings, are incompatible with the [+result] feature of inherently telic verbs.

The verbs discussed above are all [–consecution, +transition], but consider also the ‘semelfactive’ class of punctual consecutions like *hiccough* [+consecution, –transition] and *jump* [+consecution, +transition]. Rothstein (2004: 183–87) argues that these are basically telic, in contrast to Smith (1991) who claims they are basically atelic (see Ramchand 2008: 80–81). These verbs do occur with *for hours* far more easily than telic verbs of change like *come* and *break*. Following Ramchand (2008), who posits that these verbs may occur either with or without the *res* component, I shall here analyse these verbs as able to occur with either value of [±result]. Note that the value of [±result] is thus independent of the values of the other VICTR heads (cf. table 2.1).

This approach allows us to maintain the popular idea that telicity relates to argument structure (see references above). But at the same time, by identifying multiple argument positions, we can also maintain the idea that other split intransitivity diagnostics, unrelated to telicity, also relate directly to argument structure. This, then, is another advantage of this approach over the traditional Unaccusative Hypothesis.

2.2.6 Diagnostics of consecution verbs

2.2.6.1 Data

A number of tests pick out sets of verbs in English each corresponding more-or-less to the class of verbs I term ‘consecutions’. This class basically corresponds to most conceptions of the traditional ‘unergative’ class insofar as it is ever defined explicitly. Each of these tests does, however, pick out a slightly different group of verbs.

The diagnostics in question which I have been able to identify in the literature are: V *one’s way into* (Marantz 1992), V *away* (Keyser and Roeper 1984), the cognate object construction (Massam 1990), agentive suffix *-er* (Burzio 1981: 255–58), and prefix *out-* (Keyser and Roeper 1984). These are all illustrated below with the verb *walk*, with which they can all occur:

- (26) a. Lucy walked her way into the room.
b. Lucy was happily walking away, round and round the field.
c. Lucy walks the walk.

- d. walker
- e. Lucy outwalked Chris.

None of these constructions, on the other hand, can occur with a verb like *arrive*:

- (27)
- a. *Lucy arrived her way into the building.
 - b. *Lucy was arriving away.
 - c. *Lucy arrived an arrival.
 - d. *arriver
 - e. *Lucy outarrived Chris.

To reiterate, the overall generalisation is that these constructions are acceptable with consecution verbs and ruled out with other intransitives. There are a few nuances, however. Certain of the tests produce doubtful results with certain consecution verbs, particularly those which are typically non-volitional (the ‘uncontrolled consecutions’):

- (28)
- a. ?Lucy trembled a tremble / skidded a skid.
 - b. ?Lucy outtrembled/outcoughed Chris.

This difference in the strength of judgements seems to be sensitive to a [\pm volition] feature, and so is some evidence for the operation of this feature in English. On the present approach, [\pm volition] is taken to be encoded on the Volition head. This is some support in favour of this approach over that of Ramchand (2008), where volition is not encoded as part of the thematic domain. Further, and in many cases more substantial, support from other languages will be given in §2.4 and in subsequent chapters.

With many verbs the cognate object test is restricted to certain meanings, e.g. *Lucy talked a talk* can refer to a presentation to an audience, but not to acts of talking in general. Speakers’ intuitions about the cognate object diagnostic seem in general to be much weaker than those concerning the other diagnostics, though a distinction between consecution verbs and others (which are hardly ever accepted with cognate objects to any degree) is still apparent.

The availability of these diagnostics is most robust with [+consecution] verbs which are also [+initiation]. Verbs analysed as [–initiation, +consecution] exhibit rather more varied behaviour; this is discussed further in §2.2.7 below.

The diagnostics may also sporadically pick out various verbs that do not denote consecutions. This varies between diagnostics, and in some cases there does not seem to be much of a consistent semantic basis as to which verbs are identified, for example:

- (29)
- a. The musical died a death.
 - b. survivor, early-riser

Some groups of exceptions appear more systematic. In particular, the *V one's way into* construction is frequently accepted with non-inherently telic verbs which undergo the causative alternation (*burn, melt* etc.):

- (30) The butter melted its way into the cake.

This same group of verbs tends to receive mixed or uncertain judgements as regards the *out-* construction (cf. Keyser and Roeper 1984: §4.3), as do several members of Sorace's 'continuation of state' category, and few verbs in these categories are in fact widely accepted with this construction:

- (31) a. Lucy outgrew her older brother.
b. ?Lucy's butter outmelted Chris's butter.

- (32) a. Lucy outstayed Chris.
b. ?Lucy outpersisted Chris.

Change of state verbs seem to receive similarly mixed/uncertain judgements as regards *V away* (cf. Keyser and Roeper 1984: §4.4):

- (33) a. ?The tree was growing away.
b. ?Lucy was freezing away outside in the snow.

To summarise, these tests all pick out verbs primarily of the consecution class, plus some verbs more usually seen in other classes with varying degrees of semantic systematicity. In featural terms, we can say that they identify primarily [+consecution] verbs (with the *out-* prefixation and cognate objects additionally preferring but not absolutely requiring [+volition] predicates). The next subsection will outline some formal analyses.

The VICTR approach's use of the [\pm consecution] distinction thus allows the identification of the class of verbs permitted on this analysis; something which does appear to be achieved on the approach of Ramchand (2008). This will be discussed further in §2.3.2.

2.2.6.2 Proposed analyses

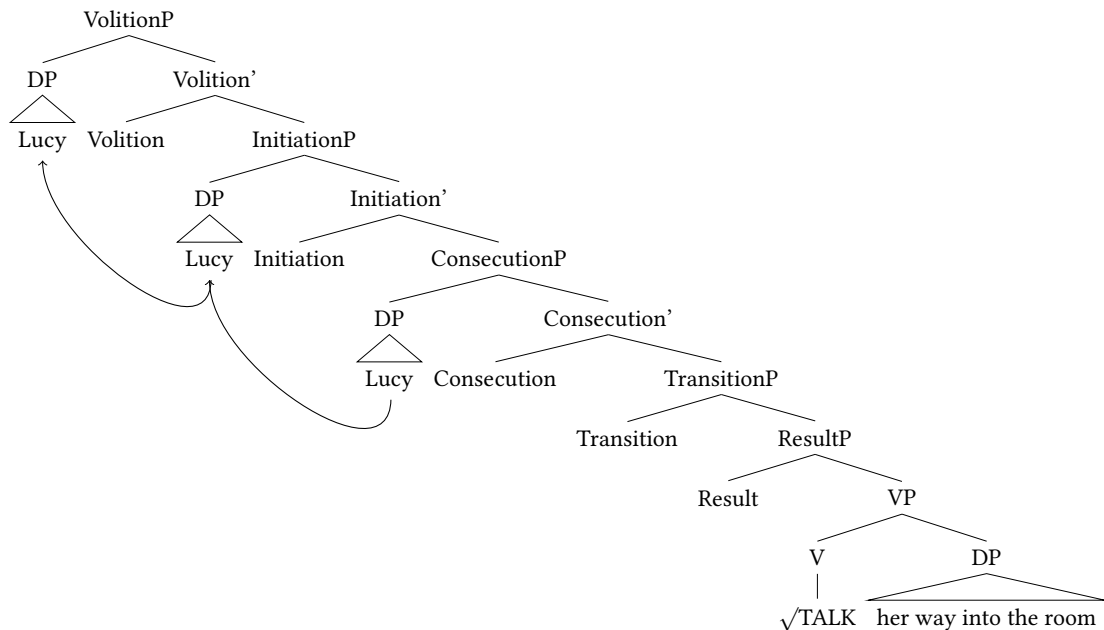
I will now sketch analyses for each of these diagnostics in turn.

Both the *V one's way into* and cognate object constructions involve the addition of an argument to the clause (see also the discussion of *out-* prefixation to follow). Like the other diagnostics discussed in this section, these constructions are restricted primarily to verbs which are ordinarily [+consecution] (the cognate object construction is in addition dispreferred with [–volition] verbs). Ordinarily the [+consecution] Consecution head which occurs with these verbs selects for a single DP, merged in its specifier, i.e. it bears a [Select:D] feature. These verbs also have the option of occurring with other sorts of [+consecution] Consecution, which

in addition to [Select:D] select for other DPs as well, merged lower in the structure as part of its complement.

Considering firstly the *V one's way into* construction, Consecution in this case selects for a complement containing D^{poss} way PP, where D^{poss} is a possessive pronoun. This variety of Consecution is available with any verb that is semantically compatible with the [+consecution] value.

(34) *Lucy talked her way into the room.*



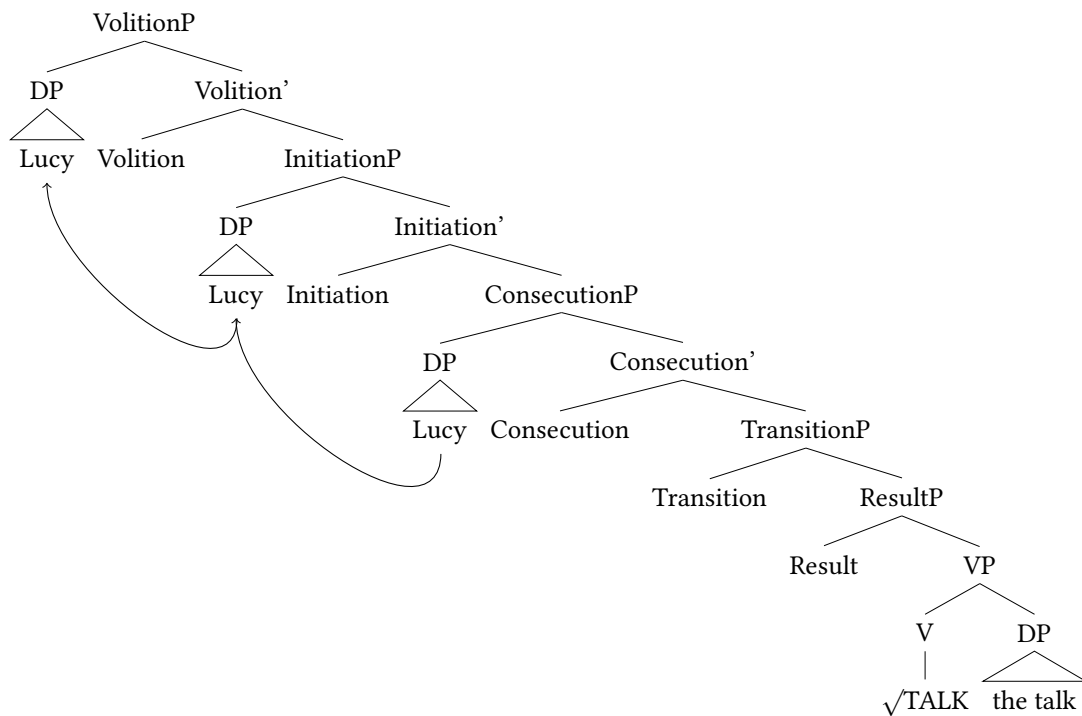
V one's way into is ruled out with verbs which must be [–consecution]—states, changes of state and changes of location. However, it is accepted, to varying degrees, with some of these verbs, e.g. *persist*, *burn*. I suggest the lexical semantics of these particular verbs is loose enough that they can (if in some cases only marginally) be conceptualised as [+consecution].

Consecution +consecution Select:Transition[D^{poss} way PP] Select:D

Figure 2.4: Consecution in *V one's way into*

Like *V one's way into*, the cognate object construction also involves the addition of a new argument (the ‘cognate object’). It can be analysed as involving a dedicated [+consecution] Consecution head which, in addition to its normal [Select:D] feature, also selects for a complement containing a DP semantically cognate to the lexical V (again, I leave aside the precise details of how this selection might be formalised).

(35) *Lucy talks the talk.*



A further restriction on the cognate object construction is that it prefers the presence of [+volition] Volition. This can also be formalised in terms of selectional features: [–volition] Volition does not so readily select for a cognate object complement.

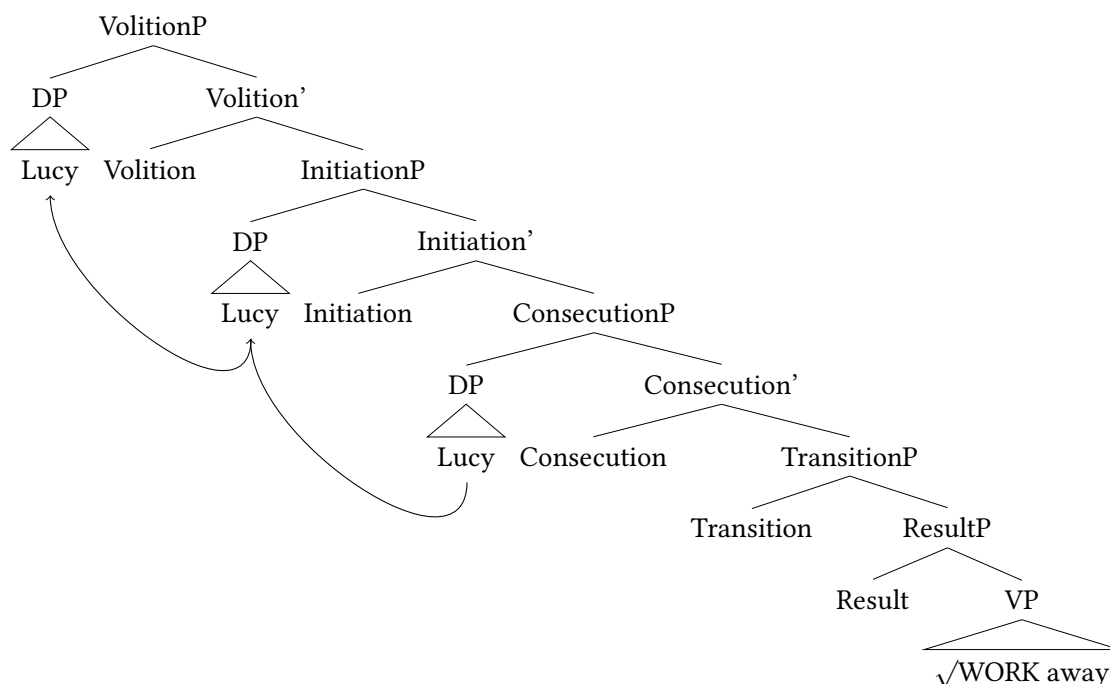
$$\left[\begin{array}{l} \mathbf{Consecution} \\ +consecution \\ \text{Select:Transition[N=V]} \\ \text{Select:D} \end{array} \right]$$

Figure 2.5: Consecution with cognate objects ('N=V' is shorthand for the cognate relation between object and verb)

The *V away* construction does not introduce a new argument, but can also be analysed in selectional terms. [+consecution] Consecution in these cases selects a complement containing the particle *away*:¹²

12. The precise position of verbal particles on this model is as yet unclear, but this does not affect the main argument. I assume here it is merged somewhere within VP; it could also plausibly be adjoined to Consecution itself.

(36) *Lucy is working away.*



V away is accepted at least to an extent with verbs denoting changes of state, e.g. *?The tree was growing away*. This suggests again that some speakers allow such verbs to be conceptualised as [+consecution].

Consecution
+consecution
Select:Transition[<i>away</i>]
Select:D

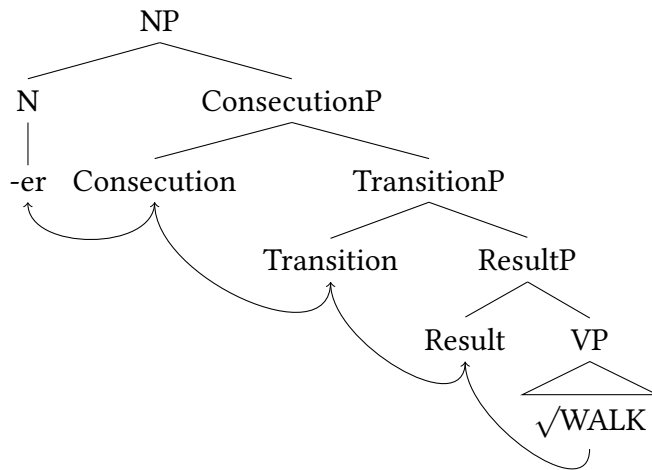
Figure 2.6: Consecution in *V away*

I now turn to agentive suffix *-er*. Note that this suffix also occurs with transitive verbs, and its behaviour in such contexts provides evidence for analysing it in terms of argument structure. Thus, when *-er* occurs with a transitive root, it denotes the higher argument of the transitive, not the lower: *destroyer* means ‘a person or thing who destroys’ not ‘a person or thing who is destroyed’. This suggests that we should retain the traditional intuition that intransitive verbs which allow *-er* merge their arguments in the same or similar position(s) as transitive higher arguments—here, that both sorts of argument are typically first-merged toward the top of the VICTR structure.

For *-er*, as with prenominal past participles above (§2.2.4), I shall adopt an analysis in the style of Distributed Morphology (cf. Alexiadou 2001, particularly pp. 128–31). Intransitive *-er* selects primarily for [+consecution] complements: this suggests it selects a ConsecutionP, on the head of which the [\pm consecution] feature is marked, provided it has the correct (positive)

value. I shall assume *-er* is a nominal head which essentially occupies the same position as Initiation does in the clause:

(37) *walker*



The sporadic occurrence of *-er* with [–consecution] verbs (e.g. *survivor*, *early-riser*) can be taken as lexical idiosyncrasies of the sort which are commonplace with derivational affixes.

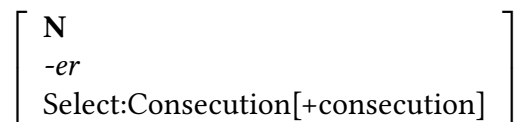


Figure 2.7: Suffix *-er*

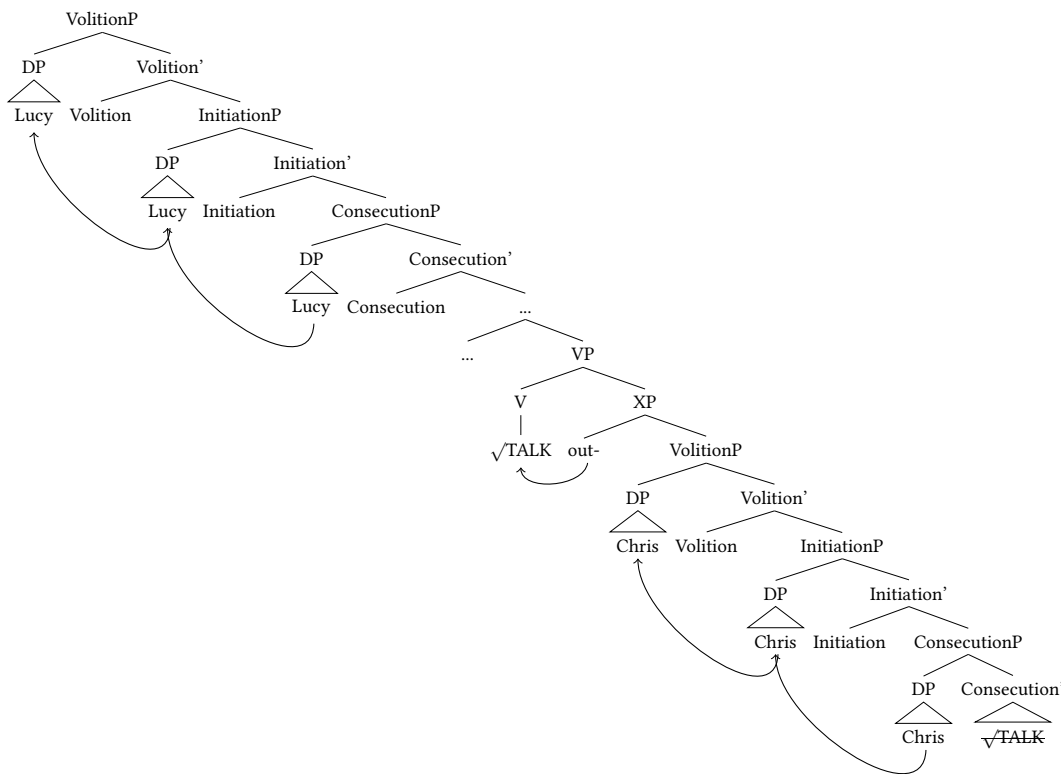
out-prefixation involves both a morphological process and the addition of an argument. The construction is curious from a thematic perspective in that both arguments appear to be initiators of the event described by the verbal root: thus, *Lucy outtalked Chris* entails both *Lucy talked* and *Chris talked*.¹³ This is surprising as we do not expect to find two arguments within a clause bearing the same thematic role.

Irube (1984: 114) suggests that prefix *out-* may be analysed as a sort of preposition (with the internal/lower argument in its complement) with comparative meaning (‘X-er than’), into which the verbal root incorporates. Drawing on this, I propose that *out-* is a head which selects a clausal complement, analogous to the selection of a clause in comparative contexts introduced by phrases like *more than*.¹⁴

13. These arguments are not, of course, both initiators of *outtalk*, only of *talk*. But the latter still ought ideally to be captured formally, and the asymmetry in terms of the former can be understood in terms of the analysis in the main text.

14. I omit the Transition and Result heads for reasons of space.

(38) *Lucy outtalked Chris.*



Lucy is merged in the specifiers of ConsecutionP, InitiationP and VolitionP in the higher clause, and *Chris* in those same positions in the lower clause: this enables them both to be interpreted as volitional initiators of the (consecutional) talking event. *out-* incorporates into the higher V whereas the lower V is deleted: this is analogous to the deletion of the lower VP in sentences like *Lucy eats sandwiches more than Chris ~~eats sandwiches~~*.¹⁵ *out-*prefixation is in general limited to [+consecution] (and preferentially [+volition]) verbs; this can be seen as due to a restriction on the type of complements for which *out-* may select.

Consecution
+consecution
Select:Transition[<i>out</i> -]
Select:D

Figure 2.8: Prefix *out*-

The acceptance (albeit usually marginal) of *out-* with verbs denoting states and changes of state (e.g. *outlast*, ?*outmelt*) may reflect the marginal possibility of these verbs being conceptualised as consecutions which was also posited for V *one's way into* and V *away* above.

15. Deletion is, however, obligatory in the *out-* case, possibly because the single inflectional domain can only morphologically license one of the two verbs, leading to deletion of the lower VP as a repair strategy—though also cf. obligatory comparative deletion in sentences like *Lucy prepared more sandwiches than Chris could eat sandwiches*.

It can be noted that in general the acceptability of these verbs with one of these diagnostics closely corresponds to its acceptability with the others: it is the same verbs which are accepted, marginal, or rejected in each instance.¹⁶ This is what is to be expected if this variable conceptualisation analysis is the correct one; if the judgements differed considerably with the same verb, we might ask why this [+consecution] conceptualisation should only be possible in a subset of cases. The principal exceptions are *last* and *stay*, which permit *out-* but not *V one's way into* or *V away*. However, this could be lexically idiosyncratic—again, such idiosyncrasies are common with derivational morphology.

It should also be asked why evidence of this variable conceptualisation is not seen with cognate objects or *-er*. The first may relate to the relatively low acceptability of this construction across the board; indeed, it is possibly somewhat idiomatised. *-er* is difficult to test with many of these verbs due to the interference of the use of this suffix with their transitive alternants (often in an instrumental sense): e.g. *burner* is clearly a licit form, but generally in the sense ‘something which burns something’. However, there is some evidence from the surveys that some (apparently primarily American) speakers are at least somewhat accepting of *burner* referring to an object which itself burns (the same is true of *melter*, *grower* etc.), suggesting that a [+consecution] conceptualisation may be possible in these instances also.

2.2.6.3 Advantages of this approach

The VICTR approach to argument structure has certain advantages over the traditional approach in regard to these diagnostics in particular. Firstly, it explicitly encodes in the syntax the [+consecution] nature of the verbs which prototypically allow these constructions. It is not enough merely to state that external arguments are initiators (or ‘Causes’ or ‘Agents’) of the event described: this wrongly predicts, for example, that change of location verbs like *come* and *arrive* (which are typically, though not exclusively, agentive) would group with verbs like *work* and *play* in regard to the diagnostics. The [–consecution] status of the former set of verbs is important. The position of arguments, taking the featural properties of the predicate into account, can be encoded in the syntax on the present proposal without recourse to more complex ‘linking rules’, as was discussed in §1.3.1.

The present approach also captures the variation between this set of diagnostics in regard to [±volition]: we can state that certain of the constructions prefer the presence of a [+volition] head, whereas others are neutral as to the presence or absence of such a head. This is in contrast to the traditional approach which does not make an explicit syntactic distinction between controlled and uncontrolled events, and cannot relate the different behaviour of these diagnostics to argument structure alone.

16. In a few cases, the actual numerical scores for the verbs are closer than the idealised judgement marks might suggest: this is true for *grow*, *burn* and *freeze*.

2.2.7 Verbs of non-agentive internal causation

The feature system proposed predicts the existence of a number of classes of predicate which have not been so far exemplified. Those verbs denoting ‘non-agentive internally caused events’—verbs like *wilt*, *blossom*, *glow*, *buzz* etc.—which show somewhat heterogeneous behaviour in regard to the split intransitivity diagnostics, may exemplify many of these predicted classes. Following Levin and Rappaport Hovav (1995: 91), what characterises these verbs is, firstly, that they denote events brought about by some property inherent to the entity denoted by the subject, and, secondly, that they are ‘non-agentive’—the subject does not volitionally control the event. This subsection will examine this further, though due to the great complexities of the behaviour of verbs of this type it remains a preliminary exploration.

One expected class would consist of verbs which are [–initiation,+consecution]. These verbs could be predicted to allow both the causative alternation (by dint of their [–initiation] feature), but also some or all of the constructions associated with the [+consecution] feature. Many emission verbs appear to be of this type:

(39) beeper, buzzer; blinker, flasher; stinker; bubbler ... (L&RH: 139)

(40) The car beeped its way up the street.

- (41) a. The horn beeped.
b. Lucy beeped the horn.

Thus, these verbs exhibit properties of both ‘unergative’ and ‘unaccusative’ verbs according to the traditional classification (cf. L&RH: 138–41, 191–94).¹⁷ Motion-in-place verbs like *flutter* and *flap* show similar behaviour:

- (42) a. The swan outflapped the duck.
b. The hen fluttered her way into the barn.

(43) The parrot flapped/fluttered its wings.

Note here some further evidence for the [±consecution] distinction, discussed further in §2.3.2, as well as evidence for the independence of the values of [±initiation] and the other features.

We might also predict that some of these [–initiation,+consecution] verbs also occur with [+result]; this may be true of semelfactive emission verbs like *flash* which prototypically denote a temporally bounded event (L&RH: 139). A verbs like *roll* may be [–initiation, +consecution,+transition]: as well as the diagnostics just discussed, it allows the resultative construction, e.g. *The drawer rolled open* (Levin 1993: 265).

17. Note that Potashnik (2012) argues for an ‘unergative’ classification, whereas Reinhart (2002) claims they are ‘unaccusative’.

It is worth noting that not all emission and motion-in-place verbs allow all these constructions equally easily. For example, the causative alternation is not always available (Levin 1993: 235–37):

- (44) a. *I squeaked the door.
b. *The stagehand sparkled the lights.

I assume here that the causative alternation, more prototypically associated with [–initiation, +transition] verbs, is not fully established with [–initiation, +consecution] ones, leading to lexical variation. (Another possibility is that these verbs have a slightly different featural characterisation: e.g. [+‘volition’, –initiation, +consecution], which blocks the possibility of an additional causer argument being introduced: cf. the discussion to follow.)

Some other variation may arise because some of these verbs can be associated with multiple featural configurations. Compare the following:

- (45) a. The doorbell buzzed.
b. The postman buzzed the doorbell.

- (46) a. The bee buzzed.
b. *The postman buzzed the bee.

L&RH analyse this (pp. 117–18) by suggesting that *buzz* is sometimes construed as externally caused, in which case it is ‘unaccusative’ and allows the causative alternation ((45)); in other instances it is seen as internally caused, and is thus ‘unergative’ and does not allow a causative alternant ((46)). The analysis here can proceed along similar lines, but captured in terms of the [\pm initiation] feature (and hence the presence or absence of the θ -INITIATION role on the intransitive argument). A buzzing doorbell lacks θ -INITIATION, and so a separate θ -INITIATION argument can be merged; a buzzing bee, on the other hand, bears θ -INITIATION and allows no additional causer to be introduced without extra thematic structure being introduced (e.g. *The postman made the bee buzz*).

Another class of intransitives which can be predicted are [+‘volition’, –initiation, –consecution, +transition] verbs. On the semantic model outlined in §1.1.3, these verbs denote a state (the [+‘volition’] component) which directly causes a transition; this is in contrast to [+initiation, +transition] verbs where the transition is brought about by a separate causal *event*. (Recall that, in spite of the label, [+‘volition’] need not express the state of volitionality in particular.) These can be predicted not to allow causatives (a distinct θ -INITIATION causer cannot be merged without intervening between the high and low positions of the θ -TRANSITION+ θ -‘VOLITION’ arguments); neither should they allow the constructions associated with [+consecution] verbs. However, they should allow resultatives (as they are [+transition]). *blush* may be a verb of this type (recall that the intermediate judgements with *out*- and *V one’s way into* are usual for [+transition] verbs):

- (47) a. Chris blushed scarlet.
 b. *Lucy blushed Chris. [= ‘Lucy made Chris blush’]
 c. *blusher
 d. ?Lucy outblushed Chris.
 e. ?Chris blushed his way out of the room.

We can also predict the existence of verbs which are [+‘initiation’,–consecution,–transition]—consisting only of some event which is neither a consecution nor a transition; I will not attempt to delimit the exact properties of this event here. Such verbs might not be accepted with any of the diagnostics, or only marginally so. *flower* is a candidate for a verb of this sort:

- (48) a. ?The tree flowered white.
 b. ?The bush flowered roses.
 c. ?Lucy’s garden outflowered Chris’s garden.
 d. ?Lucy’s rose bush flowered its way into the record books.

Some stative verbs could plausibly be analysed as internally caused and analysed as [+‘volition’,–initiation,–consecution,–transition,+‘result’]. On the semantic analysis sketched in §1.1.3, such a verb would comprise one state leading to another. *smell* as a verb of emission, which does not seem possible with any of the diagnostic constructions, could possibly fall into this class, with some distinct internal state of the smelly object causing the state of being smelly.

In summary, then, verbs of this sort provide further evidence for the inventory of features proposed, exemplifying various categories which this inventory predicts. As mentioned above, however, this remains to be investigated in fuller detail.

2.2.8 Two non-diagnostics: locative inversion and *there*-insertion

Various authors have associated the locative inversion ((49)) and *there*-insertion ((50)) constructions with unaccusativity (see Levin and Rappaport Hovav 1995: 19):

- (49) Into the room arrived a man.

- (50) There arrived a man.

However, this association has been disputed. L&RH (chapter 6) argue that locative inversion is related to discourse function, not argument structure, and speculate that the same may be true of *there*-insertion (p. 277); Ramchand (2008: 78fn.6) also assumes *there*-insertion is not an unaccusativity diagnostic.

Speakers seem to vary widely in regard to which verbs they accept these constructions with, at least when they are presented with examples out of context. The rate with which the

diagnostics are accepted appears to bear little relation to the semantic class of the verb: unlike many of the other diagnostics (see §2.4), they do not exhibit any correlation with Sorace’s (2000) Auxiliary Selection Hierarchy. Thus, speakers appear no less likely to accept these constructions with prototypical ‘unergatives’ than with prototypical ‘unaccusatives’: e.g. *There worked a man* is about as readily accepted as *There arrived a man*, and speakers are similarly doubtful about both *?In the room talked a man* and *?In the room died a man*. Therefore I shall follow L&RH and Ramchand (2008) in assuming these are not truly argument structure diagnostics, and set them aside.

2.2.9 Summary

This concludes the identification of the classes related to each split intransitivity diagnostic. The major featural classes identified by each diagnostic are given in table 2.4; features whose value is irrelevant to a given diagnostic are left blank. Some features are given in brackets; these features do not affect judgements as strongly, or their effects are less systematic.

	[volition]	[initiation]	[consecution]	[transition]	[result]
Causatives		–		(+)	
Resultatives				+	
Prenominal past participles			–	+	
<i>for hours</i>					–
<i>V away, V one’s way into, -er</i>			+		
Cognate objects, <i>out-</i>	(+)	(+)	+		

Table 2.4: Summary of featural classes identified by the diagnostics

2.3 Further advantages of the VICTR approach

2.3.1 The VICTR approach and the Unaccusative Hypothesis

In this subsection I shall present some further advantages of the analysis of English split intransitivity in terms of the VICTR Hierarchy over the traditional Unaccusative Hypothesis which I have not been able to address above. Then, in §2.3.2, I discuss in more detail the differences between the current approach and that of Ramchand (2008).

One problem of the traditional binary analysis is that it does not account for variation *within* the ‘unaccusative’ class. Whereas the consecution verbs—which seem to be the strongest candidates for the class of ‘unergatives’—behave as a reasonably coherent set in regard to the diagnostics (though we can make some distinction in regards to [\pm volition]), the remainder of intransitives exhibit a great deal of heterogeneity. The transition verbs, the subsets of that

class which are inherently telic and/or those which allow the resultative construction and undergo causative alternations, and the stative verbs all behave differently with regard to various of the purported diagnostics of unaccusativity presented in the literature.

A multiple-head analysis largely overcomes this problem. The behaviour of each of the different (sub)classes can be captured by relating the different diagnostics to the different heads, and multiple different argument positions. Whilst some problems nevertheless remain in relation to the apparently idiosyncratic behaviour of certain verbs, the proposed analysis nevertheless provides a level of explanation which is lacking in the traditional Unaccusative Hypothesis.

Another issue for the traditional analysis is apparent overlap between the classes. One case of this occurs with the resultative construction, which groups with the prototypical ‘unaccusatives’ ([–consecution,+transition] e.g. *melt*, *sink*) a number of verbs which otherwise seem to test as ‘unergative’ (namely the [+consecution,+transition] manner of motion verbs like *swim*). This creates a new problem of unwanted overlap between the classes identified: on the traditional analysis, we do not expect verbs to be both unaccusative and unergative, at least not without a corresponding shift in meaning. (Such a meaning shift does not obviously take place here: it is not obvious that there is any substantial difference in meaning with *swim* etc. when these verbs used in the resultative construction as with prefix *out-* or *one’s way into*, or why any putative shift in meaning is not also able to permit these verbs with the causative alternation or as attributive past participles.) This problem does not exist on VICTR approach, however, where it is perfectly acceptable for the [+consecution] and [+transition] classes to overlap.

We can also discuss the verbs of non-agentive internal causation (like *shine* and *buzz*, §2.2.7) in this regard. A verb like *beep*, *buzz* or *flap* which, as shown above, shows both ‘unergative’ and ‘unaccusative’ properties, is less easily accounted for on a traditional approach, although Levin and Rappaport Hovav (1995: 191–4) treat such verbs as being able to occur with either external or internal arguments. On the present approach, however, there is no need to appeal to this sort of (semantically-based) variability: the verbs can be associated with a general featural configuration (e.g. as [–initiation,+consecution]) which itself underlies their behaviour.

A similar case of overlapping classes occurs with *for hours*, which is possible with verbs in the traditional ‘unergative’ class as well as many traditional ‘unaccusatives’. We could simply say that telicity does not relate to split intransitivity (at least not in English). However, as discussed in §2.2.5, such a relation has frequently been posited both for English and other languages and there does seem to be some sort of connection between telicity and argument structure. The multiple-head analysis allows us to maintain the relation between telicity, split intransitivity and argument structure whilst overcoming the problem that ‘inherent’ telicity—as identified by this particular test—does not directly relate to the classes identified by the other diagnostics. It is true that the temporal unboundedness identified by the *for hours* test is not necessarily restricted to a single argument structure configuration. However, the idea

that the class of verbs which do generally not permit *for hours* except in particular, restricted contexts (*go, arrive, break, tear* etc.) are all associated with a single configuration (involving the [+result] feature) is an appealing one, particularly given the semantic similarities between these verbs in other respects (here captured in terms of the [+transition] feature). [+result] is equivalent to the *res* component identified by Ramchand (2008: see particularly §4.2.2, §4.3) as occurring with a similar if not identical set of verbs.

Another advantage of the multiple-head analysis is that it captures the fact that each diagnostic picks out a more-or-less semantically coherent set of verbs; the classes that arise, therefore, are similarly semantically coherent. The stipulation of separate ‘unaccusative’ or ‘unergative’ properties would seem redundant, then, when the observed behaviour can be adequately described without them.

The binary analysis, further, makes no clear predictions as to the exact membership of the classes. That this is a problem becomes particularly clear when it is considered that there are a number of verbs—the statives in particular, plus some others: *go, come, leave, die*—which fail both the ‘unergative’ diagnostics (or at least, pass them only sporadically) and all or many of the ‘unaccusative’ ones; i.e. the syntactic evidence which allows them to be grouped in one class or the other is at best extremely limited. (*for hours* does group the statives with the unergatives, but this group also includes a number of [+transition] verbs, as discussed above, which otherwise appear to be unaccusative. Thus this diagnostic is of little help in this regard.) How is the linguist to decide whether such verbs are to be classified as unergative or unaccusative, in the face of such limited evidence? The language learner faces the same problem: to assume that the membership of the two classes is encoded directly in Universal Grammar would seem to run contrary to minimalist ideals. The lack of crosslinguistic uniformity in the putative classes (Rosen 1984 and much of the subsequent literature, and see the next section and subsequent chapters) would also suggest that the composition of the classes is something which would have to be learned.

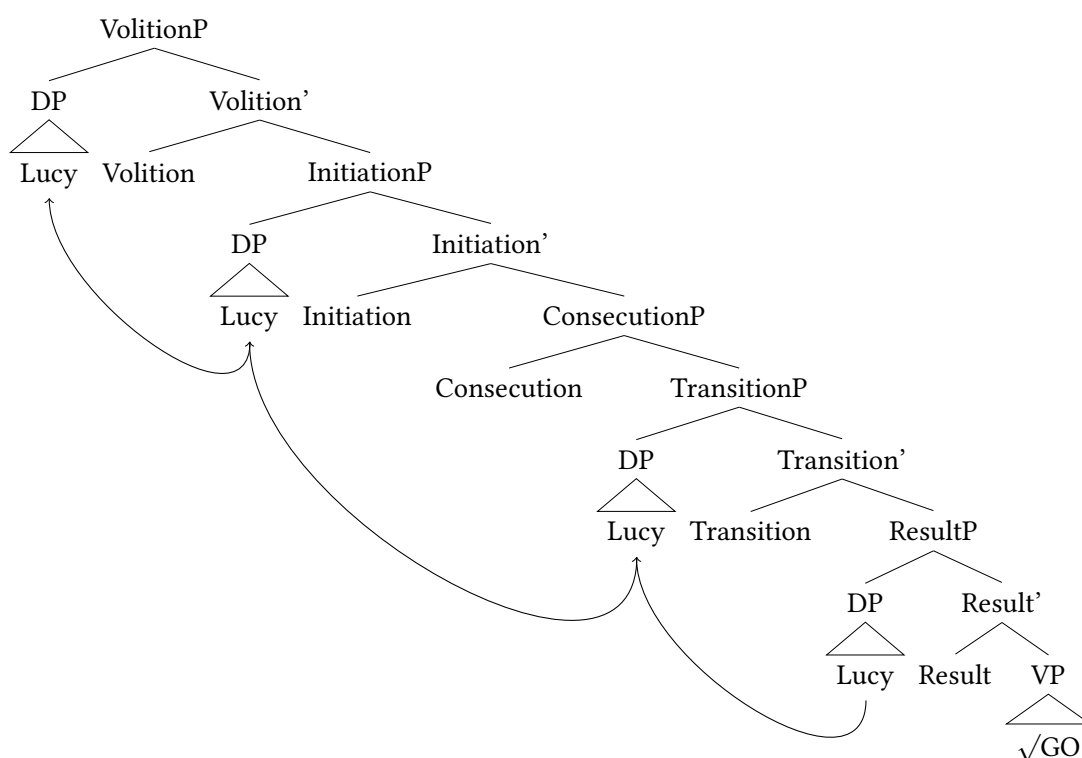
Of course this problem does not simply disappear when a number of smaller classes are posited instead. But its significance is perhaps reduced. Under the binary classification the stative verbs must be placed, presumably quite arbitrarily, in one class or the other. When multiple classes are posited, however, stative verbs can simply be omitted from all the other classes—and thus placed, quite literally, in a class of their own; the straightforward linking of the class with stative meaning may be enough to permit this. In §1.1.3, I raised the possibility that stative verbs could be either [+‘volition’] with negative values for the other VICTR features, or else [+‘result’] with otherwise negative values. For simplicity, let us assume all English intransitive statives are [+‘volition’]; following the discussion in the previous chapter, no semantic volitionality is entailed in these instances, as this only results in the presence of causal relation between [+volition] Volition and another positively-valued head. The arguments of intransitive state verbs thus bear (only) θ -‘VOLITION’.

What about the other exceptional verbs? As with all (actual or apparent) lexical idiosyncrasies, these pose a problem. Whilst there is evidence that verbs like *go* and *come* pattern

with [+transition] verbs in some regard (see §2.2.4), this evidence is rather limited and likely not available to many if not most language learners. One possible solution may simply be to postulate that these verbs, too, form their own class, one which lacks any of the features to which the diagnostics are sensitive. This is problematic, though, given that we have postulated [\pm transition] as the feature governing most of the patterns under discussion, and these verbs would also seem to denote changes either of state or location (as does *die*, another exceptional verb). Perhaps the semantic evidence alone is enough for these verbs to be classified as [+transition] verbs, and they fail to partake in the constructions otherwise available to verbs associated with this feature for separate reasons. It may be notable that the verbs in question all seem to be extremely frequent, and hence perhaps particularly liable to show exceptional behaviour.

An interesting consequence of this approach is that we are able to analyse certain verbs as, essentially, both ‘unergative’ and ‘unaccusative’ *at the same time*: i.e. their arguments are merged in both high and low positions within the thematic domain. This is the case with verbs like *go* (and other change of location verbs) whose arguments bear both the higher θ -VOLITION/ θ -INITIATION and lower θ -TRANSITION/ θ -RESULT roles:

(51) *Lucy has gone.*



This sort of analysis is not possible on traditional approaches where a single argument can only be merged in one thematic position. And in fact these verbs have often proven difficult for the traditional analysis, with authors unsure about how to classify them (e.g. Perlmutter 1978 does not attempt to do so). The VICTR Hierarchy helps us understand their special status

in a new way.

In summary, there are a number of advantages of an analysis which identifies multiple classes and features over a traditional, binary one. This is in line with other works which have proposed multiple classes of verbs on the basis of data from a range of languages (see for example Zaenen 1988, Van Valin 1990 and discussion in L&RH: chapter 1)—though it differs from previous approaches in suggesting that this variation be represented in terms of syntactic structure.

2.3.2 The VICTR approach in comparison to Ramchand (2008)

Advantages are also apparent in comparison with another approach which identifies multiple argument positions in intransitives, that of Ramchand (2008). Ramchand, as discussed previously (§1.1.2), identifies three functional heads within the thematic domain: *init*, *proc* and *res*. These heads are able to capture certain of the distinctions which appear in the data. The presence or absence of *init* accounts for the causative alternation (see Ramchand 2008: §4.3, chapter 6); the inherently telic verbs might plausibly be understood in terms of the *res* component (see Ramchand 2008: §4.2.2). (Compare the use of $[\pm\text{initiation}]$ and $[\pm\text{result}]$ here.)¹⁸

The other diagnostics, however, are more problematic. On the VICTR approach, these have been described primarily in terms of the $[\pm\text{consecution}]$ and $[\pm\text{transition}]$ features. A number of classes have been identified in terms of their distinct behaviour in relation to the diagnostics considered. Non-motional consecutions like *work* and *cough* generally allow all the constructions discussed in §2.2.6 (e.g. *V away, out-*). Motional consecutions like *swim* allow these constructions and also resultatives (§2.2.3). Change of state or location verbs (*melt, arrive*) may occur in the resultative construction and as attributive past participles (§2.2.3, §2.2.4; a subset of these verbs allow the causative alternation.) State verbs (e.g. *sit, remain*) do not generally allow any of these constructions.

	[+consecution]	[−consecution]
[+transition]	<i>swim, skid</i>	<i>melt, break, arrive</i>
[−transition]	<i>work, cough</i>	<i>sit, remain</i>

Table 2.5: Classes identified by the $[\pm\text{consecution}]$ and $[\pm\text{transition}]$ features

Given the different syntactic behaviours of these four classes, a syntactic understanding of their differences is desirable. The classes are neatly accounted for on the present approach in terms of $[\pm\text{consecution}]$ and $[\pm\text{transition}]$; this is summarised in table 2.5. However, they are not easily, if at all, accounted for on Ramchand’s approach.

A potential partial characterisation in Ramchand’s terms might proceed as follows. Change of state or location verbs are always either $[\text{init}, \text{proc}, \text{res}]$ (e.g. *arrive*), $[\text{proc}]$ (e.g. *melt*), or $[\text{proc}, \text{res}]$ (e.g. *break*). These verbs allow attributive past participles. Consecution verbs, on

18. On the present approach, the causative alternation is analysed as also sensitive to $[\pm\text{transition}]$. This is because $[\pm\text{initiation}]$ is understood as eventive, whereas Ramchand’s *init* is seen as stative; something else is needed on the present approach to rule out the alternation with stative verbs. The reader is referred back to §2.2.2.

the other hand, are [*init*, *proc*] (e.g. *work*, *swim*, *tremble*). These verbs allow V *away*, *out*- etc. State verbs are just [*init*] and allow none of these diagnostics.

But what about the resultative construction? We have seen (§2.2.3) that this is possible with both change of state/location verbs (*melt*, *sink*) and manner of motion verbs (*swim*, *walk*). These are respectively [*proc*] or [*proc*, *res*] and [*init*, *proc*] on the present approach. But not all [*init*, *proc*] verbs allow the construction: non-motional verbs like *work* and *tremble* do not.¹⁹

The classes identified by these diagnostics on Ramchand's approach thus does not correspond to natural classes identified in terms of her functional heads, but rather to somewhat heterogenous clusters of the classes arising from the combinations of different heads. Furthermore, one class does not appear to be independently identified at all.

On a related point, Ramchand conflates verbs like *arrive* and verbs like *jump* into a single class of [*init*, *proc*, *res*] verbs (p. 108), despite the fact that they exhibit different behaviours, for example:

- (52) a. Lucy jumped a jump.
 b. Lucy outjumped Chris.
 c. jumper
 d. *the recently jumped recruits

- (53) a. *Lucy arrived an arrival.
 b. *Lucy outarrived Chris.
 c. *arriver
 d. the recently arrived recruits

Ramchand does allow the possibility (2008: 81–82) that verbs like *jump* and *hiccough* may lack a *res* component on their non-punctual readings. This does not (fully) explain (52), however, because *jump* still behaves as a typical consecution verb even in clearly punctual contexts where *res* is supposed to be present—i.e. where the structure is supposed to be the same as for *arrive*:

- (54) a. Lucy jumped a jump in the field.
 b. Lucy and Chris each jumped once, and Lucy outjumped Chris.

On the present approach, *jump*, *hiccough* and *arrive* are distinct, being associated with distinct values of the [\pm consecution] and [\pm transition] features. This approach thus accounts for another set of distinctions which Ramchand does not.

Ramchand briefly discusses the past participle diagnostic (2008: 78fn.6), suggesting it requires the presence of a *proc* or *res* component and is 'severely degraded' in the presence of *init*.

19. Some of these are plausibly 'N-conflation' verbs on Ramchand's analysis, but this does not substantially affect the claims made.

But this similarly does not explain why it is restricted only to the class of verbs here described as [–consecution,+transition] (see §2.2.4): it is possible (with adverbial modification) with *arrive*, but never with *run* or *work*—though all of these have both *init* and *proc* on Ramchand’s system.

We have also seen (§2.2.7) evidence for several classes of verbs denoting non-agentive internally caused events, such as the emission verbs (*beep*, *flash*). These have been shown to exhibit distinct behaviour from the other classes—for example allowing both *-er* and the causative alternation, here accounted for in terms of [–initiation,+consecution] feature values. Ramchand’s approach does not seem to have a comparably straightforward way of accounting for these additional classes: the best analysis of the emission verbs might account for them as being able to be either [*init*, *proc*, (*res*)] or just [*proc*, (*res*)]—a variable mapping which is for some reason not available with other verbs.

§2.2.6.1 also identified marginal evidence for the operation of the [\pm volition] feature, which is also absent on Ramchand’s approach. Ramchand relates (2008: 70–71) restrictions concerning volitionality to the encyclopaedic information contained in lexical items. Whilst the evidence for a syntactic [\pm volition] distinction here is not particularly strong, more substantial evidence will be offered subsequently.

In summary, the VICTR approach accounts for a number of observable syntactic distinctions in English which Ramchand (2008) does not deal with so straightforwardly, and in some cases is possibly unable to explain at all.

2.4 The VICTR Hierarchy and the Auxiliary Selection Hierarchy

2.4.1 Introducing the Auxiliary Selection Hierarchy

As was noted in §2.2, the analysis of English has focused largely around seven categories of intransitive verbs identified by Sorace (2000). These categories and some exemplary verbs were given in table 2.2; an expanded version is given in table 2.6.

HAVE ↑	Controlled non-motional consecutions	<i>work, play, talk ...</i>
	Controlled motional consecutions	<i>swim, run, walk ...</i>
	Uncontrolled consecutions	<i>tremble, catch on, skid, cough, rumble, rain ...</i>
	Existence of state	<i>be, belong, sit, seem, be useful, please, depend on ...</i>
	Continuation of state	<i>stay, remain, last, survive, persist ...</i>
↓	Change of state	<i>rise, become, decay, die, be born, grow ...</i>
BE	Change of location	<i>come, arrive, leave, fall ...</i>

Table 2.6: The Auxiliary Selection Hierarchy (Sorace 2000)

Sorace’s purpose in identifying these categories is to show that they form an ordered hierarchy in regard to auxiliary selection behaviours in Western European languages: the Auxil-

iary Selection Hierarchy (ASH). Auxiliary selection refers to the phenomena found in several languages whereby the auxiliary found in the periphrastic perfect may take different forms: most often one of two forms corresponding to the lexical elements HAVE and BE. This auxiliary split is manifest in Italian and German, for example:

(55) German:

- a. *Hans **hat** gearbeitet.*
Hans **has** worked
'Hans worked.'
- b. *Hans **ist** gestorben.*
Hans **is** died
'Hans died.'

(56) Italian:

- a. *Lucia **ha** lavorato.*
Lucia **has** worked
'Lucia worked.'
- b. *Lucia **è** morta.*
Lucia **is** died
'Lucia died.'

Because auxiliary selection identifies two different classes of intransitives, it is a split intransitivity diagnostic (indeed, one of the most well-established). (With transitive verbs, on the other hand, the periphrastic perfect in Western European languages normally occurs only with auxiliary HAVE.) Burzio (1981, 1986), Perlmutter (1989) and many others since have argued that intransitive HAVE verbs are unergative and BE verbs are unaccusative; this is Sorace's starting point. However, the classes identified vary between languages. For example, the verbs meaning 'to run' occur with BE in German but HAVE in French:

(57) German:

- Hans **ist** gelaufen.*
Hans **is** run
'Hans ran.'

(58) French:

- Lucie **a** couru.*
Lucie **has** run
'Lucie ran.'

Sorace shows, however—at least for the languages she considers—that a common pattern nevertheless emerges. Verbs towards the top of the hierarchy (as the categories are ordered in table 2.6) tend to occur with auxiliary *HAVE*, verbs toward the bottom with auxiliary *BE*. The main point of difference between languages is the position of the ‘cut-off point’ between *HAVE* and *BE* verbs (note that intermediate categories may allow both auxiliaries, to varying extents.) The ASH is intended as an implicational scale: if a category exclusively occurs with *BE*, so should also categories below it; if one exclusively occurs with *HAVE*, so should all those above it—though in practice this is not quite the pattern which emerges. Sorace’s results are summarised in table 2.7.

	French	Dutch	German	Italian
Controlled non-motional consecution	<i>HAVE</i>	<i>HAVE</i>	<i>HAVE</i>	<i>(BE)/HAVE</i>
Controlled motional consecution	<i>(BE?)/HAVE</i>	<i>BE/HAVE</i>	<i>BE/HAVE</i>	<i>(BE)/HAVE</i>
Uncontrolled consecution	<i>HAVE</i>	<i>HAVE</i>	<i>HAVE</i>	<i>(BE)/HAVE</i>
Existence of state	<i>HAVE</i>	<i>(BE)/HAVE</i>	<i>(BE)/HAVE</i>	<i>BE/(HAVE)</i>
Continuation of state	<i>HAVE</i>	<i>BE/HAVE</i>	<i>BE/HAVE</i>	<i>BE/(HAVE)</i>
Change of state	<i>BE/HAVE</i>	<i>BE/(HAVE)</i>	BE	<i>BE/(HAVE)</i>
Change of location	BE	BE	BE	BE

Table 2.7: Auxiliary selection in four Western European languages, after Sorace (2000) (forms in brackets are marginal)

Legendre (2007) finds further support for the ASH in patterns from historical Spanish. Sorace has hypothesised (2000: 887; 2004: 268) that the ASH ought to be applicable to other split intransitivity diagnostics; something which has been demonstrated for various constructions in Spanish (Montrul 2005), German (Keller and Sorace 2003), Chinese (Liu 2007), Italian, French and Japanese (Sorace 2004: 263–64).

Strikingly, and in good conformity with this prediction, many of the split intransitivity diagnostics proposed for English show reasonably good to excellent correlation with the ASH. (This is in spite of the fact that they do not pick out the same classes of verbs.) The *for hours* diagnostic (§2.2.5) picks out all intransitives apart from those in the bottommost category, change of location, and a subset of those in the next-from-bottom category (change of state). Prenominal past participles (§2.2.4) are only permitted with verbs in these bottom two categories. The ‘consecution’ verbs, a class of verbs in categories toward the top of the hierarchy, are identified by a number of diagnostics, as discussed in §2.2.6. As also discussed, some of these diagnostics also received stronger judgements with controlled as opposed to uncontrolled consecutions (the latter are lower in the hierarchy). However, the causative diagnostic, which identifies a class of verbs corresponding largely to the second-lowest of Sorace’s categories (change of state, without including the bottom category, change of location; see §2.2.2), and the resultative construction (which identifies motional consecutions near the top of the ASH, in addition to verbs of change toward the bottom; see §2.2.3) do complicate matters. These findings are summarised in table 2.8.²⁰

20. The results here are idealisations across categories; see table 2.3 for detailed results on an individual verb/diagnostic basis.

	‘Consecution’ diagnostics	Prenominal past participle	<i>for hours</i>	Resultatives	Causatives
Controlled non-motional consecution	✓	*	✓	*	*
Controlled motional consecution	✓	*	✓	✓	*
Uncontrolled consecution	✓/?	*	✓	*	*
Existence of state	*	*	✓	*	*
Continuation of state	✓/?/*	*	✓	*	*
Change of state	✓/?/*	✓	✓/?/*	✓	✓
Change of location	*	✓/*	?/*	✓	*

Table 2.8: Summary of behaviour of split intransitivity diagnostics in English in relation to the ASH

These data, from both English and the other Western European languages, suggest that the ASH has genuine descriptive value for a range of phenomena in different languages. (This finding will be further confirmed by the analyses of Basque and Georgian in subsequent chapters.) Whilst it may not be useful for capturing all phenomena (e.g. English resultatives and causatives), it nevertheless provides us with a reasonably robust cross-linguistic generalisation which demands explanation. This shall be the focus of the following subsection.

2.4.2 The ASH and the VICTR Hierarchy

2.4.2.1 Core feature sets

I propose that the VICTR Hierarchy, in concert with acquisitional/diachronic factors, provides us with a way of understanding why Sorace’s categories are ordered as they are. Each of the categories corresponds to a particular set of feature values for the different thematic functional heads, as summarised in table 2.9 (this is for reference only and should not be taken as having any explanatory value). ASH effects can arise from the ways in which different phenomena interact with the hierarchy. For instance, prefix *out-* and suffix *-er*, in English, prefer [+consecution] complements. Since [+consecution] verbs correspond to the consecution categories, at the top of Sorace’s hierarchy, these constructions appear to correspond to the ASH. Conversely, prenominal past participles are formed only with [–consecution, +transition] intransitives, corresponding to Sorace’s change of state and change of location categories, at the bottom of the ASH: again, conformity to the ASH arises. *for hours* typically only occurs with [–result] verbs; since the only verbs which must be [+result] are change of location and (some) change of state verbs, the class identified once again lines up with the ASH.

I propose the existence of two sets of ‘prototypical’ feature values associated with the

	[volition]	[initiation]	[consecution]	[transition]	[result]
Controlled non-motional consecution	+	+	+	–	+/–
Controlled motional consecution	+	+	+	+	+/–
Uncontrolled consecution	–	+	+	+/–	+/–
Existence / continuation of state (1)	+	–	–	–	–
Existence / continuation of state (2)	–	–	–	–	+
Change of state	+/–	+/–	–	+	+/–
Change of location	+/–	+	–	+	+

Table 2.9: Summary of relations between the ASH and the features of the functional heads

different auxiliaries. The first set, which I term the *agentive core features*, is associated with auxiliary HAVE; the second, the *patientive core features*, with auxiliary BE. (Compare Sorace’s ‘core unergatives’ and ‘core unaccusatives’, referring to the categories at either end of her hierarchy.) The feature values associated with these two sets are given in table 2.10.

Core feature set	[volition]	[initiation]	[consecution]	[transition]	[result]
Agentive	+	+	+	–	(–)
Patientive	(–)	(–)	–	+	+

Table 2.10: Core auxiliary selection configurations

Not all of these features are necessarily of equal weight; certain features in particular (given in brackets above) seem to play less of a role in split intransitive patterns in general. I will not explore this possibility of different features being weighted differently further here.

§2.4.2.6 will discuss, among other things, what sort of cognitive entity these sets of core features represent. For now, it will suffice to say that they are some sort of ‘prototype’ associated with the values given.

In subsequent chapters, the role of the core features in constraining patterns of split intransitive alignment will be explored. This section, however, focuses on auxiliary selection, with some discussion of English in §2.4.4.

I will begin with describing the patterns; §2.4.2.6 proposes a more in-depth explanation. The basic pattern observed in at least the languages discussed by Sorace is that auxiliary selection with configurations corresponding closely to the values of either the agentive or the patientive core feature sets is broadly invariable.²¹ Thus verbs like ‘die’, corresponding to the patientive core feature set, occur in all the languages under discussion with BE, and verbs like ‘work’ and ‘play’, corresponding to the agentive set, occur in all with HAVE (see (55), (56) again for some examples). Non-core configurations, however, exhibit more variation between languages. Specifically, the more a feature set deviates from one or the two core set (i.e. the fewer

21. The reader is referred again to Sorace (2000) for detailed discussion and further illustrative examples of the empirical facts of auxiliary selection under consideration throughout this section.

feature values it has in common with it), the less likely it is to occur with the auxiliary associated with that core. The following subsections discuss this further in light of the particular patterns of variation identified by Sorace.

2.4.2.2 Small deviations from the core set

In some instances only a small deviation in feature values from the core set may be enough to trigger a different auxiliary. French is a case in point. In French, [–consecution, +transition, +result] intransitives occur with auxiliary *être* BE (see Sorace 2000: 862, 865–66); these are the core BE verbs cross-linguistically:

- (59) *Lucie est allée / morte.*
 Lucie **is** gone / died
 ‘Lucie went/died.’

Other (non-reflexive) intransitives, however, take auxiliary *avoir* HAVE. This is the case even with verbs whose feature values deviate only slightly from the core set, such as [+transition, –result] verbs (e.g. (60a)), as well as more sizeably different predicates (e.g. (60b), [+‘volition’, –initiation, –consecution, –transition, –result]; (60c), [+‘volition’, +initiation, +consecution, –transition, –result]):

- (60) a. [+transition, –result]:
La neige a fondu.
 the snow **has** melted
 ‘The snow melted.’ (Sorace 2000: 871)
- b. [+‘volition’, –initiation, –consecution, –transition, –result]:
Lucie a resté.
 Lucie **has** stayed.
 ‘Lucie stayed.’
- c. [+‘volition’, +initiation, +consecution, –transition, –result]:
Lucie a travaillé.
 Lucie **has** worked.
 ‘Lucie worked.’

Something similar might be said about Dutch, though the surface patterns here are slightly different. In Dutch, HAVE (*hebben*) is found with change of state/location verbs only marginally, with detelicised predicates (Sorace 2000: 866):

- (61) *De temperatuur is / heeft drie uur lang gestegen, maar is toen weer gezakt.*
 the temperature is / has three hours risen, but is then again dropped
 ‘The temperature rose for three hours but then dropped again.’ (Sorace 2000: 866)

Detelicisation can be related to the presence of a [–result] feature; apparently, this sort of marked deviation from the [+transition,+result] patientive core set is enough to marginally permit HAVE.

2.4.2.3 Hierarchical effects with manner of motion verbs

Manner of motion verbs (‘motional consecutions’; *swim, run, walk*) show considerable cross-linguistic variation in their auxiliary selection properties. This variation is most marked when one compares French (where these verbs always take auxiliary HAVE) with German (where they ordinarily occur with auxiliary BE):

(62) French:

Lucie a nagé.
Lucy **has** swum.
‘Lucie swam.’

(63) German:

Hans ist geschwommen.
Hans **ist** swum.
‘Hans swam.’

On the present approach this variation can be accounted for in relation to the status of these verbs as [+consecution,+transition] (§1.1.3). This places these verbs in an interesting position in relation to the two core feature sets. [+consecution] is a core agentive feature (prototypically associated with the HAVE verbs), whereas [+transition] is a core patientive feature (associated with BE verbs). Thus these verbs have properties of both the wider HAVE and BE groups. I suggest this gives languages with an auxiliary split a choice; the [+consecution,+transition] class may pattern with either HAVE or BE. French has the first option, German the second.

Dutch and Italian show slightly more complex patterns. In Dutch, they occur with BE when telicised (through the use of a directional phrase) and with HAVE otherwise ((64)) (Sorace 2000: 875–76):

(64) Dutch:

- a. *De bal heeft gerold.*
the ball **has** rolled
‘The ball rolled.’
- b. *De bal is naar beneden gerold.*
the ball **is** to down rolled.
‘The ball rolled downstairs.’

(Sorace 2000: 876)

A few verbs in Italian behave similarly, e.g. *correre* ‘to run’; this is not true of other manner of motion verbs like *nuotare* ‘to swim’ (Sorace 2000: 875).

Telicity can be connected here to the value of the [\pm result] feature, and so these patterns can similarly be understood in terms of degree of deviation from the core feature sets. It seems [+consecution,+transition] verbs in Dutch and Italian are usually grouped with the other [+consecution] verbs in preferring auxiliary HAVE. However, once these verbs are used in [+result] contexts (which occur when the predicate is telicised) the resulting feature complex [+consecution,+transition,+result] is closer to the core patientive set. Dutch therefore places these predicates in the BE group; Italian also has this option, albeit with further lexical restrictions.

Something similar may account for some more variation observed with manner of motion verbs in Italian; to a certain degree, these verbs prefer *avere* HAVE with ‘agentive’ subjects and *essere* BE otherwise (Sorace 2000: 876). This can be connected to the [\pm volition] feature:

- (65) a. [+volition]:
Il pilota ha atterrato sulla pista.
 the pilot **has** landed on.the runway
 ‘The pilot landed on the runway.’
 b. [–volition]:
L’ aereo è atterrato sulla pista.
 the plane **is** landed on.the runway
 ‘The plane landed on the runway.’ (Sorace 2000: 876)

The [+volition] predicates are closer to the agentive core set, whereas [–volition] ones deviate from it more substantially. Again, therefore, the degree of deviation from the core set corresponds to the auxiliary employed.

2.4.2.4 Hierarchical effects with state verbs

Another set of verbs which show a considerable degree of variation are those in Sorace’s (2000) ‘existence of state’ and ‘continuation of state’ categories. While Sorace reports slight differences between the two categories, I will treat them here as a single class (see §2.4.2.5 for some more discussion).

Let me begin by summarising the patterns of variation Sorace describes (see Sorace 2000: 867–70 for more details). In French, as is true of verbs that are not [+transition,+result] in general, state verbs occur with *avoir* HAVE—though *rester* ‘to remain’ is an idiosyncratic exception. The other languages show more variation. In Dutch and German, HAVE is preferred in general; prominent exceptions include verbs meaning ‘to remain’ and ‘to be’, and Dutch *blijken* ‘to seem’, which occur with BE. The following German examples illustrate this variation:

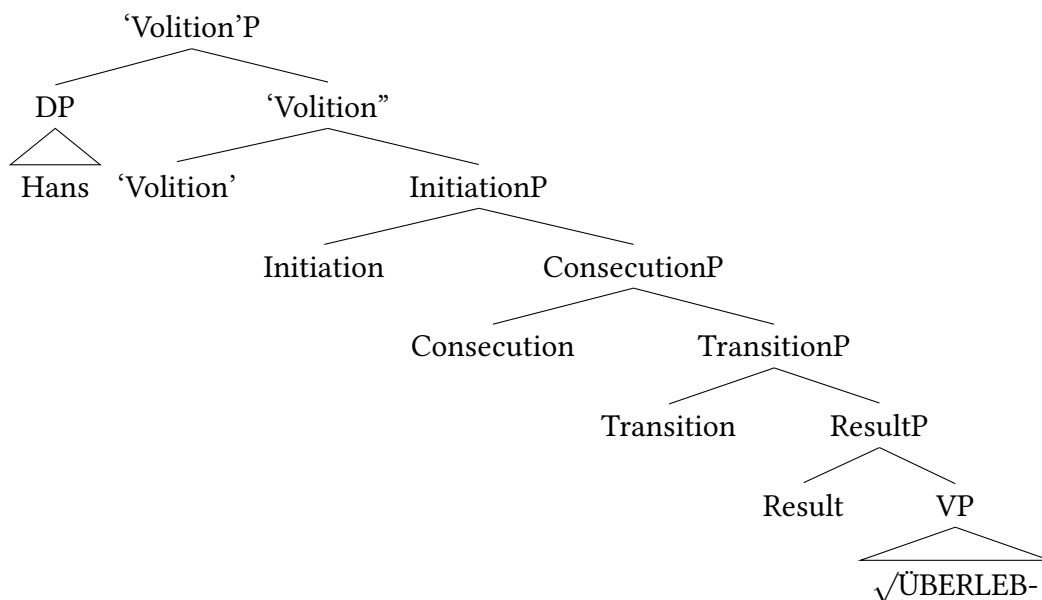
- (66) a. *Hans **hat** überlebt.*
 Hans **has** survived.
 ‘Hans survived.’
- b. *Hans **ist** geblieben.*
 Hans **is** remained
 ‘Hans remained.’

In Italian, *essere* BE is preferred with all state verbs, but *avere* HAVE is marginally accepted (e.g. with *rimanere* ‘to remain’ and other verbs given by Sorace 2000: pp. 867–69).

One analysis of this variation might proceed along the lines of the analyses presented above: state verbs deviate somewhat from both the HAVE and BE cores and thus show variable behaviour. On the VICTR model, however, another possible analysis also presents itself. Recall that it has been suggested, adapting Ramchand (2008), that Volition and Result are semantically equivalent STATE heads: the specific volition/result readings associated with these heads occur due to the values of the other heads with which they co-occur (§1.1.3).

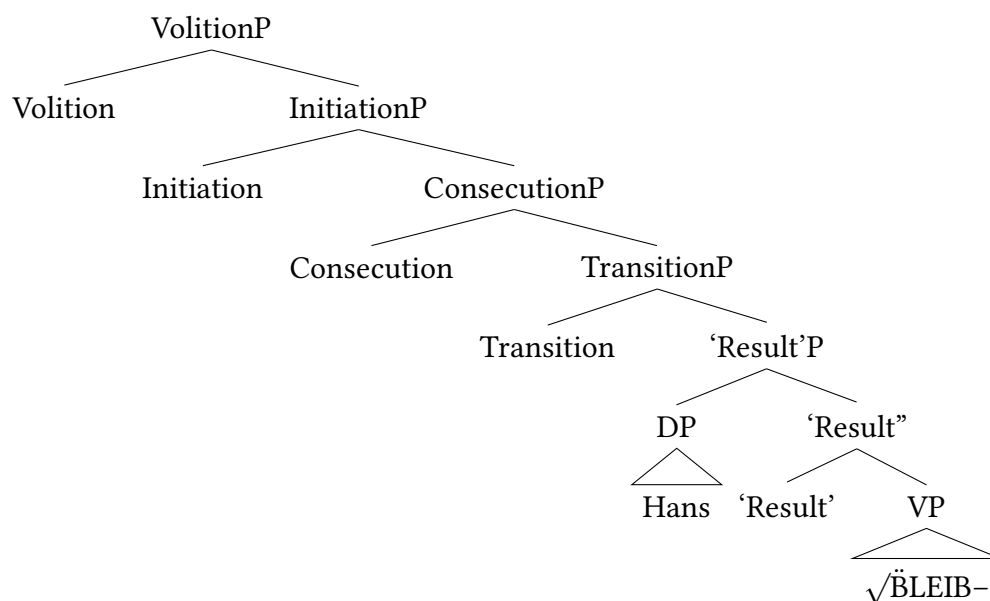
In §2.3.1 above, it was suggested that intransitive state verbs in English are [+‘volition’] with negative values for the other VICTR heads. However, there is no reason on the present approach why some state verbs should not instead be [+‘result’]. The configurations which would arise from these two possibilities can be diagrammed as follows:²²

- (67) *Hans hat überlebt.*



22. I omit auxiliaries from the diagrams, assuming them to be merged higher in the structure.

(68) *Hans ist geblieben.*



In the absence of the entailment of a causation relation arising from the presence of other positively-valued heads, these two structures are semantically equivalent: both predicate a simple state of the argument (see §1.1.3). It thus follows naturally from the (independently justified) assumptions about the structure of the thematic domain that this stative semantics might be expressed using either configuration.

I propose that variation in the auxiliary selection behaviours of state verbs is related, at least in part, to variation in the values of these heads. The optionality inherent in the system leads to cross-linguistic differences. Prototypically, one might expect [+‘volition’] state verbs (this feature being part of the agentive core set) to occur with HAVE, whereas [+‘result’] states (this feature being part of the patientive core set) would occur with BE. Note that which verbs occur in which of these two classes may vary freely between languages; as the two possibilities are semantically equivalent it cannot be predicted on semantic grounds. To give just one example, *bestaan* ‘to exist’ occurs with HAVE in Dutch, but *esistere* ‘to exist’ prefers BE in Italian (Sorace 2000: 869–70): the first can be understood as [+‘volition’], the second as [+‘result’].

One reason for preferring this sort of analysis of state verbs is the pervasiveness of variation *within* the state class in a given language. This is in contrast to the manner of motion verbs discussed in §2.4.2.3, which for the most part show consistent behaviour as a class in the languages Sorace discusses (Italian being something of an exception, however). That is, the behaviour of one manner of motion verb in a language predicts the behaviour of the others, whereas this is not true of the state verbs. This suggests the state verbs of a given language may divide into two syntactically distinct classes, as proposed.

On this approach, Sorace’s original characterisation of auxiliary selection behaviour in terms of a one-dimensional hierarchy flattens out what is really a more complex situation. There are multiple ways of deviating from the core BE and HAVE configurations. The most

prominent deviations are the controlled motional consecutions and the state verbs, but the behaviour of one set in a given language does not predict the behaviour of the other, as the arrangement of the ASH suggests it should. This is, in fact, entirely consonant with Sorace's data. As table 2.7 shows, controlled motional consecutions actually show less consistent behaviour than many categories closer to the centre of the hierarchy, the opposite of Sorace's prediction. This is not a problem on the present approach, however.

2.4.2.5 Differences between the VICTR approach and the ASH

In a couple of instances, a distinction between two classes made by Sorace is not directly encoded in the features of the VICTR approach.

Firstly, the VICTR does not distinguish Sorace's existence of state and continuation of state categories. However, it is not clear that the evidence for distinguishing two separate categories is particularly strong. I do not see any significant differences between the two categories: and even on the basis of Sorace's data it is not clear that one category is notably more variable than the other overall (cf. Sorace 2000: 867–70), and the two behave at least very similarly in relation to the English diagnostics, as well as the other behaviours to be discussed in subsequent chapters.

Secondly, Sorace distinguishes separate change of state and change of location categories, which are similarly not kept separate on the VICTR model (both being [–consecution, +transition]). I suggest the differences between these can largely be reduced to other features. These classes are distinguished in terms of auxiliary selection behaviour in French (though not completely) and more marginally in Dutch and Italian (Sorace 2000: 863–67). In French, (inherent) telicity seems to be the principal defining factor: inherently telic verbs generally occur with BE, others with HAVE (as in English, the class of inherently telic verbs more-or-less includes all change of location verbs and some change of state verbs), as illustrated in (59, 60). This can be related to the [\pm result] feature, so no subdivision specifically between changes of state and location is needed.

HAVE with change of state verbs is also marginal in Italian, although it is slightly more accepted than with change of location verbs (Sorace 2000: 865):

- (69) *Le mele sono marcite / ?hanno marcito al sole.*
 the apples are rotted / have rotted in.the sun
 'The apples rotted in the sun.'

This is again possibly related to inherent telicity ([\pm result]) and also does not provide convincing evidence to encode the change of location / change of state distinction featurally.

Sorace notes 'a small number of verbs' in the change of state class as variable in Italian (2000: 865), whereas change of location verbs show consistent behaviour. The example she gives is *fiorire* 'to blossom':

- (70) *La pianta è / ha fiorito due volte quest'anno.*
 the plant is / has blossomed two times this-year
 'The plant blossomed twice this year.'

However, this is a verb denoting an internally caused event, and it may be this rather than its change of state status that is significant given how such verbs have also been shown to exhibit otherwise unexpected behaviour in English (see §2.2.7).

2.4.2.6 Explanations in acquisition and diachrony

The formal apparatus of the VICTR model does not by itself explain why hierarchical effects of the sort described by Sorace (2000) arise. Notionally, a split intransitive pattern could be sensitive to the values of any feature or combination of features encoded on the VICTR heads; empirically, however, it seems certain possibilities occur at least much more frequently than others. This is where the notion of the 'cores' comes in useful: auxiliary selection patterns cluster around the core feature sets, meaning certain features and feature combinations play more prominent roles (to varying degrees) in auxiliary selection than others.

What is the status of these core sets, however? Various possibilities present themselves; one is simply that they are hard-coded in Universal Grammar. I suggest this is not the most attractive option, given that the core sets can instead be seen as emerging as part of the acquisition process; our understanding of language change also sheds light on the issue.

There is a noticeable division in the thematic roles most typically associated with transitive higher arguments and those associated with transitive lower arguments: a division which corresponds to the differences between the agentive and patientive core feature sets. To begin with, most transitive higher arguments bear θ -INITIATION; many bear θ -VOLITION as well:²³

- (71) a. The wind (θ -INITIATION) opened the door.
 b. Hannibal (θ -INITIATION+ θ -VOLITION) destroyed the city.

This means that these arguments are merged in the specifier positions of [+initiation] and [+volition] heads. θ -TRANSITION arguments, by contrast, are typically lower arguments in an

23. The arguments of psychological predicates behave rather differently; however, it is possible the same roles are involved for the active voice surface subjects of such verbs. Subject experiencers (e.g. *Lucy* in (i)) appear to be stative, and so perhaps bear θ -VOLITION. Subject stimuli (e.g. *the ghost* in (ii)) may be θ -INITIATION or θ -INITIATION+ θ -VOLITION in at least some instances.

(i) *Lucy fears ghosts.*

(ii) *The ghost frightened Lucy.*

Cf. Grimshaw (1990). If these analyses are correct, these properties would reinforce the association of higher arguments with the θ -INITIATION and θ -VOLITION roles. In any case, it is clear that one or both of these roles are to be found with most two-argument verbs, regardless of the behaviour of this specific class.

Some other bivalent verbs also have stative subjects, for example:

(iii) *The red line intersects the blue one.*

The higher argument in this instance may also bear θ -VOLITION, but as with intransitive stative arguments is not interpreted as being semantically volitional.

intransitive context:²⁴

(72) Lucy is melting the lollipops (θ -TRANSITION).

There are also good reasons to believe θ -RESULT is associated with certain lower arguments, for example case variation with these arguments is sensitive to telicity in languages like Finnish (Kiparsky 1998):

- (73) a. *Ammuin karhu-a*.
I.shot bear-PART
'I shot at the bear.' (atelic)
- b. *Ammuin karhu-n*.
I.shot bear-ACC
'I shot the bear.' (telic)

These arguments are thus merged in the specifiers of [+transition] and/or [+result] heads.

(Not all lower arguments are merged in these positions, however, particularly those Ramchand (2008) calls 'RHEMES'. In a sentence like *Lucy is reading the book*, for example, *the book* bears neither θ -TRANSITION or θ -RESULT; I assume following Ramchand it is merged in a complement position.)

What about θ -CONSECUTION? This appears to most often be a property of certain higher arguments.²⁵ Evidence for this is particularly apparent from a range of verbs which undergo transitivity alternations relative to the presence or absence of a direct object:

- (74) a. Lucy talks (the talk).
b. Charlie walked (five hundred miles).
c. Harry ate (the cake).

In each case, there appears to be a θ -CONSECUTION role assigned to the intransitive subject. This is evidenced by the behaviour of these verbs in relation to the diagnostics identifying [+consecution] verbs discussed in §2.2.6, for example:

24. There are occasional exceptions to this generalisation: as verbs like *enter* denote a change of location we predict that they have θ -TRANSITION arguments in both their intransitive and transitive alternants:

(i) Lucy (θ -RESULT+ θ -TRANSITION+ θ -INITIATION+ θ -VOLITION) entered.

(ii) Lucy (θ -RESULT+ θ -TRANSITION+ θ -INITIATION+ θ -VOLITION) entered the building (RHEME).

Thus in (ii) we see the less usual case of θ -TRANSITION and θ -RESULT on a higher argument.

25. A class of exceptions, where θ -CONSECUTION is borne by a lower argument, occurs with the causative alternants of emission verbs (e.g. *buzz*, *shine*). If the analysis of the intransitive alternants of these verbs as having θ -CONSECUTION arguments proposed in §2.2.7 is correct, then we predict the θ -CONSECUTION role is still borne by the corresponding argument in the transitive alternant:

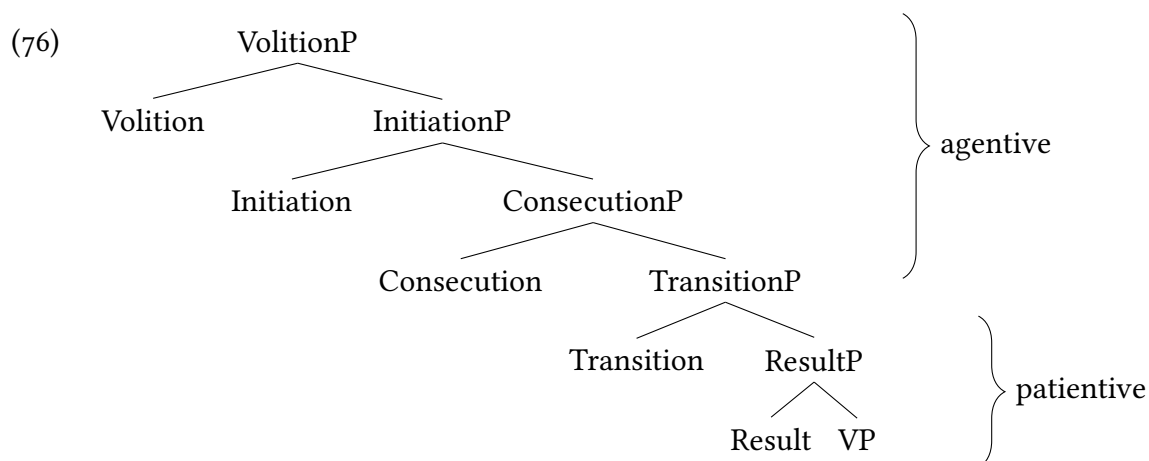
(i) Lucy (θ -INITIATION+ θ -VOLITION) buzzed the doorbell (θ -CONSECUTION).

- (75) a. Lucy outtalked Chris.
 b. Charlie walked his way into Scotland.
 c. Harry was eating away.

These verbs also appear to meet the semantic criteria for [+consecution], following the discussion in §1.1.3; they reduce to ‘a sequence of events denoting the same semantic expression’ (Pustejovsky 1991: 40). This suggests this role is also present on those same arguments when they surface as the higher arguments of transitives.

In summary, then, θ -VOLITION, θ -INITIATION and θ -CONSECUTION tend to be associated with higher arguments, θ -TRANSITION and θ -RESULT with lower arguments. Conversely, the first set of roles tend not to occur on lower arguments of typical transitives, and the second set tend not to occur on higher arguments. Thus: higher arguments are typically associated with the featural values of the VICTR heads described above as the agentive core set; lower arguments are typically associated with the values of the patientive core set. These correspondences are not absolute ones (see fnn. 24, 25), but they describe the most frequent patterns on the basis of which the learner might reasonably make generalisations to intransitives.

The hierarchical arrangement of the VICTR features is also relevant here. It will be observed that the agentive core set occurs with positive values of all and only the higher heads (Volition, Initiation, Consecution); the patientive core set with positive values of the lower heads (Transition and Result):



This patterning in relation to the VICTR Hierarchy reinforces the core sets; each set is associated with positive feature values in contiguous portions of the hierarchy.

By assumption here, the language learner has access (fully innate or otherwise) to the same hierarchy. They are also able to acquire the syntax and semantics of transitive verbs. Thus, it is plausible that they are able to derive the typical features associated with higher and lower arguments, reinforced by the way they pattern in relation to the hierarchy itself.

At this point it will be helpful to consider the diachrony of auxiliary selection in Western Europe. This is not the place for a full discussion of this complex topic—only a brief overview of how this topic might be understood in light of the VICTR proposal will be given, which will be related back to acquisitional considerations.

Historically, the intransitive auxiliary split in Western European languages arose as HAVE as an auxiliary in the perfect spread from transitives to (some) intransitives (see McFadden and Alexiadou 2010, Ledgeway 2012, Adams 2013 amongst others). The use of BE as a passive auxiliary (again, prototypically found with transitives) may also have influenced matters, with BE being generalised to intransitives lacking arguments merged in the higher positions of the thematic domain (like prototypical passives).

The development of the intransitive auxiliary selection patterns can thus be seen as a process of generalisation of transitive auxiliaries to intransitive contexts. This can be understood as taking place incrementally through language acquisition across successive generations. The role of generalisation of patterns in language acquisition is well known; one particular formal proposal of a generalisation mechanism employed by acquirers is as follows (see also the original formulation of this idea in Roberts 2007: 275):

(77) **Input Generalisation:** ‘Maximise already-postulated features.’

(Biberauer 2017: 48)

Let us adopt for expository purposes a simple model to suggest how Input Generalisation might play a role in the development of the auxiliary selection behaviours we observe today. This model is intended to be broadly plausible, but similar arguments could also be made with other proposals. Suppose auxiliary HAVE arises in the presence of some feature which we may call [H]; otherwise, the auxiliary is spelled out as BE. (The details of this are not important here. In the influential proposal of Kayne (1993), HAVE is BE incorporating an abstract preposition, which we might take to bear the [H] feature.) Suppose also this feature is present somewhere in the thematic domain, which seems reasonable given the connection of auxiliary selection to transitivity and thematic properties.

On this model, [H] was present historically in the thematic domain of the ancestors of today’s Romance and Germanic languages only in non-intransitive contexts. (Thus HAVE originally only occurred with transitives, as seems to have been the case.) This can be understood as a parametric option: the (micro)parameter ‘presence of [H]?’ was set to ‘yes’ for non-intransitive heads only. But it was entirely natural, as part of the acquisition process, for learners to generalise [H] to some intransitive contexts as well: to value ‘presence of [H]?’ as ‘yes’ for certain further heads that were similar to those that already bore this value, perhaps differing only in their transitivity.

However, [H] did not spread to all intransitive contexts overnight. (It still has not in languages with an auxiliary split, although in e.g. English HAVE is today found with all verbs.) The evidence suggests (see for example Ledgeway 2012: 132–33, 317–19) that HAVE/[H] may have originally arisen with those intransitives which most closely resembled those non-intransitive contexts where it was already present.

Here, then, the agentive core feature set plays its role. [H], when it was restricted to non-intransitive contexts, would have correlated strongly with the presence of a higher argument—particularly perhaps given its origins as a verb of possession (McFadden 2007: 699) with

typically human arguments, which are most likely to be associated with θ -VOLITION and θ -INITIATION. Learners could thus have observed its correlation to the presence of [+volition] and/or [+initiation] and/or [+consecution]. One or more of these features may then have been taken as the basis for generalising [H] to intransitive contexts where these features were present; perhaps particularly [–transition, –result] contexts, as arguments merged in the specifiers of these heads would bear more resemblance to transitive lower arguments. Thus, it is precisely the features of the agentive core set that would have played a role.

(This is essentially the same process as Sheehan (2017) suggests occurs in the acquisition of split intransitive case systems, where ergative case is ‘extended’ or ‘generalised’ to certain intransitive contexts: namely, those which most closely resemble the most salient transitive contexts in which it is already found.)

Passives may also have played a role in reinforcing the distribution of auxiliary BE. The surface subject of passives is initially merged as a lower argument, and thus often bears the θ -RESULT and/or θ -TRANSITION roles:

(78) The city (θ -RESULT+ θ -TRANSITION) was destroyed.

The association of BE with these contexts could explain the development of the [+transition, +result] patientive core set in the intransitive perfect.

We thus have two core sets, as well as various configurations which differ from the cores in various ways and to different degrees. Different languages at different points in their history have generalised in different ways, giving priority to different features of the core sets. In French, for example, HAVE surfaces with intransitives provided the verb is either [+consecution] or [–result]. In German, the conditions for HAVE are that the verb must be *both* [–transition] *and* [–result]. Dutch has a more complex pattern. HAVE arises when the verb is *both* (i) [–result]; *and* (ii) [–transition] or [+consecution]. The situation in Italian is broadly similar, with a some lexicalised irregularities and further marginal deviancies from the typical pattern.

While these different patterns exist, they are all based around the same core sets, giving rise to the sort of structured variation described by Sorace (2000). Thus, while the overall characterisation of the auxiliary selection pattern in a given language can be stated in often quite simple featural terms, the notion of the core lends us a way of understanding why it is these sorts of featural characterisations of the auxiliary split which are observed, as opposed to various others which might potentially occur.

The discussion above framed the variation in terms of degrees of deviation from the core sets, which does hold at a cross-linguistic level—the further a given predicate is from the core, the more likely it is to vary. However, as the last two paragraphs showed, in any given language what is important is not so much the core sets themselves, as the particular features of these sets which have been prioritised.

Some similarities here can be seen to Dowty’s (1991) Proto-Agent and Proto-Patient properties (see §1.2.2). In each case, a cluster of properties is associated with two different sorts

German	<i>[init]</i> (some)	<i>[init, proc]</i> (some)	<i>[init, proc, res]</i> (some)	<i>[proc, (res)]</i>
Dutch/Italian	<i>[init]</i> (some)		<i>[init, proc, res]</i> (some)	<i>[proc, (res)]</i>
French			<i>[init, proc, res]</i> (some)	

Table 2.11: Ramchandian verb classes associated with BE in four Western European languages (see text for exemplary verbs)

of arguments corresponding to prototypical transitive subjects and objects. However, the present proposal is ultimately quite different from Dowty's. The properties involved, on my approach, are formal syntactic features. Furthermore, I do not propose that thematic properties are merely loosely defined prototypes. Rather, there exist cross-linguistically fixed roles; what varies is merely the way in which other syntactic behaviours interact with the universal structures from which these roles are derived.

2.4.3 Comparison with Ramchand (2008)

The VICTR-based approach to auxiliary selection variation can also be compared to a possible approach based on Ramchand (2008). A summary characterisation of auxiliary selection in terms of the Ramchandian configurations in the languages under discussion here is given in table 2.11.

One problem with applying this approach to auxiliary selection is that it appears unable to account for all the distinctions to which auxiliary selection appears to be sensitive. For example, in all four languages (French, German, Dutch and Italian) many *[init, proc, res]* verbs are associated with auxiliary BE—these include the translational equivalents of verbs like 'go' and 'arrive'. But other *[init, proc, res]* verbs occur only with auxiliary HAVE. This includes semelfactive verbs like 'cough', which Ramchand suggests have a *res* component in some instances (see §2.2.5)—if this analysis is also true of these languages, and there is no obvious independent reason to believe it is not, then this is problematic: the 'go' class and the 'cough' class are not distinguished in terms of the structures in which they occur in such instances, but an auxiliary difference is nevertheless present.

The presence or absence of *[res]* could account for the auxiliary alternations connected to telicity in Dutch and Italian. On this analysis, when verbs like 'swim' and 'run' are *[init, proc]*, they behave like other such verbs in these languages (e.g. 'work', 'talk') in occurring with HAVE. When, however, they are *[init, proc, res]*, they pattern with other verbs of this type (e.g. 'go') in occurring with BE. However, this creates a problem if this analysis is extended to French, where verbs like *nager* 'to swim' occur only with HAVE, even in telic contexts—in spite of the fact that other *[init, proc, res]* verbs have BE.

Another problem is found in German, where some *[init, proc]* verbs may occur with BE (e.g. *schwimmen* 'to swim') and others only with HAVE (e.g. *arbeiten* 'to work'). Again, Ramchand's system does not account for this distinction in configurational terms.

The VICTR approach accounts for these contrasts in terms of the decomposition of *proc* into *[±consecution]* and *[±transition]* features: amongst the verbs discussed in the past three

paragraphs, only in the presence of [+transition] can a verb occur with BE. These features also account for differences between the languages—most clearly, [+consecution, +transition] verbs (like ‘swim’) only take HAVE in French and typically BE in German, a distinction which is not easily made on Ramchand’s system where no consistent difference between this class and other verbs exists.

Another issue occurs in Dutch, German and Italian, where there is variation in the auxiliary found with verbs in the state category. On Ramchand’s approach, these are all [*init*] verbs; the VICTR approach, however, can account for the differences on the assumption that state verbs can be grammaticalised as either [+‘volition’] or [+‘result’].

Furthermore, the characterisations of the HAVE and BE classes in terms of Ramchand’s configurations does not yield much obvious systematicity to the patterns in most cases (see table 2.11 once more). Rather, BE occurs with a rather heterogenous set of structures. This is in contrast to the VICTR approach, where BE in all four languages typically occurs with a subset of verbs occurring with one or more patientive core features, i.e. verbs whose arguments are typically merged toward the bottom of the thematic domain.

In sum, a Ramchand-style approach to these phenomena encounters a similar set of difficulties to that encountered with English (see §2.3.2). This suggests either auxiliary selection should not be accounted for in terms of syntactic configurations within the thematic domain (which is very much at odds with the traditional insight that it connects to argument structure), or else that a slightly different model of this domain is required—for example, that furnished by the VICTR Hierarchy.

2.4.4 Explaining ASH effects in English

The apparent conformity of many English split intransitive behaviours to the Auxiliary Selection Hierarchy can be understood by a similar appeal to the core feature sets. Broadly speaking, when a construction occurs only with verbs clustered toward one end of the ASH, those verbs are associated with one or more features of the core feature set (agentive or patientive) associated with that end of the ASH. The more of these features that occur with a class of verbs, the closer to that end of the ASH it is located, generally speaking.

Take, firstly, all those diagnostics which (in general) pick out only [+consecution] verbs (*V one’s way into*, *V away*, cognate objects, *-er*, *out-*: see §2.2.6). Many of these constructions are also possible with transitive verbs and reveal parallels between θ -CONSECUTION intransitive arguments and transitive higher arguments, as already discussed. Thus recall that *-er* can apply to transitive verbs (e.g. *destroyer*), describing a higher argument, as well as to intransitives (e.g. *walker*), describing the sole argument. The *V one’s way into* and cognate object constructions, meanwhile, both involve the addition of an argument, with the existing intransitive argument coming to function as a higher argument.

We can understand this in terms of the agentive core feature [+consecution]. In the case of *-er*, a construction associated with transitive higher arguments can be seen as being extended to a particular set of intransitives, namely those where the [+consecution] feature is

involved: *-er* not only selects for transitive verbs (where it describes the higher argument), but also for [+consecution] intransitives. Other diagnostics (V *one's way into* and the cognate object diagnostic) involve the selection of a second argument in addition to that found in transitives. Because this argument is selected by [+consecution], which itself merges an argument in its specifier, it patterns as a lower argument—thus, the argument present in the intransitive context resembles the higher argument of the transitive ones. Because [+consecution] verbs cluster at one end of the ASH, this creates a pattern of conformity to it.

This is seen more strongly with the *out*-prefixation and cognate object diagnostics, which are more readily accepted with [+volition] verbs. This suggests two of the three agentive core features, [+consecution] and [+volition], are in operation with these verbs. Correspondence to Sorace's hierarchy arises once again; controlled consecutions are higher on the ASH than uncontrolled ones.

Now consider the diagnostics which identify verbs at the other end of Sorace's hierarchy. The verbs which disallow *for hours* (*go*, *break* etc.) are in the change of location and change of state categories (though not all change of state verbs pattern this way), at the bottom of the ASH. This conformity to the ASH can be seen as arising as a result of these verbs occurring with the patientive core features [+transition,+result]. Verbs allowing adnominal past participles, which also rely on the patientive core features [–consecution,+transition], similarly cluster at this end of the ASH.

But the VICTR / core feature sets approach does not require absolute conformity to the ASH in all instances. This is a positive, because neither the causative or resulative constructions conform directly to it: the first is found mostly with change of state verbs, the second with change of state verbs and controlled motional consecutions. But these patterns can still be understood in terms of the patientive core features, specifically [–initiation] and [+transition]. Recall that both constructions reveal parallels between the arguments of the intransitives they involve and transitive lower arguments, so it is no surprise that the patientive core features are involved. In slightly different ways, these core features are employed in determining the distribution of the two constructions.

2.5 Conclusion

This chapter has considered split intransitive behaviours in English and other Western European languages. All this, it has been argued, is evidence for the VICTR approach to thematic roles and syntactic argument structure.

In the subsequent chapters, the discussion will be expanded to split intransitivity in other languages, specifically those with split intransitive case and agreement systems. This will build on the discussion of Western European languages in this chapter, allowing for cross-linguistic comparison and an improved understanding of split intransitive behaviours generally.

Chapter 3

The typology of split intransitive alignment

3.1 Introduction

The purpose of this chapter is twofold. It aims, firstly, to discuss split intransitive alignment from a broad typological perspective.¹ The purpose of this is to inform its second goal, which connects to the broader aim of the dissertation—this goal is to present a general theory of split intransitive alignment which is compatible with the VICTR Hierarchy approach; this theory in turn provides further support for the VICTR approach in general. (I consider split intransitive alignment of two individual languages in more detail in the next two chapters.)

The essence of the proposed model is as follows: variation in case and verbal agreement arises due to variation in the formal features of the VICTR heads, extending the approach to alignment put forward by authors like Legate (2002) and Aldridge (2004). In different languages, different heads assign case to and/or agree with arguments, leading to variation which corresponds to the features [\pm volition], [\pm initiation], [\pm consecution] etc. Case assignment and agreement relations may occur independently of one another, though they often co-occur. Two main sorts of split intransitive system exist, termed ‘extended accusative’ and ‘extended ergative’, but there is variation within both of these types in terms of which particular heads are involved in case and agreement.

The chapter is structured in the following way. §3.2 introduces in more detail the formal model of case and agreement adopted in the context of an existing approach to alignment phenomena in combination with the VICTR Hierarchy. §3.3 looks at the range of (mostly semantic) factors governing split intransitive case/agreement patterns across different languages, demonstrating how the features encoded in the VICTR Hierarchy account for these patterns in support of the proposed model. §3.4 then considers split intransitive alignment in the context of its relation to the other major alignment types, nominative-accusative and ergative-absolutive, in partial defence of the position that split intransitive systems fall into

1. See also Nichols (1992) for a somewhat different, but nevertheless interesting, typological approach to this alignment.

extended accusative and extended ergative subtypes. §3.5 further justifies certain properties of the formal account in relation to agreement and its separation from case. §3.6 considers the ways in which acquisitional considerations may limit the possible variation in split intransitive case and agreement systems, and §3.7 compares the VICTR model proposed here to other potential approaches to split intransitive alignment. §3.8 briefly concludes. Genetic and genealogical information for all the languages discussed is given in Appendix 1 at the end of the chapter, together with the main sources consulted.

The remainder of this introductory section concerns itself with a broad overview of the typology of alignment (§3.1.1), and some further terminology issues (§3.1.2).

3.1.1 Alignment typology

Alignment types are standardly described in terms of the primitives **S**, **A** and **P** (Comrie 1978, cf. Dixon 1972):

- (1) **S**: the sole argument of an intransitive clause;
A: the most Agent-like argument of a transitive clause;
P: the most Patient-like argument of a transitive clause.²

In what is by far the most common variety of split intransitive alignment, there is one set of case or agreement marking associated both with **A** and a subset of intransitive arguments that are referred to in the literature (e.g. by Dixon 1994) as **S_a**, and another set of case or agreement marking associated with both **P** and the remainder of intransitive arguments which are referred to as **S_p**.³ This is schematised in Figure 3.1.⁴ An example of a language of this type is Basque:

- (2) a. *Gizon-a-k exte-a-Ø saldu du.*
man-DEF-**AGT** house-DEF-**PAT** sold has
A **P**
‘The man has sold the house.’
- b. *Gizon-a-k ikasi du.*
man-DEF-**AGT** studied has
S_a
‘The man has studied.’
- c. *Gizon-a-Ø etorri da.*
man-DEF-**PAT** came is
S_p
‘The man has come.’

2. These definitions are adapted slightly from Payne (1997: 134–35).

3. **P** and **S_p** have also been referred to as **O** and **S_o**; I shall keep to former notation here.

4. This diagram, and those like it which follow, are based on those in Comrie (1978), Dixon (1994).

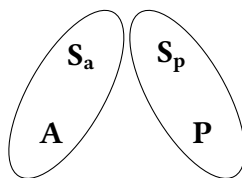


Figure 3.1: Prototypical split intransitive alignment

Many other languages with this sort of system will be presented throughout this chapter and throughout the dissertation. Some languages have other sorts of system, whereby for example S_p and P are marked differently (Nasioi, Tunica), S_a and A are marked differently (Yawa), all of S_a , S_p , A and P are marked differently (Tundra Nenets), or there are more than two ways of marking S (e.g. Koasati; see Donohue 2008: §6 for further discussion). For reasons of space, I do not discuss these further here.

Note that split intransitive alignment can be manifest in either case or agreement. In Basque, in fact, both case and agreement have a split intransitive pattern (see chapter 4), though the agreement split is less obvious from the above example. A more immediately clear split intransitive agreement pattern is found in Chol:

- (3) a. *Tyi a-cha'l-e ts'ijb.*
 PRFV 2.AGT-do-DTV write
 'You (S_a) wrote.' (Coon 2010: 58)
- b. *Tyi k'oty-i-yety.*
 PRFV arrive.there-ITV-2.PAT
 'You (S_p) arrived there.' (Coon 2010: 56)

One issue that arises in relation to this categorisation of split intransitive languages is that the status of elements as (case-marked) pronominal clitics or 'true' agreement markers is often unclear (see discussion in Corbett 2006: 99ff.). In the discussion which follows, 'agreement' encompasses all markers incorporated into the verb, including those which may in fact be clitics.

M. Baker and Bobaljik (2017) have argued that split intransitive case systems do not exist. I do not believe this position is convincing; see the discussion in §3.7.1.1. In my sample, around 23 languages are analysed as having split intransitive case and around 72 as having split intransitive agreement:⁵ thus, agreement-marking is about three times as common.

A few languages have split intransitive alignment manifest in word order (Dixon 1994: 76–77), for example Waurá:

5. In each instance, the exact categorisation of a small number of languages is uncertain.

- (4) a. *Wekíhi katumula-pai.*
owner 3SG.WORK-STATIVE
S_a **V**

‘The owner worked.’

- b. *Usitya ikítsii.*
catch.fire thatch
V **S_p**

‘The thatch caught fire.’

(Dixon 1994: 77)

I do not discuss these further here.

The principal alignment types other than split intransitive are (*nominative-*)*accusative*, *ergative (-absolutive)* and *neutral*. These can also be defined in terms of the primitives **S**, **A** and **P** (see (1) above). Different alignment types group arguments in different ways. For ease of exposition, I shall refer to ‘case’, but the same patterns also occur with agreement. In nominative-accusative systems, **S** and **A** are marked by one case (‘nominative’) and **P** by another (‘accusative’). This system is found for example in Latin:

- (5) a. *Hom-o femin-am amat.*
man-**NOM** woman-**ACC** loves
A **P**

‘The man loves the woman.’

- b. *Hom-o venit.*
man-**NOM** comes
S

‘The man is coming.’

In ergative-absolutive systems, it is **S** and **P** which share the same case (‘absolutive’) and **A** which is marked differently (with ‘ergative’). This is the system found for example in Dyirbal:

- (6) a. *Yabu-Ø numa-ŋu bura-n.*
mother-**ABS** father-**ERG** see-NONFUT
P **A**

‘Mother saw father.’

- b. *Numa-Ø banaga-n’u.*
father-**ABS** return-NONFUT
S

‘Father returned.’

(Dixon 1994: 10)

In neutral systems, case marking for these core roles is absent entirely (though an underlying abstract case system may nevertheless be present). This system is found in e.g. Mandarin:

- (7) a. *Zhāngsān shōudǎo le yī fēng xìn.*

Zhangsan receive-PERF one CLF letter

A

P

‘Zhangsan received a letter.’

(Li and Thompson 1981: 217)

- b. *Rén lái le.*

person come PERF

S

‘The person has come.’

(Li and Thompson 1981: 20)

These three types are summarised in Figures 3.2–3.4.

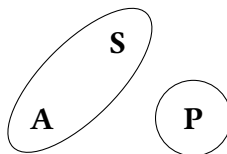


Figure 3.2: Nominative-accusative alignment

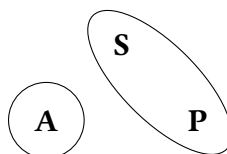


Figure 3.3: Ergative-absolutive alignment

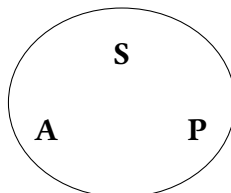


Figure 3.4: Neutral alignment

3.1.2 Terminology

I use the term *split intransitive* to encompass an alignment type that has been referred to be various other names, including *split-S*, *active/active-neutral/active-inactive/active-non-active/active-stative/stative-active*, *unergative/unaccusative*, */agentive-patientive/agent-patient*, *semantic alignment* (listed in Dixon 1994: 83 and Wichmann 2008: section 1) and *extended ergative* (Ortiz de Urbina 1989). A number of these terms are problematic for various reasons, especially when used loosely. Note particularly that ‘active-stative’ and related terms are sometimes used in a narrow sense, to refer to the sorts of languages described below (§3.3.5) as genuinely sensitive to stativity, and sometimes to encompass the split intransitive type more generally. Note also that I employ a particular definition of ‘extended ergative’, introduced in §3.2.2.

Another label that is often seen is *fluid-S*. I regard these as a subtype of split intransitive system prototypically sensitive to the [\pm volition] feature; see §3.3.2.

In addition to the name of the alignment type, another terminological issue which must be dealt with is the names of the cases and agreement markers. Here, I shall generally use the terms ‘agentive’ and ‘patientive’ case, and likewise ‘agentive’ and ‘patientive’ agreement. Whilst there are some problems with these terms, they are the best of which I am aware.

By ‘agentive’ I refer to case or agreement marking associated with both S_a and A , and by ‘patientive’ case or agreement marking associated with S_p and P , where these two cases / sets of agreement marking are used in opposition to one another.

Note that the traditions of description of many languages employ specific labels for different cases or sets of agreement marking. For example, works on Basque most often speak of ‘ergative’ and ‘absolutive’ case (equivalent to my ‘agentive’ and ‘patientive’ respectively); works on the Kartvelian languages refer to ‘ergative’/‘narrative’ and ‘absolutive’/‘nominative’ (again, corresponding respectively to agentive and patientive); Chol, in line with the rest of the Mayan tradition, is described as having ‘Set A’ (= agentive) and ‘Set B’ (= patientive) agreement. For internal consistency, I shall only ever describe split intransitive alignment in languages like these using the terms ‘agentive’ and ‘patientive’, regardless of what terms are usual for the individual languages under discussion. This has the added advantage of avoiding ambiguity: I will only ever use ‘ergative’, for example, to refer to case or agreement marking of exclusively A (amongst core arguments).

This concludes the introduction to the chapter; I now continue to its main body.

3.2 The formal model of case and agreement

3.2.1 Introduction

In §1.1.4, I identified as one of the core questions to be answered in this work the issue of how split intransitive case and agreement systems can be accounted for—specifically in terms of the VICTR Hierarchy. This question will be answered in terms of an extension of existing theories of case and agreement to the VICTR model and split intransitive alignment. An advantage of this is that it allows the theory of split intransitive case/agreement provided to be rooted in a general theory of alignment patterns. Specifically, I adapt the approach to case and agreement of Chomsky (2000, 2001), rooted in the operation Agree, and its extension to ergative case systems in the ‘inherent case theory’ of ergative assignment (Legate 2002, Aldridge 2004 and subsequent work by these authors amongst others), integrating these approaches with the VICTR Hierarchy. Some other approaches to case, which are not adopted here, will be discussed in §3.7.1.

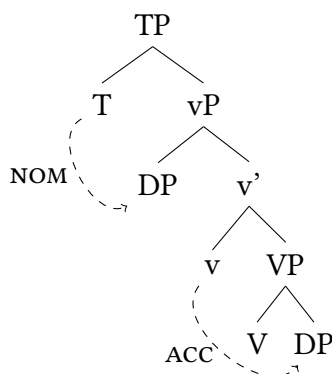
To this end, §3.2.2 overviews these existing theories of case, and §3.2.3 presents the essential details of the proposed VICTR-based extension, which is also able to account for a wide variety of split intransitive case/agreement systems. The remainder of this chapter—and the remainder of the dissertation—explore and defend this proposed model in more detail.

3.2.2 The existing theoretical background

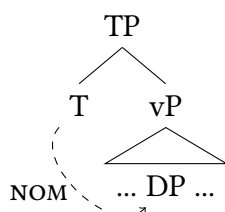
Chomsky (2000, 2001) presents an analysis of nominative-accusative case and agreement systems; it will be helpful here to describe this in terms of the primitives **S**, **A** and **P**. On Chomsky's approach, nominative case is valued as a result of a ϕ -agreement (i.e. person/number/ gender agreement) relation between the functional head **T** and either **S** or **A**; accusative case is valued as a result of the ϕ -agreement relation between the head **v** and the argument **P**. This can be diagrammed as follows:

(8) Nominative-accusative system:

a. Transitives:



b. Intransitives:

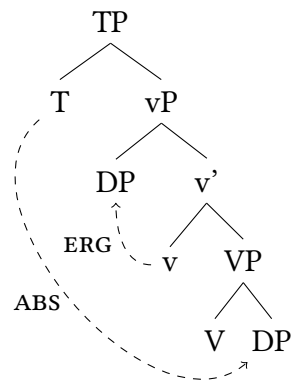


This ϕ -agreement, on Chomsky's now-standard model, takes place under the Agree relation. The functional heads **T** and **v** enter the derivation with unvalued [ϕ :_] features and probe for valued counterparts to these features on c-commanded goals, namely the **DP** arguments. Case is valued as a reflex of this valuation operation. I adopt an understanding of case and agreement in terms of Agree here, though as will be seen the analysis differs from Chomsky's in certain respects.

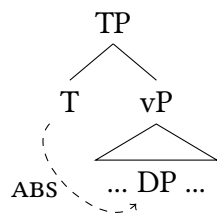
Under the so-called 'inherent case' approaches to ergative alignment (Legate 2002, Aldridge 2004 and subsequent work by these authors amongst others), ergative is an inherent case assigned by **v** to the argument merged in its specifier *in transitives only*. Absolutive is a structural case, either (i) always assigned by **T** (in 'high absolutive' systems), or (ii) assigned by **T** in intransitives and **v** in transitives, but morphologically identical in the two clause types ('low absolutive' systems). These two types of ergative system can be diagrammed as follows:

(9) High absolutive system:

a. Transitives:

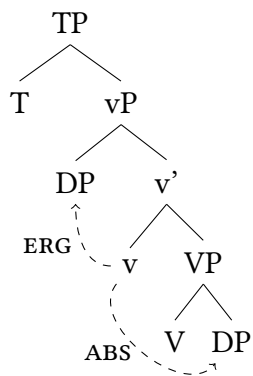


b. Intransitives:

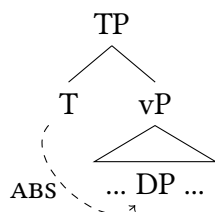


(10) Low absolutive system:

a. Transitives:



b. Intransitives:



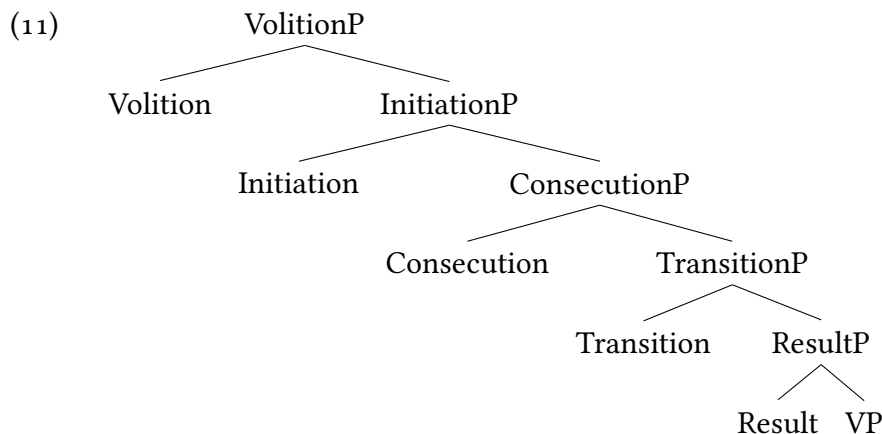
A number of potential problems have been raised with the inherent case approach, particularly by proponents of the dependent case approach (see e.g. M. Baker and Bobaljik 2017; see also Sheehan 2015: §4.6). It is beyond the present scope to provide a full defence of the approach, but I believe it is on balance more promising than the dependent case approach given the serious problems encountered by the latter, which will be considered in detail in §3.7.1.1.

One issue with the inherent case approach which has been highlighted concerns the fact that the occurrence of ergative seems not—at least in very many languages—to bear a one-to-one relation to the occurrence of a particular thematic role. This is at odds with a traditional understanding of inherent case. For example, in a prototypical ergative system, ergative is not found on all ‘Agents’, as it is absent with Agents in intransitive contexts. It may also be found on some non-Agents, e.g. Hindi Experiencers (Sheehan 2015 citing Davison 2014). However, it may simply be that what is needed is a more refined understanding of inherent case: on the approach to follow here, for example, an inherent case is assigned by a thematic functional head to an argument in its specifier (which thus bears a particular thematic role), but that is not to say that a particular head must always assign case to the argument in the specifier, or that more than one head cannot assign the same inherent case. (This will be clear from the patterns discussed in §5.4 in particular.) It may also be that other problems with the inherent case theory—such as the unexpected presence or absence of ergative in particular contexts in various languages discussed by M. Baker and Bobaljik (2017)—can be accounted for in other ways. For example, the analysis of Basque ergative/agentive as structural (Rezac et al. 2014, to be adopted here in §4.3.2) accounts for many of the problems which might otherwise arise, but it certainly does not mean ergative is never inherent.

As will be shown in the following subsection, the Chomsky / inherent case approaches provide a basis for an extension to split intransitive case/agreement systems that is in line with most standard minimalist assumptions. They are thus a promising starting point for the analysis of these systems, in conjunction with the further assumptions to be spelled out below.

3.2.3 Case/agreement and the features of functional heads

This subsection presents the general model of case and agreement which is argued to account for split intransitive and other alignments. This model is based in the VICTR Hierarchy, which is repeated for reference in (11).



The core of the analysis retains the standard assumptions that case and ϕ -agreement can be understood in terms of the formal features of arguments and functional heads. All DPs, when entering the derivation, bear an unvalued $[\text{Case}:_]$ feature and valued $[\phi:\text{val}]$ features⁶ (e.g. $[\phi:1\text{SG}]$, $[\phi:3\text{PL}]$, etc.). Certain functional heads, conversely, bear valued case features (e.g. $[\text{Case:NOM}]$, $[\text{Case:AGT}]$) and/or unvalued $[\phi:_]$ features.

These features are subject to the Agree operation: when a pair of matching valued/unvalued features on heads in a c-command relation undergo Agree, the value of the valued member of the pair is copied onto the unvalued member. For example, when a functional head bearing $[\phi:_]$ enters into the Agree relation with a DP bearing $[\phi:1\text{SG}]$, the ϕ -feature of the functional head takes on the same $[\phi:1\text{SG}]$ value. This is in line with standard assumptions.

Note, however, that on this approach (unlike that of Chomsky 2000, 2001) case and agreement are both instantiated in terms of valued/unvalued feature pairs, which may operate independently of one another.⁷ This point will be defended in §3.5 in particular.

Variation in alignment arises as a result of variation in which functional heads are associated with which case/ ϕ -features. This is obviously very much in the spirit of the Borer-Chomsky conjecture, discussed in §1.3.2.

Let us begin by sketching an approach in these terms to nominative-accusative and ergative-absolutive case systems, which is broadly similar to the approaches discussed in the previous subsection.

In an ordinary nominative-accusative case system, T (i.e. a head in the temporal domain, above the thematic domain of the VICTR heads) bears a feature $[\text{Case:NOM}]$, and some head in the thematic domain—let us say Initiation—bears $[\text{Case:ACC}]$ in transitive contexts only. These heads probe their c-command domains for unvalued $[\text{Case}:_]$ features which are found on DP goals, and pass on their respective values to these DPs.

Now consider an ergative system of the high absolutive type. T in this instance bears $[\text{Case:ABS}]$ (though the distinction from $[\text{Case:NOM}]$ is probably only notational) and Initiation bears $[\text{Case:ERG}]$ provided the clause is transitive. $[\text{Case:ERG}]$ is an inherent case, which means it values the case feature of a DP in Spec,InitiationP. T then values $[\text{Case:ABS}]$ on a remaining c-commanded DP with an initially unvalued $[\text{Case}:_]$ feature.

6. Where *val* stands for any value.

7. The present approach is similar to that of Bányi (2015, 2017) in this regard.

In the low absolutive type, Initiation also bears [Case:ABS] in transitive contexts, and values this feature on a DP it c-commands; transitive T does not value any case.

Nothing at this point specifically requires the adoption of the VICTR model. What has been sketched is merely a slight adaptation of existing theories. It is possible, however, that a VICTR approach may be able to furnish a more fine-grained explanation even of such systems. For example, differential object marking in nominative-accusative systems may relate to which sorts of complements [Case:ACC]-bearing Initiation selects (e.g. only if the variety of Initiation with [Case:ACC] must select [+transition] complements, then only θ -TRANSITION direct objects will be marked with accusative). Similarly, different sorts of ergative system might be predicted, depending on precisely which VICTR head assigns case to a DP in its specifier. However, further investigation of these ideas is beyond the scope of this dissertation.

Turning back to split intransitive alignment, I will argue (see particularly §3.4 and §3.5, and the subsequent chapters) for the existence of two broad subtypes, as follows (cf. Bittner and Hale’s 1996 distinction between ‘ergative active’ and ‘accusative active’ languages):

- (i) *Extended accusative*: split intransitive systems that are somewhat like nominative-accusative systems, but the structural case assigned to **P** in transitives is also assigned to some arguments of intransitives (**S_p**);
- (ii) *Extended ergative*: split intransitive systems that are somewhat like ergative systems, but the inherent case assigned to **A** in transitives is also assigned to some arguments of intransitives (**S_a**).⁸

These different possible ways of looking at split intransitive systems are summarised in table 3.1.

	Ergative	Extended ergative	Accusative	Extended accusative
A	ERG	ERG	NOM	NOM
		↓		
S_a	ABS	ERG	NOM	NOM
S_p	ABS	ABS	NOM	ACC
				↑
P	ABS	ABS	ACC	ACC

Table 3.1: Models of alignment

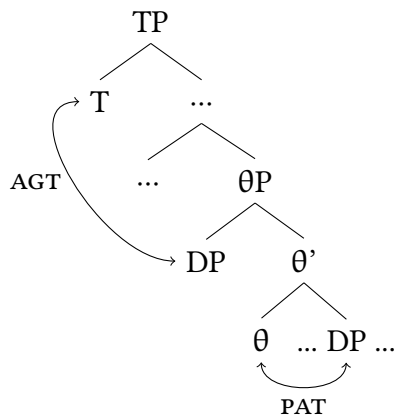
In an extended accusative case system, T bears [Case:AGT] and some thematic head (or heads) bear [Case:PAT], which are valued on c-commanded DPs. These are both structural cases (basically notational variants for [Case:NOM] and [Case:ACC]). The substantial difference is that [Case:PAT] is found not just in transitive contexts but also in intransitive ones. This can be diagrammed as follows:⁹

8. The idea that split intransitive systems are basically ergative ones, but with an ‘extension’ or ‘generalisation’ of the ergative (=agentive) case or agreement morphology to encompass a subset of intransitive arguments is explicit in the analysis of Sheehan (2014, 2017).

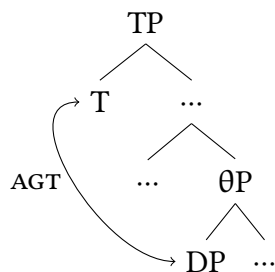
9. For simplicity of presentation, and to capture cross-linguistic similarities which might not otherwise be so

(12) **Extended accusative:**

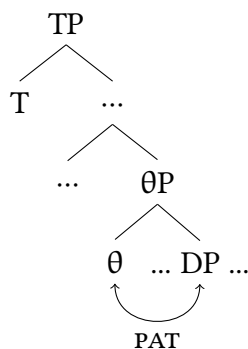
a. Transitives:



b. Agentive intransitives:



c. Patientive intransitives:



Variation in extended accusative systems is possible depending on which particular thematic head(s) bear [Case:PAT]. Cross-linguistic evidence for this sort of variation is presented in §3.3; chapter 4 considers one particular extended accusative system in more detail.

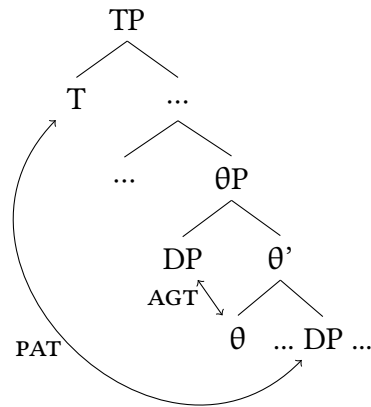
In an extended ergative system, however, [Case:AGT] is a feature on a thematic head or heads, valued on arguments in the specifier of those heads (as it is an inherent case). Again,

apparent, I have not included the whole VICTR Hierarchy in the diagrams. Instead, θ may denote any one of the thematic functional heads (Volition, Initiation etc.); θ' and θP are its intermediate and maximal projections. Indeed, in any actual language, it may not be the same thematic head which is involved in the case/agreement relation in all instances, as will become clear in the following chapters as particular languages are discussed. Where θ is shown entering into relations with not one but two DPs; there is in fact no requirement that the same thematic head is involved in both instances, but I use this representation for simplicity.

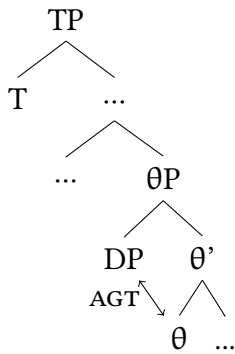
the difference from canonical ergative systems is that this inherent case is available in both transitive and intransitive contexts. [Case:PAT] is a feature on T (also found on a thematic head in transitives in what we might call ‘low patientive’ systems, i.e. extensions of the low absolutive type). The following diagram represents a high patientive system:

(13) **Extended ergative:**

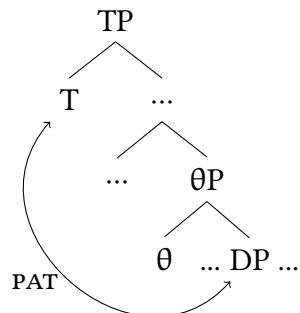
a. Transitives:



b. Agentive intransitives:



c. Patientive intransitives:



Once more, variation in these systems may arise as a result of which particular thematic

head or heads bear the [Case:AGT] feature. Chapter 5 considers an extended ergative system in detail.

The discussion above concerns case, but similar remarks can be made about agreement, taking the standard formal model of agreement described above.

Note that the argument that there are two subtypes of split intransitive system does not inherently rely on the VICTR model and could potentially also be compatible with other approaches to split intransitivity—though given that these have significant weaknesses, to be discussed in §3.7.2, I do not adopt such approaches here. Thus, the postulation of the two subtypes and the arguments for this to follow are not to be taken as arguments for the VICTR Hierarchy per se, though other claims made in the chapter certainly are. Rather, the claim that these two sorts of system exist is an essential part of the overall aim of this chapter, namely the provision of a generally applicable theory of split intransitive case and agreement systems. The VICTR Hierarchy certainly facilitates understanding of these systems, but it is not the whole story. The VICTR approach does however makes specific predictions about this aspect of the overall theory; see §3.6.

A few more specific remarks can be made before proceeding to the justification of the proposal which follows.

Note that there are two sorts of case feature which are important for present purposes: structural case and inherent case (Chomsky 1981, 1986; Woolford 2006b). Nominative, accusative, absolutive, patientive and some varieties of agentive are all structural. Ergative and other varieties of agentive are inherent. The precise delineation of structural and inherent case is not important, although note (i) both are captured in terms of the same sort of formal [Case] feature; (ii) the cases labelled ‘structural’ seem typically to be assigned by functional heads to c-commanded arguments (i.e. assignment is downward, and potentially unbounded),¹⁰ whereas the cases labelled ‘inherent’ are assigned by (thematic) functional heads to arguments merged in their specifiers (i.e. assignment is upward and local). Inherent case is thus related to thematic properties, as is standardly assumed. However, the same inherent case may be assigned by more than one thematic head. Additionally, I do not assume inherent case is necessarily assigned in an argument’s first-merge position: this is related to my departure from standard assumptions that an argument only receives a thematic interpretation in its first-merge position. Agreement also has structural and inherent variants; see §3.5 for more discussion.

Depending on how exactly features bundle on the functional heads, a very wide range of potential variations on the basic systems outlined are possible. Other than the case/ ϕ -features on the VICTR heads, two other sorts of feature can lead to variation in case and agreement marking in intransitives: firstly, the category-defining features and their values ([\pm volition], [\pm initiation] etc.) (recall that positively-valued category-defining features are tied to the selection of a DP in the specifier position of the head), and secondly selectional features determining the nature of allowed complements. Thus, for example, in the analysis of Georgian presented in §5.4, [+volition] Volition assigns agentive unless it selects a [–consecution, +transition] com-

10. Though see §3.5 for discussion of a possible way in which structural case may be assigned upward.

plement. Hence, both the value of the category-defining feature of Volition and certain featural values of its selected complement play a role.

Often, languages may have slightly different rules for case assignment in transitives, e.g. in Georgian agentive case seems to be assigned to all θ -INITIATION arguments in the relevant transitive contexts, whereas it is sometimes absent on θ -INITIATION arguments of intransitives if they lack θ -VOLITION (see §5.2). This can also be accounted for in featural terms.

Although the number of systems permitted by such a formal model is very great, the actual observed variation is likely restricted by various ‘third factor’ constraints. Some of these are discussed in §3.6.

3.3 The semantic basis of split intransitive alignment

3.3.1 Introduction

Split intransitive case and agreement systems generally have a semantic basis, but this basis shows considerable variation between languages. In this section I defend the position that split intransitive alignment should be related to the VICTR Hierarchy, by showing that many of the semantic properties to which split intransitive alignment is sensitive (and all of the most frequent ones) are those encoded in the features of the VICTR heads. I discuss the bases of the split across a wide range of languages that have been described in the literature—namely, from around 60 languages which range widely in their geographical distribution and genetic descent. In chapters 4 and 5 I will cover two particular languages in more detail.

There have already been a few attempts to discuss the basis of split intransitive case and agreement systems from a cross-linguistic perspective. Rosen (1984) looks at Lakhota and Choctaw as well as other sorts of split intransitive patterns in other languages, and stresses the differences between the patterns observed in different languages. Merlan (1985) discusses the split in five North American languages as well as Georgian, Batsbi and Mangarayi. Mithun (1991), similarly, discusses the basis of split intransitivity in Guaraní and four North American languages (with brief mentions of several related languages). Creissels (2008) also discusses split intransitivity from a broad perspective, though not focusing on any particular languages in any detail. And Donohue and Wichmann (2008) contains chapters on numerous split intransitive languages, of which particular note can be made in the present context of the chapters by Donohue, Malchukov, Arkadiev, and Mithun, each of which discusses a number of unrelated languages. Arkadiev’s chapter is particularly noteworthy here, as it directly tackles the issue of the semantic basis of split intransitive systems. Here, I aim to contribute further to the line of research of which these works form a key part, by considering the semantics of split intransitivity on the basis of a much larger sample of languages than has previously been attempted. Most characterisations are those of the authors consulted (sometimes restated in my terms); others are my own, based on the data provided in the sources.

The semantic bases of split intransitive systems have occasionally proved controversial. Mithun’s (1991) analysis of Lakhota is disputed by Legendre and Rood (1992), and her analysis

of Guaraní by Velázquez-Castillo (2002). More substantially, Primus (1999: §4.5), considering a range of languages, argues that the prevailing assumption that split intransitive behaviours can be understood in terms of discrete semantic features is simply incorrect. I do not adopt Primus's view here, a position I shall explain in §3.7.2.2.

The data on which this section and the next are based are summarised in Appendix 2 at the end of the chapter, which lists all the languages with split intransitive alignment here considered along with the pertinent information here discussed. The reader is also referred to this table for further references to the sources consulted.

§§3.3.2–3.3.6 consider a number of features that play a role in determining split intransitive alignment: [\pm volition], [\pm initiation], [\pm consecution], stativity, and other features. §3.3.7 discusses the interaction of two or more of these features within a language, and §3.3.8 the role of lexical idiosyncrasy in split intransitive alignment. §3.3.9 briefly concludes the section.

3.3.2 [\pm volition]

Alignment splits sensitive to 'volition(ality)' or 'control' (the terms are generally used synonymously as far as I can tell) are amongst the most common. In languages where [\pm volition] is the only factor in case or agreement, intransitive arguments which volitionally control the event described by the verb are associated with one set of marking, and all other intransitive arguments with another set. Eastern Pomo is one such language according to McLendon (1978):

- (14) a. *Mí·p'-Ø q'a·lálma·ya.*
 3SG-**AGT** went.home
 'He went home.'

- b. *Mí·p-al káluhuya.*
 3SG-**PAT** got.sick
 'He got sick.'

(McLendon 1978: 7)

Here, the volitional predicate 'go home' has a subject with agentive marking; the non-volitional 'get sick' has a subject in the patientive. Many verbs may occur with subjects in either case, with direct dependence on [\pm volition] (see McLendon 1978: 3).

Tabassaran seems to have a similar system (Kibrik 1985: 277–78; see also Arkadiev 2008: 108–09). In many systems where [\pm volition] is the dominant feature in the split, however, there are other factors also at play. This is discussed further in §3.3.7. It may be the case that other subtleties have been missed in languages where a simple split sensitive only to control has been reported.

In some languages an intransitive split has been reported which is sensitive to 'agentivity' (e.g. Atakapa, Chitimacha, Creek and others by Mithun 2008). This term is somewhat vague and it is not necessarily clear what is meant. It is very possible that such systems are also sensitive to volition. However, it may also be the case that the determining factor is initiation

(see the next subsection), or that the split is determined in some other way and the term ‘agentivity’ is used only very loosely.

Systems sensitive to [\pm volition] are the canonical examples of so-called ‘*fluid-S*’ systems. Because many verbs can be used to refer to either controlled or uncontrolled eventualities, the use of agentive vs. patientive marking is ‘fluid’ depending on the value of the [\pm volition] feature independently (to varying extents) of the rest of the semantics of the verb. However, some fluidity may also arise in systems sensitive to other features. The frequency with which such systems occur is strong evidence for encoding a [\pm volition] feature in the syntax, which Ramchand (2008) does not do—this is returned to in §3.7.2.3.¹¹

3.3.3 [\pm initiation]

Alignment splits sensitive to [\pm initiation] seem to be relatively rare, but there is some evidence for such systems. I use the term ‘initiation’, following Ramchand (2008), to refer to the initiation or causing of an event independently of whether that initiation is controlled. The equivalent term employed in the literature on split intransitive alignment is ‘performed/ effected/ instigated’ (Mithun 1991). In Lakhota, the split seems to be sensitive to this property (corresponding to my [\pm initiation] feature), so that for example agentive agreement occurs not just with [+volition] verbs (e.g. *mawáni* ‘I walk’, where *-wá-* denotes a first person agentive subject) but also with [–volition] verbs, provided they are [+initiation] (e.g. *blowákaska* ‘I hiccough’). [–initiation] verbs take a different set of agreement markers, e.g. first-person patientive *-ma-* in *mat’é* ‘I died’ (Mithun 1991: 515–16).

The only other languages which have been described as possessing a case or agreement split sensitive to such a feature are Mohawk and Acehnese. Mithun’s (1991) characterisation of Lakhota is however disputed (by Legendre and Rood 1992) and the split in Mohawk is also sensitive to several other factors (Mithun 1991: 528–36). Durie (1985) classifies Acehnese as sensitive to control, but Andréasson (2001: 35–36) provides evidence that performance/effect/instigation (i.e., initiation) is the determining factor: verbs with meanings like ‘cough’, ‘sneeze’ and ‘vomit’—denoting uncontrolled events—occur with agentive, not patientive marking.

3.3.4 [\pm consecution]

Many languages make a distinction in case and/or agreement between [+consecution] intransitives and others. Systems which generally distinguish [+consecution] intransitives from others may be about half as common as either of the most common types (systems sensitive to [\pm volition] covered above, or systems sensitive to stativity to be discussed below). However, vagueness in the literature (some of which is discussed below) and the relatively small number of languages on which data is available make it difficult to be sure.

11. Note that sensitivity to [\pm volition] in intransitives does not necessarily entail the same sensitivity in transitives: on the model adopted here (see §3.6) case/agreement may be ‘extended’ to a subset of intransitive contexts without necessarily being subject to the same constraints as with transitives. However, languages like Eastern Pomo may allow patientive subjects in (at least some) [–volition] transitive contexts (see McLendon 1978: 3).

Chol is a reasonably clear example of such a system (though see §3.3.8 for some caveats):

- (15) a. *Tyi k'oty-i-yety.*
 PRFV arrive.there-ITV-2.PAT
 'You arrived there.'
- b. *Chañ-ety.*
 tall-2.PAT
 'You are tall.' (Coon 2010: 56)
- c. *Tyi a-cha'l-e ts'ijb.*
 PRFV 2.AGT-do-DTV write
 'You wrote.' (Coon 2010: 58)

This is also broadly the system found in Basque, though with several complications (see chapter 4) and also in Georgian (see chapter 5). Other languages which appear to have such a system include Arikara, some dialects of Neo-Aramaic and possibly Kashmiri and Udi.

This type of split corresponds the closest to many interpretations of the unergative vs. unaccusative distinction. [+consecution] verbs are 'unergatives' and others are 'unaccusatives'—although, as this dissertation will continue to show, there are many problems with this. A number of split intransitive alignment systems, however, have been described as sensitive to 'unaccusativity', and it may be that the split in these cases corresponds to this same [\pm consecution] split discussed here. Given the uncertainties surrounding the term 'unaccusativity', however, this may turn out not to be the case. In some instances it has been used to refer to splits which are certainly not sensitive to the distinction under discussion here: Rosen (1984), for example, uses it to refer to the split in Choctaw, where change of location verbs are associated with agentive marking. Basque and Georgian have also been taken as examples of languages showing unergative/unaccusative splits (by e.g. Levin 1983, Harris 1981), but as will be shown in the subsequent chapters there are complications to this (e.g. the two languages do not have identical splits, and the classes identified by case-marking are not the same identified by purported unaccusativity diagnostics in other languages). Given these problems, I suggest the terms 'unaccusative' and 'unergative' are best avoided in careful characterisations of split intransitive case/agreement systems.

The frequency of these sorts of system is one reason for decomposing Ramchand's (2008) *proc* into [+consecution] and [+transition]; otherwise, the model does not make the required distinctions. I discuss this in more detail in §3.7.2.3.

3.3.5 Stativity

Sensitivity to 'stativity', 'eventivity' or 'dynamicity' is, along with sensitivity to [\pm volition], one of the most common sorts of intransitive alignment split. Such a system is found, for example, in Guaraní (on the analysis of Mithun 1991, though cf. Velázquez-Castillo 2002):

- (16) a. *A-xá.*
 1SG.AGT-go
 ‘I go.’
- b. *Še-rasī.*
 1SG.PAT-be.sick
 ‘I am sick.’ (Mithun 1991: 511)

Other languages where the split is entirely or predominantly sensitive to whether a predicate denotes an event or a state include Loma, Galela and Seneca, and also possibly Amele, Baniwa do Içana, Baure and Tunica. As with [\pm volition], however, systems sensitive to stativity are frequently sensitive to other properties as well.

There is no single [\pm state] head in the syntax on the VICTR approach. Instead, the arguments of stative verbs may be merged in the specifiers of one of two stative heads, those generally termed ‘Volition’ and ‘Result’ (see discussion in §1.1.3). (This adapts the system of Ramchand 2008, where stative projections involve only the stative *init* head.) Thus some languages of this sort may have with all and only stative verbs a [+‘result’] value for ‘Result’ and negative values for the remainder of the heads: in which case [+‘result’] merely denotes stativity in the absence of any causational entailment of resultivity that might result from higher heads.¹²

Sensitivity to stativity appears to be the basis for the terminology ‘active-stative’ and related labels. The ‘active-stative’ label can be limited to only those languages where stativity is the sole determining factor of the split. This seems sensible in many ways, although one objection to this practice might be that it over-stresses the differences between stativity-sensitive systems and other types of split intransitive alignment: I contend that split intransitive patterns can be sensitive to various features, and this one sort of system does not have any particular privileged or unusual status. Some authors have used the ‘active-stative’ label more broadly, to refer to split intransitive systems sensitive to other features (e.g. Harris 1981).

3.3.6 Other features

‘**Affectedness**’ is described as playing a part in split intransitive alignment in a number of languages. Interestingly, it never seems to be the sole feature at play. In Central Pomo, for example, arguments of stative verbs are ordinarily patientive ((17a)), but may be marked in the agentive case provided they are also ‘strongly affected’ ((17b)):

- (17) a. *To· kasíla.*
 1SG.AGT be.cold
 ‘I’m cold.’ (Mithun 1991: 518)

12. A language of this sort could also notionally grammaticalise state verbs as [+‘volition’]. This would, however, most naturally predict that these verbs would have agentive subjects—as [+volition] is one of the agentive core features, whereas [+result] belongs to the patientive core—which is not what is typically if ever observed.

- b. *ʔa· ʔe qól.*
1SG.AGT be.tall
 ‘I’m tall.’

(Mithun 1991: 521)

Affectedness is also reported as playing a role in Caddo and Yuki; Mithun uses the term ‘affectedness’ in respect to these languages to refer to a distinction between permanent (non-affecting) and temporary (affecting) states. Without going into details here, various VICTR-based analyses of this split can be imagined, for example that affecting state verbs are grammaticalised in these languages as [+‘volition’] and non-affecting ones as [+‘result’].

Tsudika (2008) uses a slightly expanded definition in describing the system found in Amis, taken from Klaiman (1991): affectedness may encompass meanings where ‘the referent of the nominal which a verb assigns as logical subject coincides with the locus of the principal effect of the verbally denoted action’. Thus some eventive verbs are also understood as having [+affected] subjects in Amis (e.g. *ma-lanam* ‘to have breakfast’, *ma-’fer* ‘to fly’, *(t-o)m-agic* ‘to cry’, pp. 281–82). ‘Affectedness’ is also reported by Vidal (2008) for Pilagá, though the term is used loosely and lexical idiosyncrasy is a confounding factor; other, more precise characterisations may be possible. Klammer (2008) also reports a role for affectedness in Tanglapui, where affecting verbs may relate to those here considered to be [–consecution], and in Klon, though it is not clear precisely how the term is to be understood in this instance. I will not attempt a formal analyses of these patterns here, though it is possible they are amenable to understanding in VICTR terms.

Telicity is occasionally reported as a relevant factor in some languages. Li (2007) connects the split in Nepali to ‘agentivity’ (i.e. [±volition]) and telicity, but the data provided suggests it may be possible to capture the distinction in terms of [±consecution] and [±transition] alone. A role for telicity in Georgian is reported by Holisky (1981), although the discussion here in §5.2 suggests the split is amenable to explanation in terms of other features.

Finally, some languages have systems which are sensitive (at least in part) less to verbal semantics but rather to **discourse-related factors**. In Tibetan, for example, agentive case is related to focus (as well as volition). Thus, while it may be omitted in other contexts ((18a)), it is virtually obligatory with [+volition] subjects under contrastive focus ((18b); Denwood 1999: 199):

- (18) a. *Kho-s/-Ø phyin-song.*
 he-**AGT/PAT** went-AUX
 ‘He went.’
 b. *Dgergan-gis phyin-song.*
 teacher-**AGT** went-AUX
 ‘It was the teacher who went.’

(Denwood 1999: 199)

In Central Pomo, evidentiality and speaker empathy have a small degree of relevance to case-marking (Mithun 1991: 521–22); discourse-related factors also influence case marking in

Yagua (Payne 1990:38–39). Whilst these properties are certainly interesting, they fall outside the thematic domain and cannot be directly accounted for in terms of the VICTR approach; they will not be discussed further here. This does not, however, count against the general validity of the VICTR approach in accounting for split intransitivity; it merely happens to be the case that some additional machinery appears to be required in a small number of instances.¹³

3.3.7 Interaction of features

In a number of languages, split intransitive case or agreement is reported to be sensitive to more than one factor. (This is not to discount the possibility that this may be the case in some of the above languages also: certain subtleties may have been missed in the description of these.) A good example of such a language is Central Pomo, discussed by Mithun (1991: 518–23). The reader is referred to that paper for details, but the major patterns are as summarised in table 3.2.

Event	[+volition]	AGT	‘jump’, ‘go’, ‘run’
	[–volition]	PAT	‘hiccough’, ‘sneeze’, ‘fall’, ‘die’
State	[–affected]	AGT	‘be tall’, ‘be strong’
	[+affected]	PAT	‘be sick’, ‘be tired’

Table 3.2: Summary of case marking in Central Pomo (after Mithun 1991)

As can be seen from the table, the major properties at play in Central Pomo are volitionality, stativity and affectedness which interact as shown. Other languages sensitive to a similar set of factors include Caddo, Yuki and Amis. In addition to these factors, [\pm initiation] also plays a role in Mohawk, amongst other properties. Similar, slightly less complex systems, sensitive to [\pm volition] or [\pm initiation] and also to stativity, are found in Haida, Otomi, Wichita and Wiyot.

There are also some systems which are reported to take into account [\pm volition] in addition to ‘unaccusativity’ (which, as discussed above, may refer again to [\pm consecution] or something similar, though this is not always clear): these are found in Hindi, and possibly Beria and Nepali.

In a few systems, both thematic and non-thematic factors are reported to play a role. This seems to be true of Tibetan, where focus and [\pm volition] are the main factors at play. In Yupik [\pm volition] and evidentiality are reported as affecting agreement, whereas in Pilagá affectedness and viewpoint play a role.

13. Wiltschko (2014: 264–8) discusses a pattern in Squamish (Salishan, British Columbia), arguing that transitivity suffixes previously claimed to represent control or volition ought rather to be understood in terms of ‘viewpoint aspect’. This raises the possibility that some or all of the split intransitive systems analysed here as sensitive to [\pm volition] ought instead to be analysed in a similar way, particularly in cases like Tibetan and Central Pomo where discourse factors are reported to play a role anyway. I adopt the view that volition is involved out of deference to those who have made precisely this argument for these languages (particularly Denwood 1999 and Mithun 1991), in the absence of any direct evidence challenging their analyses. Note again that in any case volition/control is a very widely reported factor in split intransitive alignment.

3.3.8 The role of lexical idiosyncrasy

A recurring feature of split intransitive case and agreement is the presence of ‘lexical exceptions’: verbs associated with marking which is not that which is predicted on the ordinary semantic grounds governing the marking in the rest of the language. Examples are found in Mohawk: for example, the form $\Delta wakhsd\acute{a}:t\Delta?$ ‘I will ride horseback’ incorporates the patientive first-person element *-wak-* even though it would be regularly be expected to take agentive, as it denotes a volitional event. This and other exceptional verbs in Mohawk are discussed further by Mithhun (1991: 533–36).

Other languages where lexical exceptions to a general pattern are reported include Caddo, Chickasaw, Chol, Haida, Lakhota, Tlingit and Wichita. Idiosyncratic behaviour of certain verbs and verb classes will also be seen in the discussions of Basque and Georgian in chapters 4 and 5. It is very possible such exceptions occur in many other languages but have not been reported as the systems in question are underdescribed.

This does not mean, however, that it is inappropriate to posit that the general semantic basis for a pattern is formalised within the language, any more than the existence of irregular past tense forms (e.g. *go* > *went*) in English mean we should not posit a general rule for forming the past tense (‘add *-ed*’). As Yang (2016) discusses, languages pervasively allow exceptions (up to a certain point); these need not be accounted for as part of a suitably predictive theoretical account. Case/agreement in these languages is subject to operations which apply generally for the most part, but there is often some idiosyncratic behaviour; the role of such idiosyncrasy is however restricted, typically affecting only a small number of forms in a given language—which is in line with Yang’s predictions. Following the brief discussion of formalising idiosyncrasy in §2.2.2, I suggest that in cases of lexically idiosyncratic case assignment the verb in question merges with a functional head which selects for it specifically and does not have the usual case/agreement properties of a head of that category. I return to this briefly in §4.3.3 and §5.4.

Other languages have systems where split intransitive alignment is somewhat marginal: where the great majority of intransitive verbs are associated with one set of marking, but a small number occur with another. In these languages, it is often difficult to see any totally consistent semantic basis for the split, though the exceptional group of verbs may have some semantic property or properties in common. An example is Yawa, in which only about a dozen intransitive verbs occur with patientive marking (Jones 1986, Dixon 1994: 76); all other intransitives take subjects marked in the agentive. Other languages where only a small set of verbs are associated with one particular set of marking include Arikara, Beria, Ika, Imonda, Karuk, Tunica and Yurakaré.

Like those discussed above, these are languages where case or agreement marking with intransitive verbs is subject to a degree of lexical idiosyncrasy: in these cases, the presence of a split intransitive alignment is due entirely to such ‘irregular’ patterns. Note, however, that this is certainly not the norm for split intransitive alignment (it usually is possible to identify a consistent semantic basis for the split, as discussed above) and also that number of exceptional

verbs is (at least almost) always small (e.g. 30 in Tunica, about 12 in Yawa). Thus, as above, it is still appropriate for these languages to posit general syntactic operations for case/agreement which nevertheless allow a restricted number of lexical exceptions.

Many languages not traditionally considered ‘split intransitive’ nevertheless allow more than one way of marking intransitive arguments—for example, the accusative subject in the following Latin example:

- (19) *Me piget.*
 1SG.ACC shame.3SG.PRES
 ‘I am ashamed.’ (Nichols 2008: 125)

Whether or not case or agreement in a language is considered to be ‘split intransitive’ may then be simply a matter of the degree to which such variation occurs (see also Nichols 2008, summarised in §3.4.5). However, the exact lines may be unclear: it is not entirely obvious why (say) Yawa—which has such a small number of intransitives occurring with patientive marking—should be classified as split intransitive but Latin should not.

However, fuzzy as the boundaries might be, this does not mean that the identification of a split intransitive type is useless. ‘Split intransitive’ is still a useful descriptor of languages where two (or more) ways of coding the intransitive argument are widespread.

A particularly interesting set of exceptions to a general pattern is found in Chol (Coon 2010: 64–66 and see references there). Verbal agreement with most Chol predicates is sensitive to a split sensitive to the [\pm consecution] feature, as discussed in §3.3.4; however, a small subset—with no obvious consistent semantic or other basis determining the verbs which comprise it—are instead subject to ‘fluid’ agreement sensitive to [\pm volition], for example:

- (20) a. *Tyi wäy-i-yoñ.*
 PRFV sleep-ITV-1.PAT
 ‘I slept.’
 b. *Tyi a-cha‘l-e wäy-el.*
 PRFV 1.AGT-do-DTV sleep-NML
 ‘I slept (on purpose).’ (Coon 2010: 65)

The agreement behaviour of these so-called ‘ambivalent’ verbs in Chol has certain theoretical consequences which will be discussed in §3.7.2.1.

This sort of idiosyncratic lexical variation is interesting in light of proposals by Roberts and Holmberg (2010), Biberauer et al. (2013), and other work by the same authors, that ‘parameters’ of syntactic variation occur at various levels. Biberauer and Roberts (2016: 260) give the following rough taxonomy:

- (21) For a given value v_i of a parametrically variant feature F:

- a. **Macroparameters:** all heads of the relevant type share v_i ;
- b. **Mesoparameters:** all functional heads of a given naturally definable class (e.g. [+V]) share v_i ;
- c. **Microparameters:** a small subclass of functional heads (e.g. modal auxiliaries) share v_i ;
- d. **Nanoparameters:** one or more lexical items is/are specified for v_i .

Whilst a great deal of work has been done in this approach, relatively little attention has been paid to ‘nanoparameters’, variation restricted to particular lexical items. In various languages with split intransitive alignment, the properties of certain lexical items leads to case-marking patterns which are otherwise unpredictable, though the ways in which these properties are distributed varies between languages. Many examples can be produced of pairs of semantically equivalent verbs which are lexically idiosyncratic in one language but not in another, e.g. in the subsequent chapters we will encounter the examples of Basque *irakin* ‘to boil’ (which, unexpectedly in light of the general pattern in the languages, takes agentive subjects) versus Georgian *audghabebs* ‘to boil’ (which takes patientive subjects as would be predicted). As will be seen in the discussion of Basque and Georgian, however, idiosyncratic behaviours are often largely restricted to verbs belonging to particular semantic classes (e.g. in Basque stative verbs tend to be variable; the behaviour of verbs in other categories is more predictable). Perhaps, then, we should say that this variation is often not entirely ‘nano’—given that the idiosyncratic items do cluster together somewhat in terms of their semantics—though it is not truly ‘micro’ either (it cannot be predicted from the values of functional heads alone): rather, it is somewhere in between the two.

3.3.9 Conclusion

This concludes the discussion of the semantic basis of split intransitive alignment in different languages. Considerable differences are observed between languages, as well as considerable similarities. I have argued that this can be accounted for in terms of the features of the VICTR heads. Thus, in extended ergative systems where a split is sensitive to [\pm volition], [+volition] Volition assigns agentive case, and [–volition] Volition does not. Similarly, an extended accusative split sensitive to [\pm consecution] arises when Consecution assigns patientive only when it has the [–consecution] value.

Table 3.3 suggests some criteria to be applied in the analysis of split intransitive alignment in order to capture the more fine-grained level of variation that this section has discussed. (Most of the features included have been discussed in this chapter; for some discussion of reflexives/reciprocals see §4.2.3.2 and for internally caused events §4.2.3.4 and §5.2.6.)

[±volition]	‘on purpose’ vs. ‘by accident’ Typically volitional ‘work’, ‘play’, ‘talk’ etc. vs. typically non-volitional ‘cough’, ‘tremble’ etc. (also ‘swim’, ‘run’, ‘walk’ vs. ‘skid’, ‘slide’ etc.)
[±initiation]	Typically initiated ‘go’ (and other change of location verbs), ‘work’, ‘play’, ‘cough’, ‘tremble’, etc. vs. non-initiated ‘die’, ‘melt’ (and other change of state verbs)
[±consecution]	Consecution verbs ‘work’, ‘swim’, ‘cough’ etc. vs. change of state, change of location and state verbs
[±transition]	Change of state ‘die’, ‘decay’, ‘grow’, ‘melt’, ‘burn’, ‘freeze’, ‘break’, ‘tear’ etc. and change of location ‘go’, ‘come’, ‘arrive’, ‘leave’, ‘fall’, ‘rise’ etc. vs. others Do non-prototypical change verbs behave differently when they are strongly <i>affecting</i> ? How do [+consecution,+transition] manner of motion verbs ‘swim’, ‘run’, ‘walk’ etc. pattern?
Stativity	Stative ‘be’, ‘exist’, ‘sit’, ‘survive’, ‘last’, ‘persist’, ‘remain’, ‘be tall/angry/sick’, ‘be a man’ etc. vs. non-stative others Also consider permanent vs. non-permanent states (e.g. ‘be tall’, ‘be strong’ vs. ‘be sick’, ‘be tired’)
Discourse factors: focus, viewpoint etc.	
Do inherently reflexive and reciprocal verbs (e.g. ‘wash’, ‘bathe’, ‘marry’) show distinct behaviour?	
Do verbs denoting non-agentive internally caused events/states (e.g. ‘sparkle’, ‘shine’, ‘rumble’, ‘buzz’, ‘stink’) behave differently?	

Table 3.3: Factors to consider in the description of split intransitive alignment

3.4 The relation of split intransitive and other alignment types

In the presentation of the formal model of alignment in §3.2, I suggested that split intransitive alignment can be seen as instantiating one of two broad subtypes: ‘extended accusative’ and ‘extended ergative’. In the first, both agentive and patientive are structural cases assigned by, or structural agreement valued on, T and a thematic head respectively. In the second, agentive is inherent case/agreement assigned by or valued on a thematic head; patientive is associated with T (in intransitives at least). This section will present one argument in favour of dividing up split intransitive alignment in this way, on the basis of broad typological patterns. (Other arguments will follow later.)

There is a certain tendency for split intransitive systems to be (implicitly) treated as a sort of subtype of ergative-absolutive systems: for example, they are often included in discussions of ‘ergativity’, or treated as one amongst many types of ‘split ergative’ system. (Other types of split ergativity are discussed below in §3.4.4.) It can also be noted that, very often, the labels ‘ergative’ and ‘absolutive’ (or ‘nominative’) are the standard terms in the study of particular languages with split intransitive systems for what I here choose to call ‘agentive’ and ‘patientive’, again giving the impression that split intransitive systems are a subtype of ergative ones. Many languages which might be more accurately thought of as split intransitive have in fact been described as ‘ergative-absolutive’. This tendency to group split intransitive languages under the ergative-absolutive label may in part be due to eurocentric bias on the part of many linguists: most languages of Europe (and indeed, most of the most widely spoken languages worldwide) are basically nominative-accusative, so there is a temptation to treat other alignment types (seen as ‘exotic’) all together. More charitably, split intransitive systems are often genetically related to ‘strict’ ergative systems, in which case it makes some sense to use the same labels for the cases in the different systems even if they have slightly different functions.

I will argue, however, that there is evidence that split intransitive systems, taken as an entire type, cannot be neatly characterised as a subtype of the ergative pattern—and neither do they reduce to a subtype of the accusative pattern. In this section, this argument takes the form of consideration of various typological properties of the split intransitive type. It is known that nominative-accusative and ergative-absolutive alignments are not randomly distributed with regard to certain other morphosyntactic properties in the same languages. For example, statistical generalisations can be made which relate alignment to basic word order, which arguments are overtly marked in case and agreement, and the voice distinctions made in a language. When different alignment patterns occur in a language, generalisations can also be made with regard to their distribution—for example, certain tenses and certain types of noun phrase are more likely to display ergative-absolutive alignment.

On the basis of this, it can be predicted that if split intransitive systems were a subtype of nominative-accusative alignment, they would show similar typological distribution to nominative-accusative systems in relation to these sorts of properties; conversely, if they

were a subtype of ergative-absolutive alignment, they would show similar distribution to ergative systems. The analysis to follow, however, shows that the split intransitive type (taken as a whole) generally patterns somewhere in between the other two types. This, it will be argued, is partial evidence for the existence of two subtypes of split intransitive system, one of which typically shows more accusative-like patterning (the extended accusative subtype) and one which exhibits more ergative-like behaviour (the extended ergative subtype).

In the remainder of this section I will consider this matter in relation to word order (§3.4.1), overt marking of arguments (§3.4.2), voice (§3.4.3) and ‘split split intransitive’ patterns (§3.4.4). In §3.4.5 I consider further the nature of split intransitive alignment in relation to the work of Nichols (2008). §3.4.6 concludes.

3.4.1 The relation of alignment and basic word order

	Split intrans. case	Split intrans. agreement	All split intrans.
SOV	13/13 100%	22/41 54%	41/65 63%
SVO	0/13 0%	8/41 20%	9/65 14%
VOS	0/13 0%	2/41 5%	2/65 3%
VSO	0/13 0%	0/41 0%	1/65 2%
Two dominant	0/13 0%	3/41 7%	3/65 3%
None dominant	0/13 0%	6/41 15%	10/65 15%

Table 3.4: Word order and split intransitive alignment

It has been observed that ergative-absolutive alignment occurs very rarely with subject-verb-object (SVO) basic word order (Trask 1979, Dixon 1979 and others), whereas this order is very common with nominative-accusative alignment.

All languages with split intransitive case systems (whether this is manifest on all nominals or only on a restricted subset, e.g. on pronouns) are SOV. These languages thus seem to pattern with languages with ergative alignment.

Languages with split intransitive agreement, however, do occur with SVO dominant order in about one-fifth of cases, in contrast to its rarity/non-occurrence in languages with ergative agreement. SOV, however, is still the most frequent dominant ordering, occurring in more than half of languages—this contrasts with languages with accusative agreement, where SVO and SOV orders are about equally common. These languages, then, pattern somewhere in the middle relative to those with ergative and accusative systems as far as word order is concerned.¹⁴

14. Nb. in table 3.4 the ‘all’ column includes languages with both split intransitive case and agreement, languages with split intransitive word order, and languages for which the data on where the split is manifest is not available.

3.4.2 The relation of alignment and overt marking of arguments

In nominative-accusative case systems, if only one of the nominative and accusative cases is marked, it is most likely to be the accusative (Dixon 1994: 62). Conversely, under nominative-accusative agreement if the verb displays overt agreement with only one argument it tends to be the **A** (and **S**) argument (Woolford 2000: 7). In ergative-absolutive case systems, on the other hand, if only one case is overt it is ergative (Dixon 1994: 58). In ergative-absolutive agreement systems, if the verb agrees with only one argument it is **A** (Woolford 2000: 5).

	S_a and S_p/P	S_a only	S_p/P only
Case	5	7	3
Agreement	49	3	3

Table 3.5: Overt marking of arguments ($n=70$)

The vast majority (78% of my sample, or 54/69) of systems with split intransitive alignment have overt marking for both **S_a/A** and **S_p/P** (in a small number of instances one or both sets of marking may be non-obligatory). This pattern is especially notable when only agreement is considered: 89% (49/55) of languages in the present sample with split intransitive agreement for which data are available mark both arguments. This is itself notable—of the languages sampled by Siewierska (2013b), only 65% (193/296) have verbal person marking of both **S_a/A** and **S_p/P**. One possible explanation for this pattern is areal—split intransitive agreement systems are particularly frequent in Austronesia and (particularly) the Americas, which also have high rates of languages having agreement marking for both arguments (see the map in Siewierska 2013a).

A small minority of languages overtly mark only **S_a/A**, with zero marking for **S_p/P**. An example is Tibetan:

(22) a. *Kho-s phyin-song.*

3SG-**AGT** went-AUX

‘He went.’

b. *Kho-Ø na-song.*

3SG-**PAT** be.ill-AUX

‘He was ill.’

(Denwood 1999: 194)

Most of these languages have split intransitive case alignment; exceptions are Kewa, Taba and Tsou, where the split intransitive alignment is manifest only in agreement. In fact, languages with split intransitive case alignment are slightly more likely to mark only **S_a/A** than to mark **S_p/P** overtly as well.

These languages which mark only **S_a/A** mostly seem to have SOV basic word order; Taba (SVO) is the only exception of which I am aware. These languages therefore pattern with those with ergative systems in terms of both their overt case-marking properties and their

word order behaviour.¹⁵

Only a very small number of split intransitive languages have overt marking of **S_p/P** and zero marking of **S_a/A**. They include Eastern Pomo, which has a split intransitive case alignment:

(23) a. *Mí·p'-Ø q'a·lálmàya.*

3SG-**AGT** went.home

'He went home.'

b. *Mí·p-**al** káluhuya.*

3SG-**PAT** got.sick

'He got sick.'

(McLendon 1978: 7)

The only other languages I am aware of with such a system are Northern Pomo, Imonda, which has a marginal split intransitive alignment manifest in both case and agreement, and Lak.¹⁶

There is no obvious correspondence here with either nominative-accusative or ergative-absolutive systems. Split intransitive *case* systems tend to behave more like ergative ones—if only one of **A** and **P** is overtly marked, it is most likely to be **A**. Conversely, split intransitive *agreement* systems tend to be more like accusative ones—if only one of **A** and **P** is overtly marked, it is more likely to be **A**. Note that the numbers are small, however, and the great majority of split intransitive agreement systems, and a considerable proportion of split intransitive case systems, mark both **A** and **P** overtly.

3.4.3 The relation of alignment and voice systems

It is known that a language's alignment type and the probability of its marking particular voice distinctions are related (Dixon 1994: 147). In particular, *passive* voice is much more common with nominative-absolutive alignment than with ergative-absolutive alignment, and *antipassive* voice is much more common with ergative-absolutive alignment than with nominative-accusative alignment.

The passive can be defined as a morphologically marked and pragmatically restricted construction which prototypically allows an **A** argument to be omitted or 'demoted' to the form of an oblique. By contrast, in the antipassive it is the **P** argument which is omitted or demoted.

In nearly every instance, a clear distinction arises between the nominative-accusative and ergative-absolutive types: the first are much more likely than the second to have a passive voice, and much less likely to have an antipassive (the only time this does not hold is as regards the relation of passive and verbal person marking, where no particular alignment effect is apparent).

15. Basque marks both **S_a/A** and **S_p/P** in agreement, but only **S_a/A** is associated with overt case-marking. See chapter 4.

16. Yawa has an unusual system: it has overt agreement for both **S_a** and **S_p/P**, but not for **A** (which is however case-marked).

	Nom-acc	Erg-abs	Split intrans.
Passive	37/52 71%	7/32 22%	3/6 50%
Antipassive	3/14 7%	14/24 58%	1/7 14%

Table 3.6: Voice and alignment of case-marking of full noun phrases

	Nom-acc	Erg-abs	Split intrans.
Passive	41/63 65%	5/20 25%	4/8 50%
Antipassive	4/50 8%	6/15 40%	1/8 13%

Table 3.7: Voice and alignment of case-marking of pronouns

The split intransitive type typically patterns somewhere between the two. This is most apparent with (case alignment and) the passive, but can also be seen with the antipassive. This patterning again suggests that the split intransitive type is in some sense ‘intermediate’ between the nominative-accusative and ergative-absolutive types, and cannot be reduced to a subvariety of either.

3.4.4 ‘Split split intransitive’

Split intransitive alignments often exist in a language alongside other alignment types, a phenomenon which may be referred to as ‘*split split intransitivity*’ (by parallel with ‘split ergativity’, wherein an ergative alignment co-exists in a language with another alignment type, prototypically nominative-accusative).

Split split intransitive patterns parallel the major sorts of split ergative patterns: (i) case/agreement mismatches, (ii) tense/aspect-based splits, (iii) NP-based splits. These three will be covered here in turn. The reader is also referred to the discussion of these patterns in Donohue (2008: §3).

3.4.4.1 Case/agreement splits

Many languages have one alignment type for their case system and another for verbal agreement. Notably, while ergative-absolutive case often occurs with nominative-accusative agreement, the opposite pattern—nominative-accusative case with ergative-absolutive agreement—does not occur (Anderson 1977 and others)—or, at best, occurs extremely rarely.

When we consider split intransitive alignment, we find a number of languages have nominative-accusative case with split intransitive agreement. This occurs for example in Tariana, where (focused) **A**, **S_a** and **S_p** arguments bear the nominative marker *-nhe/-ne*, but only **A** and **S_a** trigger agentive agreement (Aikhenvald 2003: 149, 234):

	Nom-acc	Erg-abs	Split intrans.
Passive	98/209 47%	9/18 50%	7/29 24%
Antipassive	10/77 13%	9/11 82%	5/19 26%

Table 3.8: Voice and alignment of verbal person marking

- (24) *Diha yawi harama di-wasa-tatha hu di-wa di-a.*
 ART jaguar be.frightened 3SG.NF.AGT-jump-UP AWAY 3SG.NF.AGT-enter 3SG.NF.AGT-go
 ‘The jaguar was frightened, he jumped up and away he went.’
 (Aikhenvald 2003: 141)

In this example, the agreement marker *-di* is present on the agentive-marking verbs translated ‘jump’, ‘enter’ and ‘go’, but absent on the patientive-marking ‘be frightened’. Other languages of this type include Chickasaw, Koasati and possibly Tabassaran and Guaraní.

Ergative case systems can also occur with split intransitive agreement, for example in Natchez (Mithun 1999). Split intransitive agreement is manifest with first and second persons, for example in the following contrast:

- (25) a. *ka·toyyawa·* ‘I(AGT) won’
 b. *ka·copinu* ‘I(PAT) lost’
 (Mithun 1999: 242–43)

Third-person arguments, however, are marked with the ergative marker *-c-* in A function and unmarked otherwise (Mithun 1999: 242).

Ergative case with split intransitive agreement is also found in Yawa, Ika (where split intransitive alignment is however marginal) and possibly Kewa.

Split intransitive case may also occur with nominative-accusative agreement, as in Georgian; this will be exemplified in chapter 5. A similar system is also found in Laz and possibly Udi.

I am aware of no language with split intransitive case and ergative agreement. This may simply be an artefact of the small number of languages with split intransitive case in general, but it may also point to something more significant. Given the typological gap noted above—the extreme rarity or non-occurrence of ergative agreement with nominative-accusative case—it may be that it is in fact more generally the case that *ergative agreement systems do not occur with non-ergative case systems*.¹⁷ That is, both nominative-accusative and split intransitive agreement are ruled out in the presence of ergative case. Note that a similar generalisation does not hold of split intransitive case systems, which occur freely with all sorts of agreement system.

Thus, split intransitive case systems (taken as a type) behave like ergative ones, free to occur with any type of agreement system. But split intransitive agreement behaves like nominative-

17. Ergative agreement may occur with ‘neutral’ case systems, where overt case-marking is entirely absent. It is possible, however, that covert ergative case is nevertheless present (though cf. Woolford 2000).

accusative agreement, ruled out with ergative case systems.

Incidentally, only a few languages have split intransitive alignment manifest overtly in *both* case and agreement. These include Basque, discussed in chapter 4. Other languages with similar patterns include Abui, Haida, Imonda, Ingush and Klon. Large numbers of languages, however, have split intransitive alignment in either case or agreement, and lack overt marking of the other of the pair—though it is always possible there is underlying split intransitive alignment there also. It should not be automatically assumed, however, that a split intransitive agreement system reflects an underlying split intransitive case system (or vice versa), given that case/agreement alignment splits are known to be possible with split intransitive systems.

The occurring and non-occurring case/agreement alignment types are summarised in table 3.9.

		Case		
		<i>Nom-acc</i>	<i>Erg-abs</i>	<i>Split intrans.</i>
Agreement	<i>Nom-acc</i>	Occurs	Occurs	Occurs
	<i>Erg-abs</i>	Does not occur	Occurs	Does not occur
	<i>Split intrans.</i>	Occurs	Occurs	Occurs

Table 3.9: Combinations of case and agreement systems in the world's languages

3.4.4.2 Tense/aspect-based splits

In *tense/aspect-based splits*, different tenses or aspects have different alignments. A tense-based split is reported for example in Iha and Kashmiri; aspect-based splits in Basque, Chol, Loma and Mohawk. This was illustrated for Georgian in §1.1.4 (see also chapter 5.1)—as the examples there showed, Georgian has nominative-accusative alignment with certain tense/aspect combinations (e.g. the present) and split intransitive in others (e.g. the aorist). In other languages the other alignment type is ergative-absolutive or neutral. The former is found for example in Mohawk; the latter in Loma.

It has often been observed that, in languages with tense/aspect-based split ergative patterns, ergative-absolutive alignment is generally preferred in past or perfective contexts and nominative-accusative alignment in present or imperfective contexts. Split intransitive alignment is associated with the past or perfective in some languages (Chol, Georgian, Iha, Kashmiri) but with the imperfective in others (Loma, Mohawk). Once more, then, it is not clear whether split intransitive alignment behaves more like ergative-absolutive or nominative-accusative alignment in this regard. Further work is required in this area, however.

In at least one split split intransitive language, modality may affect case/agreement marking: Klamer (2008: 232) suggests this possibility for Kedang, though the data is not clear on this matter. (Klamer also notes, following Samely (1991), that aspect seems to play a role in Kedang case and agreement.) Mood has been observed to play a role in split ergativity in a few languages (Dixon 1994: 101), but in both split split intransitivity and split ergativity it seems to be a relatively unusual factor.

3.4.4.3 NP-based splits

By ‘NP-based splits’ I refer to splits where different sorts of NP (or DP) argument occur with different alignment. These have been described in terms of ‘Nominal Hierarchies’ such as the following simplified from Dixon (1994: 85):

- (26) 1P pronoun > 2P pronoun > 3P pronoun, demonstrative > proper noun > common noun

Cross-linguistically, elements toward the left side of this hierarchy are more likely to exhibit nominative-accusative alignment, those towards the right are more likely to exhibit ergative-absolutive alignment.

NP-based splits involving split intransitive systems occur in languages including Chitimacha, Iha, Haida and Tsova-Tush.¹⁸ In all of these languages, split intransitive marking is restricted to a subset of pronouns: first person only in Chitimacha, first and second person in Iha and Tsova-Tush. The pattern in Haida is dialectally variable, but first person pronouns always have split intransitive alignment, and the dialect that has the distinction with some third person pronouns also has it with all second person ones. Central Pomo and Yuki also have similar splits, although in these cases split intransitive alignment is found on all pronouns and also some nouns referring to human beings. The other alignment in these languages differs: it is neutral for example in Chitimacha, nominative-accusative in Iha and ergative-absolutive in Tsova-Tush.

The overall generalisation which seems to arise on the basis of this (admittedly rather small) sample is that split intransitive alignment, where restricted to only part of the Nominal Hierarchy, consistently occurs with elements towards the left-hand side. (See also Dahlstrom 1983: 42, 45 for a similar proposal.) Split intransitive alignment thus patterns to an extent with nominative-accusative alignment in this respect, although it may in fact ‘outrank’ the nominative-accusative pattern in occurring with elements further to the left, as is the case in Iha.

It is perhaps notable that in all languages of which I am aware that have an NP-based split split intransitive system, volition/control or ‘agentivity’ has been reported as a major conditioning factor in the split (in some cases other factors also play a role). A functional explanation for the observed NP-based split pattern, therefore, may be that speakers are more likely to want to mark a [\pm volition] distinction on more prototypically animate arguments, i.e. those closer to the left edge of the Nominal Hierarchy: inanimate arguments are never volitional controllers of events and hence the distinction is less important here. Furthermore, the degree of volition contributed by discourse participants in the event or state (first and second person arguments) may be considered more noteworthy than that of third person arguments;

18. A complication is that in some languages the status of certain elements as agreement markers or case-marked pronouns is unclear: see the discussion in §3.1.1. A number of languages where these elements have been taken to be agreement markers (exhibiting split intransitive alignment) and which lack case marking otherwise could also be analysed as having NP-based splits were the elements instead analysed as case-marked pronouns.

it is also with these participants, and particularly with the first person, that the presence of deliberate control can be most reliably asserted.

3.4.4.4 Summary

This subsection has discussed how split intransitive alignment may co-exist in a language with other alignment types, and that behaviours of this sort are sensitive to similar factors as are seen with other alignment splits. As concerns its distribution in languages with tense/aspect-based splits, split intransitive alignment does not seem to pattern consistently with either nominative-accusative or ergative-absolutive types; under NP-based splits it patterns more like the nominative-accusative type, though split intransitive alignment may in fact outrank nominative-accusative alignment in relation to the Nominal Hierarchy.

Whilst the extent and nature of split split intransitivity is certainly a topic which merits further research—having as it does the potential to cast light on the relations between different alignment types—this dissertation will not address it further.

3.4.5 Split intransitive alignment and non-canonical subject marking

The findings of Nichols (2008) are also relevant here, though I shall cover them only briefly and the reader is referred to that work for more details. Nichols considers a number of languages with split intransitive and other alignments in regard to coding of the subject, considering for example ‘**A**-like coding’ (e.g. nominative, ergative or agentive case) as opposed to other coding (e.g. accusative, absolutive, patientive, dative or genitive case). A prototypical ‘accusative’ language would be expected to have **A**-like coding for all instances of **S**, whereas a prototypical ‘ergative’ language would be expected to have **P**-like coding. Languages described as having split intransitive alignment would be expected to fall somewhere in the middle, and while this is in fact generally true, it is also the case that (i) languages do not divide neatly into the ergative, split intransitive and accusative types, but rather pattern on a continuum with some overlaps between the traditional types, and (ii) some split intransitive languages pattern closer to the ‘accusative’ end of the continuum, others closer to the ‘ergative’ end.

Nichols concludes (2008: 135) that split intransitive alignment ‘is not a third major alignment type; the difference between it and either ergative or accusative is one of degree’. I am not sure that it is necessarily helpful to jettison the idea of a split intransitive type entirely, but Nichols’s findings do seem to support the conclusions drawn from the data considered here: that split intransitive alignment lies somewhere between the accusative and ergative types, with some languages patterning more like one or the other of the two major types.

3.4.6 Conclusion

The evidence considered in this section has led repeatedly to the conclusion that languages with split intransitive alignment, taken as a whole, do not pattern consistently with either nominative-accusative or ergative-absolutive types. With regard to co-occurrence with many

other typological properties, split intransitive systems appear to show behaviours somewhere intermediate between the two other types.

In some instances, a clearer picture emerges if split intransitive *case* and split intransitive *agreement* are considered separately. Split intransitive case patterns with ergative case in regard to word order, overt marking of arguments and case/agreement splits—though it patterns more like accusative alignment in regard to NP-based splits, and is somewhere in between ergative and accusative (and closer to the latter) as concerns the likelihood of presence of different voice categories. Again, therefore, we nevertheless have a mixed picture overall. Likewise, split intransitive agreement patterns more with nominative-accusative systems in regard to the overt marking of arguments, though the numbers are very small, and with case/agreement splits; as concerns the other properties considered it is again somewhere in between the two other types.

	Split intransitive case	Split intransitive agreement
<i>Word order</i>	As ergative	In between
<i>Overt argument marking</i>	As ergative	As accusative
<i>Voice</i>	In between	In between
<i>Case/agreement splits</i>	As ergative	As accusative
<i>T/A/M splits</i>	Not clear	Not clear
<i>NP splits</i>	As accusative	N/A

Table 3.10: Summary of relations between alignment and other patterns

This can be taken as some evidence for the view adopted here, that there are both extended accusative and extended ergative subtypes of split intransitive alignment. This furnishes an explanation for the intermediate behaviour of the split intransitive type as a whole—some languages are more like nominative-accusative ones (extended accusative languages), and others more like ergative-absolutive ones (extended ergative languages), leading to a mixed picture overall.¹⁹

Further evidence for this position will be provided subsequently. §3.5, which follows, depends on the division between extended accusative and extended ergative split intransitive systems to make sense in formal terms of the observed patterns of case/agreement alignment mismatch discussed in §3.4.4.1. Furthermore, in §4.3.2 and §5.3, language-internal evidence will be presented in support of the view that Basque and Georgian respectively instantiate the extended accusative and extended ergative subtypes.

3.5 More on case/agreement mismatches

The focus of the discussion of the formal analysis so far has largely been on case. Something also needs to be said about agreement, and specifically its relation to case.

19. Ideally it would be possible to demonstrate that these behaviours tend to cluster, so that an extended accusative language will have only or mostly accusative-type behaviours, and an extended ergative language only or mostly ergative-type behaviours. Unfortunately the available data is too sparse to make any robust generalisations of this sort. Nevertheless, the existence of these two subtypes is, in principle, an explanation of the typological patterns observed.

The standard approach to person/number/gender (ϕ) agreement within syntactic minimalism has been, following Chomsky (1995), that it exists in a very close relationship with case, that they are ‘two sides of the same coin’. Thus, it is argued for a language like (say) German, when T enters into a (ϕ -feature-based) Agree relation with an argument (subject agreement), nominative case is also valued on argument; accusative case, likewise, is valued when v enters in an Agree relation with the argument to which it assigns that case. The valuation of ϕ -features on the functional head has been given a privileged status, with case seen as a ‘free rider’ on the somehow more fundamental ϕ -agreement operation.

This approach runs into difficulties, however, when faced with the facts of case/agreement mismatches, discussed in §3.4.4.1. As was shown there, some languages can have different alignments for case and agreement, suggesting the two are not directly linked. However, certain mismatches do not occur: specifically, it seems ergative-absolutive agreement does not occur in the presence of non-ergative (nominative-accusative or split intransitive) case alignments; this suggests case and agreement cannot be completely decoupled either.

As discussed in §3.1.1, in the majority of languages with split intransitive alignment, the split intransitive pattern is manifest in agreement rather than in case. Ultimately, then, our understanding of this alignment must incorporate a good theoretical understanding of agreement.²⁰

I want to argue for the position that there exist two sorts of agreement, *structural agreement* and *inherent agreement*, in parallel to structural and inherent case. For present purposes, structural agreement is taken to be the valuation of ϕ -features on a functional head by a DP which it c-commands. Inherent agreement is the valuation of ϕ -features on a *thematic* functional head by a DP merged in its specifier.

Having distinguished these two sorts of agreement, I wish to claim the following (cf. Chomsky 1995):

- (27) a. Structural case and structural agreement are distinct; one may occur without the other.
- b. Inherent case may occur without inherent agreement.
- c. Inherent agreement may *not* occur without inherent case.

More formally, a functional head may not have its ϕ -features valued by a DP via inherent agreement unless it also assigns inherent case (27c). The inverse relation does not hold (27b), and no such restriction holds between structural case and agreement (27a). I discuss reasons for this toward the end of this section.

If we assume (following Legate 2002, Aldridge 2004 as above) that ergative is an inherent case, and that ergative agreement is likewise a sort of inherent agreement, this derives the typological gap discussed in §3.4.4.1. Inherent agreement cannot occur without inherent case;

20. I do not discuss other approaches to the problem of case/agreement mismatches; see Bobaljik (2008; Bobaljik assumes a dependent case theory which is not compatible with the inherent case approach adopted here), Woolford (2000, 2006a, 2010, 2015) and Bányai (2015, 2017).

hence, ergative agreement is ruled out in systems without ergative case (this ergative case may be covert, however).

Recall, however, that split intransitive agreement systems can freely occur with both accusative and ergative case systems. If agentive case/agreement is also inherent, this ought also be ruled out. However, we have suggested above (§3.2.2) that agentive case is sometimes structural, assigned by T—and in this case, agentive agreement might also be structural. In languages like Tariana (exemplified in §3.4.4.1), where split intransitive agreement occurs with nominative-accusative case, we can posit the following:

- (28) a. (i) T assigns structural case (nominative) to **A** and **S**.
 (ii) A thematic head assigns case (accusative) to **P**.
 b. (i) T agrees structurally with **A** and **S_a**.
 (ii) A thematic head agrees structurally with **P** and **S_p**.

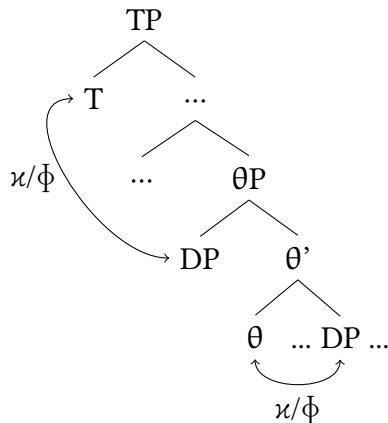
This is represented as in (29). Structural case or agreement occurs when T or θ (i.e. one of the VICTR heads) enters into such a relation with an argument it c-commands. Recall that θ may correspond to different heads in different languages.

Note also the following additional conventions:

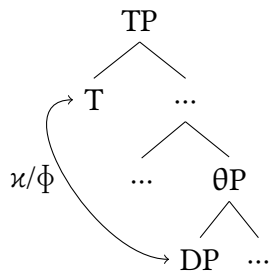
- (i) An arrow formed of a dotted line pointing from the DP to the functional head denotes a ϕ -agreement relation. Such arrows are labelled ϕ .
- (ii) An arrow formed of a dashed line pointing from the functional head to the DP denotes a case assignment relation. Such arrows are labelled κ .
- (iii) A doubled-headed arrow formed of a continuous line denotes that both phi-agreement and case assignment relations hold between the functional head and the DP. Such arrows are labelled κ/ϕ .

(29) **Nominative-accusative case + split intransitive agreement**

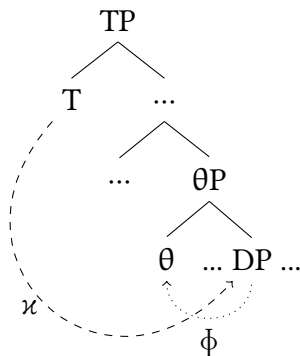
a. Transitives:



b. Agentive intransitives:



c. Patientive intransitives:



In this sort of system, θ agrees with arguments which it c-commands, and T agrees with any remaining argument. (This is the standard extended accusative-type split intransitive agreement system.) As far as case is concerned, however, there is also a transitivity condition: θ does not assign case in intransitives ('Burzio's generalisation', Burzio 1986), and so T assigns case to a wider set of arguments. (This is the standard nominative-accusative case system.)

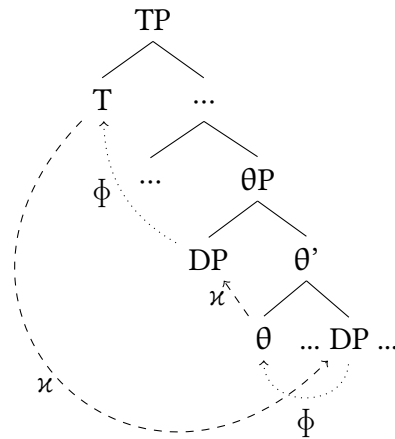
I am making the standard assumption that no argument can agree more than once (Chomsky 2000).

We can also derive ergative-absolutive case with split intransitive agreement, as in Natchez

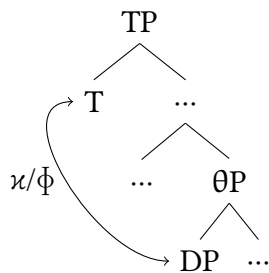
(see again §3.4.4.1), diagrammed as follows:

(30) **Ergative-absolutive case + split intransitive agreement**

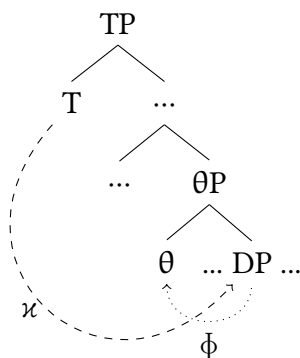
a. Transitives:



b. Agentive intransitives:



c. Patientive intransitives:



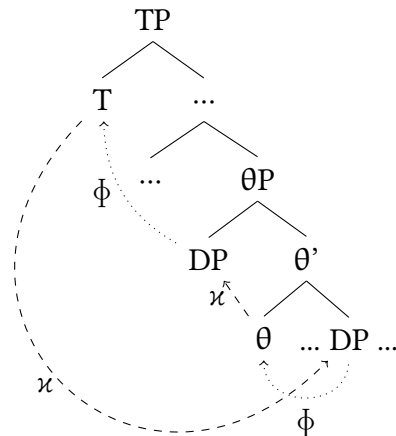
Here, inherent case occurs when θ enters into a case relation with the argument in Spec, θP .

There are various systems which give rise to split intransitive case with nominative-accusative agreement. In the system diagrammed below, which is that adopted for Georgian (see chapter 5), agentive case is not accompanied by agentive agreement, leaving T free to agree with **A**

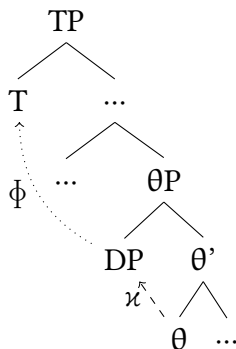
and **S**:

(31) **Split intransitive case + nominative-accusative agreement**

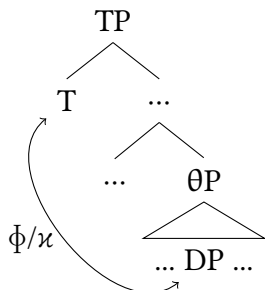
a. Transitives:



b. Agentive intransitives:



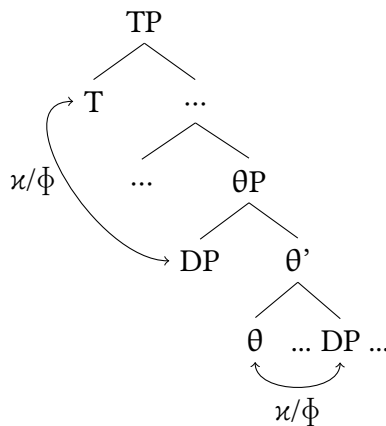
c. Patientive intransitives:



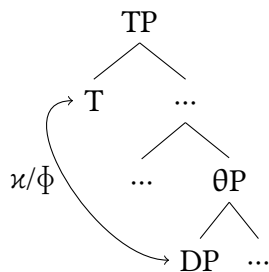
In some languages, agentive case is always accompanied by agentive agreement, and patientive case by patientive agreement. One system in which this occurs is the following, argued for for Basque in §4.3.2:

(32) **Split intransitive case + agreement (Basque type)**

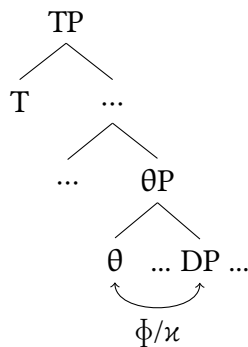
a. Transitives:



b. Agentive intransitives:



c. Patientive intransitives:



Several other systems involving split intransitive alignment (for case or agreement or both) are possible; I will not present them all here. However, I have demonstrated that this approach allows the derivation of a range of language types, whilst also ruling out types which do not seem to occur.

The postulation that inherent agreement exists at all may be controversial; Woolford (2006a: §1.4, 2010: 42) specifically rejects the notion of inherent agreement. However, it seems to me that given the existence of structural case, structural agreement and inherent case, we would most naturally expect the existence of inherent agreement—otherwise we would have a problematic gap in our case/agreement typology (see table 3.11). The reader is also referred to the empirical arguments for inherent agreement in Chol provided by Coon (2016, 2017).

	Case	Agreement
<i>Structural</i>	Occurs	Occurs
<i>Inherent</i>	Occurs	?

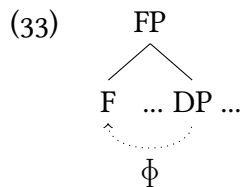
Table 3.11: Varieties of case and agreement

What about the claims made in (27) about the relation between case and agreement, particularly the claim in (27c) that inherent agreement relies on inherent case? A priori, there is no reason to assume that case and agreement should not be independent, so the first two statements ((27b), (27a)) are not problematic. But why should inherent agreement not be able to occur independently?

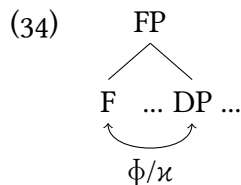
One potential explanation is rooted in acquisition. Inherent case and agreement are closely connected to thematic roles, and thematic roles are fundamentally properties of arguments. Therefore, the learner expects thematic relations to be marked in the first instance on nominals, not verbs. Therefore, inherent agreement (the reflex of a thematic relation on the verb) can only be postulated in the presence of inherent case (the reflex of a thematic relation on the nominal).

A more formal explanation can be adapted from the standard approach to Agree (Chomsky 2000, 2001). Ordinarily for a goal G to value a feature of a probe P, P must c-command G. However, Chomsky allows for a case feature to be valued on a DP provided that DP values its ϕ -features on a c-commanding probe in the normal way. Generalising this, we may say that G may alternatively value a feature on P if P is independently able to value a separate feature on G (i.e. if G c-commands P, and (i) bears features $[F_1:_, F_2:val]$; (ii) F bears features $[F_1:val, F_2:_]$). That is, ‘upward’ Agree occurs only if a ‘downward’ Agree relation also holds between the same elements.

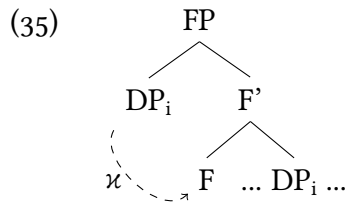
This might be adapted to explain (27). In cases of structural ϕ -agreement, a functional head F bearing unvalued $[\phi:_]$ c-commands a DP bearing valued $[\phi:val]$. Thus the DP can value F’s $[\phi:_]$ features.



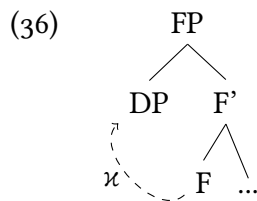
With structural case, there are two possibilities. Firstly, a DP bearing $[Case:_]$ is c-commanded by F bearing $[Case:val]$, but the DP values F’s ϕ -features. Because the DP values a feature of the higher F, F is in turn able to value the case feature of the DP, even though in this instance the goal (for the case feature) is not c-commanded by the probe.



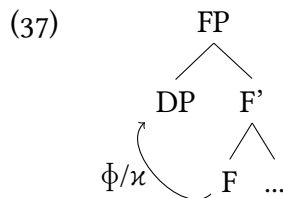
Alternatively, where no ϕ -relation holds, DP bearing [Case:_] may move to c-command F, and probe for its [Case:val] feature:²¹



In instances of inherent case, a DP bearing [Case:_] c-commands F bearing [Case:val], and F can thus value the DP's case feature:



Inherent agreement (valuation of [ϕ :_] on F through Agree with the [ϕ :val] features of the DP) is possible if the above inherent case relation holds, because even though the probe F is not c-commanded by the goal DP, the case relation between them allows the ϕ -agreement relation to take place regardless.



However, inherent agreement cannot occur without inherent case. Inherent agreement takes place in the Spec-Head configuration: if the [ϕ :_] features could be valued by a c-commanded goal, we would have ask why (for example) ergative agreement features are not valued by **P**. Further, if a thematic head θ incorporates into T, and T has its own unvalued [ϕ :_] features, the two sets of [ϕ :_] features are no longer distinct. (This follows from a version of the defective goals account of incorporation (Roberts 2010a), according to which a head H incorporates into a higher head G if and only if H's formal features are a proper subset of G's.) Thus we end up with what resembles a nominative-accusative agreement alignment (as T agrees with **S** in intransitives). Conversely, if the higher head lacks a [ϕ :_] feature, θ is unable to incorporate into it at all. This may force θ to remain in situ, where it cannot agree.

Note that the postulation of the two sorts of agreement and their relation to case does not necessarily rely on the VICTR model; in this respect it is similar to the postulation of the

21. This assumes the whole DP can act as a probe, as D does not itself c-command F where DP has a complement or specifier. Plausibly this might be allowed by the copying of D's features onto its maximal projection as part of the labelling operation (cf. Chomsky 1995).

extended accusative and extended ergative subtypes in §3.2.3. It is presented here as part of the overall aim of the chapter to produce a generally applicable model of alignment, of which the VICTR is only one part, albeit an important one. Some specific predictions of the VICTR model in this regard will be given at the end of the next section.

In summary, it is possible to account for case and agreement patterns in the world's languages on the assumption that structural case and structural agreement are separate, whereas inherent agreement is always linked to inherent case (though not vice versa). The following subsection will spell out in more detail the assumptions of the model of case and agreement adopted here, which will be applied to specific languages in the subsequent chapters.

3.6 Acquisitional limits on variation

From the discussion in §3.3, it is clear that there is a good deal of variation in the semantic basis of split intransitive alignment, but there are also considerable commonalities between languages with similar systems. In this section I wish to stress the ways in which all split intransitive systems resemble each other (even where it is not so immediately apparent), and present an explanation for the similarities grounded in the VICTR Hierarchy.

The starting point is the position that split intransitive case and agreement is directly sensitive to the features of the VICTR heads, as argued for here. Next, recall the two 'core feature sets' proposed in §2.4: the agentive core features and patientive core features. The values associated with these core sets are repeated in table 3.12.

Core feature set	[volition]	[initiation]	[consecution]	[transition]	[result]
Agentive	+	+	+	–	(–)
Patientive	(–)	(–)	–	+	+

Table 3.12: The core feature sets

These sets were originally presented in the context of the discussion of split intransitive auxiliary selection in the languages of Western Europe, and also discussed in relation to English. The degree of variation observed there is relatively limited compared to the amount seen with split intransitive case and agreement. However, the same core sets can also be used to explain variation of the latter type.²²

On a closely related point, note that many split intransitive case and agreement systems do not exhibit correspondence with Sorace's (2000) Auxiliary Selection Hierarchy (ASH). (This point is discussed more extensively in J. Baker 2013.) This is illustrated in table 3.13. Some systems certainly do, including those found in Basque and Georgian to be considered in more detail in the subsequent sections, and also Chol in the table given. But in other cases different patterns emerge. To take the two most prominent instances, in systems sensitive to [\pm volition] alone (e.g. Tsova-Tush in the table), verbs at both ends of the ASH are found with agentive

22. As to why auxiliary selection in Western Europe shows less variation, this may simply be because it concerns a phenomenon which has arisen in a relatively short time-frame amongst a small group of geographically proximate languages; it is not that the model presented is insufficiently restrictive.

case or agreement; in systems sensitive only to stativity (e.g. Guaraní) verbs in the centre of the ASH are associated with one set of marking and verbs on either side with the other.

	Basque	Chol	Tsova-Tush	Guaraní
Controlled non-motional consecution	AGT	AGT	AGT	AGT
Controlled motional consecution	AGT	AGT	AGT	AGT
Uncontrolled consecution	AGT/PAT	AGT	PAT	AGT
Existence of state	AGT/PAT	PAT	PAT	PAT
Continuation of pre-existing state	AGT/PAT	PAT	PAT	AGT/PAT
Change of state	PAT	PAT	AGT/PAT	AGT
Change of location	PAT	PAT	AGT/PAT	AGT

Table 3.13: Summary of correspondences with Sorace’s (2000) Auxiliary Selection Hierarchy in a selection of languages with split intransitive alignment

The ASH is thus too restrictive to account for all variation in split intransitive alignment, though the fact that some split intransitive case/agreement systems adhere to the ASH is still significant. However, the notion of core feature sets is more helpful.

Assume that split intransitive case/agreement systems can be seen as ‘generalisations’ or ‘extensions’ in some sense of case and/or agreement features more typically associated with transitive arguments.²³ More specifically, the feature associated with ‘agentive’ case or agreement is generalised/extended to some intransitive contexts from a feature otherwise associated with transitive **A** arguments; I will call both agentive case and agentive agreement features [AGT] for present purposes.²⁴

In most split intransitive case/agreement systems, **A** and **S_a** are marked in the same way. We can thus say they are both associated with an [AGT] feature. We can also reasonably suppose as a general functional tendency that when some intransitive subjects are treated like transitive higher arguments and some like lower arguments, this split should have some coherent (featural) basis. Thus, if some intransitive arguments (**S_a**) are associated with [AGT], and so are some transitive arguments (**A**), then **S_a** and **A** should also have something else in common, statable in featural terms.

We can thus appeal to the agentive core features. **A** arguments, as discussed in §2.4.2.6, typically bear one or more of the roles θ -VOLITION, θ -INITIATION and θ -CONSECUTION, connected to the corresponding positive values of the corresponding VICTR heads (and negative values of the two other, lower heads). So in split intransitive systems [AGT] is associated with these same values. We thus expect in split intransitive systems that intransitive arguments which are also associated with [AGT] (**S_a**) will also be associated with these roles and feature

23. Cf. Sheehan (2017), and also the more general process of Input Generalisation of Roberts (2007) discussed in §2.4.2.6.

24. Notionally the case/agreement feature associated with transitive **P** arguments could also be extended. This is certainly what is suggested by the apparent existence of ‘extended accusative’ systems (§3.2.3). It is noteworthy, however, that it is the patientive core features (particularly [+transition]) that seem for whatever reason to play markedly less of a direct role in the split intransitive case/agreement systems of the world than the agentive ones, as §3.3.2 to §3.3.6 indicate, though it is possible [+‘result’] is important in at least some of the languages with an eventive/stative split (see §3.3.5). This discussion will thus focus on the agentive core features.

values.

Different languages associate [AGT] with the agentive core features in different ways. Some only pay attention to one of the core features in this regard, associating intransitive [AGT] just with [+volition] (§3.3.2), [+initiation] (§3.3.3) or [+consecution] (§3.3.4). In other instances, more than one core feature is at play (see §3.3.7), and the resulting system may be relatively complex (see the discussion of Basque and Georgian in the next chapters).

What about systems sensitive, wholly or in part, to stativity (§3.3.5, §3.3.7)? In these instances the values of all the VICTR heads are at play, if for example [AGT] is associated with all intransitive predicates except those which are [-volition, -initiation, -consecution, -transition, +‘result’]. These can be seen as extending [AGT] in relation to a broader property of **A** arguments: their typical status as arguments of which some sort of *event* is predicated. (Events can also be predicated of **P** arguments as well, of course (where these bear θ -TRANSITION), but very many **P** arguments are not merged in the specifier of an eventive head—for example, when they are *RHEMES*, if we follow Ramchand (2008); most **A** arguments, on the other hand, are merged in the specifiers of the eventive heads Initiation or Consecution.) Thus, in systems with a simple eventive/stative opposition in intransitives, the association with [AGT] is extended to all intransitive arguments except those of which only a state is predicated.

Importantly, this approach restricts the ways in which split intransitive alignment systems can be formed. Systems which do not relate in the sort of ways just sketched to the core feature sets, or the more general agentive core property of eventivity, are predicted not to occur (and do not, as far as I am aware). So, for example, we do not expect to see a system where (in intransitives) θ -TRANSITION arguments are agentive and all others are patientive, because [+transition] is not one of the agentive core features. The same could be said of θ -RESULT and [+result]. This is not to say that θ -TRANSITION or θ -RESULT arguments can never be agentive; in many languages they can (e.g. with [+volition, +transition] verbs in Eastern Pomo; see §3.3.2). But this is always because they also bear θ -VOLITION, θ -INITIATION and/or θ -CONSECUTION roles, depending on the language in question. Neither do we expect a language where (say) θ -VOLITION arguments are patientive and all others are agentive, because it is [+volition] not [-volition] which is associated with agentive marking, and similarly for θ -INITIATION/[+initiation] and θ -CONSECUTION/[+consecution].

This thus permits a high degree of variation which is not however without bounds, which seems to correspond to what we observe in practice. Not all of this variation corresponds to Sorace’s ASH, though some of it may. Where it does, this is again related to the core feature sets, in ways similar to that discussed in relation to auxiliary selection in §2.4; I will return to this discussion in more detail in the next two chapters.

This variation (and its limits) can again be seen to arise from the ways in which languages are acquired. Learners generalise patterns, which leads to the sort of systems we observe, but there is always a basis in the input for this process of generalisation (e.g. the properties typically associated with higher arguments) and the generalisation does not precede without

natural limits (e.g. a coherent featural basis for treating some intransitive arguments like some transitive ones).

The limits on variation are not unrelated to the VICTR Hierarchy. As well as split intransitive alignment being sensitive (in general) to the features of the hierarchy, it is worth restating that the core feature sets correspond to the positive and negative feature values in different, individually contiguous portions of the hierarchy. This follows straightforwardly from the way in which **A** arguments are associated with positions toward the top of the structure, and **P** arguments with positions toward the bottom.

In summary, therefore, split intransitive alignment shows a good deal of structured variation, which can be understood in terms of the agentive core feature set embedded within the VICTR approach.

Furthermore, there are certain apparently systematic differences between case- and agreement-based split intransitive patterns. I leave aside those factors conditioning splits which are only rarely attested, as well as more complex systems, as meaningful comparison between case and agreement cannot be made here—there simply are not enough languages to consider. Instead, I focus on the three most frequent patterns: splits sensitive to [\pm volition] or ‘agentivity’, splits sensitivity to stativity, and splits sensitive to [\pm consecution] or ‘unaccusativity’. It should be remembered that the exact characterisation of many of these systems is not always clear. [\pm volition] is attested about as often as the sole or main factor in case-based systems as agreement-based ones: 7 and 8 times respectively.

However, as agreement-based systems are considerably more frequent overall, it seems [\pm volition] is really significantly more likely to be the source of the split when it is instantiated in terms of case. Very much the opposite pattern is found with splits sensitive to stativity, which are nearly all instantiated in terms of agreement (7 systems where it is the sole factor)—only in Loma is it found with case, where however it is restricted to pronouns (and patientive pronouns are realised tonally on the verb). Splits apparently sensitive to [\pm consecution] are, like those sensitive to [\pm volition], more common with case-marking (6 languages) than agreement (3 languages, recalling again the higher frequency of split intransitive agreement systems overall).

All this is, in fact, support for three aspects of the model adopted here: the core feature sets, the distinction between the extended ergative and extended accusative subtypes, and the reliance of inherent agreement on inherent case. In order to support this point, it is necessary first to discuss some predictions of the VICTR approach regarding diachrony.

When an extended accusative system develops diachronically from a previous canonical nominative-accusative system, patientive case or agreement with intransitives can be expected to first emerge in [+transition] and/or [+result] contexts, with agentive elsewhere; these contexts correspond to the most prominent features of the patientive core feature set. This is because the accusative source of the patientive is associated with lower arguments, which in turn are associated with these core features. An example of this might be the development of an ‘active-stative’ system, where θ -‘RESULT’ arguments are marked differently from others.

Conversely, when an extended ergative system develops from canonical ergative alignment, agentive case or agreement should first appear in [+volition], [+initiation] and/or [+consecution] environments, with patientive elsewhere. (This may produce superficially very similar patterns to the extended accusative systems, but differences should nevertheless be apparent, highlighting again the importance of paying attention to the finer details of variation.) These are features of the agentive core set, associated like the ergative marking being re-analysed with higher arguments. The development of systems dependent on the [\pm volition], [\pm initiation] or [\pm consecution] features is expected to come under this category.

Similar predictions might be made regarding acquisition: in extended accusative systems over- and undergeneralisation errors should generally concern the [\pm transition] and [\pm result] features, whereas in extended ergative systems they should concern [\pm volition], [\pm initiation] and [\pm consecution]. In the first, the learner is attempting to apply the patientive core feature set to the data; in the second, the agentive core set.

How, then, do the facts above support the various aspects of the model adopted here? To summarise: extended ergative systems can be expected to show sensitivity to the agentive core features when they first emerge diachronically, and hence such systems overall are more likely to be sensitive to [\pm volition], [\pm initiation] or [\pm consecution]. On the other hand, newly developed extended accusative systems are expected to show sensitivity to the patientive core features, [\pm transition] or [\pm result]. Furthermore, the extended ergative pattern is less likely to be instantiated in terms of agreement than the extended accusative pattern. This is because extended ergative agreement relies on the presence of (overt or covert) extended ergative case, whereas extended accusative agreement can occur with any case marking type. (Nominative-accusative agreement systems are also more common than ergative-absolutive ones overall.)

Overall, then, it is to be predicted that the patientive core feature [\pm 'result'] will be extended more often into intransitive agreement patterns (leading to a stative/non-stative split) than the agentive core features [\pm volition] and [\pm consecution] will. This seems to be borne out by the observed patterns—though note, as the data show, that this does not mean that only case can be sensitive to [\pm volition] and [\pm consecution], or that agreement can only be sensitive to [\pm 'result'], merely that certain systems are more frequent than others.

It may also be significant that languages with split intransitive systems manifest in case seem exclusively in terms of their basic word order to be SOV, whereas the same is not true of split intransitive agreement systems. If the claim above that split intransitive agreement is more likely to be of the extended accusative type is correct, this may shed light on the observed word order pattern, given that canonical ergative systems tend strongly to avoid the SVO order which is common with nominative-accusative alignment.

Unfortunately it is not possible to say much directly on whether extended ergative or extended accusative systems are typically sensitive to different factors from the available data. (Though the general prediction from the above discussion is that splits sensitive to [\pm volition] and [\pm consecution] will tend to be extended ergative and those sensitive to [\pm 'result'].) This is because there are very few languages in which information is known on the conditioning

factors of the intransitive split alongside robust cues as to which subtype a language belongs, without studying these languages in more depth.

One observation which can be made is that languages which overtly mark only agentive case seem generally to be sensitive to [\pm volition] and/or [\pm consecution]; however, the number of languages in question is small. These languages probably tend to be of the extended ergative subtype, as extended accusative systems would more typically be expected to mark only patientive.²⁵ This is support for the prediction that extended ergative systems tend to arise based on an extension of these particular (agentive) features.

Those languages which are here studied in more detail, Basque and Georgian, may be instructive in this regard. Basque has an extended accusative system, and on the analysis presented in chapter 4 a sensitivity primarily to [\pm consecution], [\pm transition] and [\pm result]. Georgian, on the other hand, has an extended ergative system, and on the analysis given in chapter 5 a sensitivity primarily to [\pm volition], [\pm consecution] and [\pm transition]. Whilst there are considerable overlaps between the two systems, the fact that [\pm result] plays a larger role in Basque, and [\pm volition] a larger role in Georgian, is in line with the prediction.

The hypothesis that inherent agreement relies on inherent case may also allow specific predictions. Notionally, it is possible that a language might have split intransitive in both case and agreement, but where each is sensitive to different features of the VICTR Hierarchy. This does not seem likely to occur with much frequency, firstly as few languages have both split intransitive case and split intransitive agreement and secondly as the tendency to generalise patterns would probably render any such system diachronically very unstable. However, if such a language were to be found, its agreement would have to be either (i) of the extended accusative type or else (ii) found exclusively in a subset of instances where agentive case is also found, as agentive agreement in an extended ergative system requires an extended ergative (inherent agentive) system of case.

3.7 Comparison with other approaches

In this section I wish to compare the approach to case and agreement defended in this chapter with various other possibilities. §3.7.1 considers some other possible approaches to case, in particular the so-called dependent case approach, and the reasons these are not adopted here. §3.7.2 likewise discusses the advantages of the present approach to split intransitive alignment over other ways in which split intransitivity might be understood in structural and thematic terms: namely the Unaccusative Hypothesis and the approaches of Primus (1999) and Ramchand (2008).

25. Though Basque, analysed in §4.3.2 as extended accusative in spite of the fact that agentive case is marked and patientive unmarked, appears to be an exception to this generalisation.

3.7.1 Other approaches to case

In this subsection I consider various alternatives to the approach to case adopted here, which is based in the work of Chomsky (2000, 2001) and the inherent case theory of Legate (2002), Aldridge (2004) and other work. I focus on dependent case theory (§3.7.1.1) but also briefly consider some other approaches (§3.7.1.2).

Before continuing, an important note: I am assuming that apparently intransitive clauses are *genuinely* intransitive. A number of the approaches dismissed below can be ‘rescued’ as viable starting points for the analysis of split intransitive systems if it is assumed that certain clauses with only one surface argument in fact have a second covert argument: that is, in spite of appearances, they are formally transitive. One way in which this might be modelled is by taking so-called ‘unergative’ predicates to involve incorporation of an underlying object into a light verb, along the lines suggested by Hale and Keyser (1993). This is certainly not incompatible with the VICTR approach, but I believe it lacks sufficient empirical support: for example Preminger (2012) gives arguments against positing covert objects in Basque; the fact that English ‘unergative’ verbs do not allow overt cognate objects as readily as is sometimes suggested (see §2.2.6) is also evidence against Hale and Keyser’s approach. Hence, I do not wish to pursue this idea further here.

3.7.1.1 Dependent case theories

Briefly, the dependent case approach (Marantz 1991, M. Baker 2015 amongst others) derives case-marking of arguments in terms of the presence or absence of other arguments. M. Baker (2015: 79) presents the following general form for dependent case rules:

- (38) If XP bears c-command relationship Y to ZP in local domain WP, then assign case V to XP.

Instantiations of this schema which derive ergative and accusative case are as follows (M. Baker 2015: 80):

- (39) a. If XP c-commands ZP in the same TP, then assign ergative case to XP.
b. If XP is c-commanded by ZP in the same TP, then assign accusative case to XP.

Nominative and absolutive are unmarked cases assigned to arguments in the absence of other case-marking. Hence, if (39a) is active in a language, but (39b) is not, then the language has an ergative alignment; conversely, if (39b) is active but (39a) is not, a nominative-accusative alignment results.

There are certain conceptual problems with the dependent case approach. Specifically, it can be subjected to many of the same criticisms as levelled at the Government Binding (GB) framework (see e.g. Chomsky 1995, Boeckx 2014). (38) is a sort of ‘parameter’, but it does not fit into any more general parameter format or schema (for instance, variation in the features of functional heads as required by the Borer-Chomsky Conjecture (BCC), discussed in §1.3.2 and

returned to in §3.2.3). It could be that case is determined by so-called ‘PF parameters’, which doubtless exist in some sense (given the ways in which languages differ in their morphology, phoneme inventories, phonological rules etc.) and are not constrained by the BCC. However, this does not make the problem go away. An optimal theory of PF variation, like a theory of variation in the narrow syntax, ought probably still to be constrained; if we simply allow any sort of rule we want, without connecting it to a deeper theory of what PF rules are and are not allowed to be, we run the risk of insufficient restrictiveness. The dependent case rules have not yet been situated in any such theory, just as many of the postulates of GB Theory were not situated in any deeper constraints on what could or could not be contained within a grammar, something which has rightly been criticised.

There is a further argument for wanting to minimise our reliance on PF variation (and other variation outside of the narrow syntax) as much as possible: it multiplies the means by which we can capture variation, ultimately reducing the overall parsimony of the theory. This is particularly true in this instance, where case has been dealt with in ways that have not yet been generalised to other aspects of language: the dependent case rules have no applicability to anything other than the case phenomena they describe.²⁶ On these grounds, all else being equal, a theory which can describe case patterns in purely narrow syntactic terms—in terms reducible to Merge, Agree, formal features etc., which are also useful for understanding other syntactic behaviours—is preferable to one which requires relatively ad hoc additions to our overall theory of language.

M. Baker (2015: 50) draws parallels between the case rules and Kayne’s (1994) Linear Correspondence Axiom (LCA), which maps syntactic structure onto linear order. But the LCA differs from dependent case theory in at least two important respects. Firstly, it is invariant (at least in many conceptions, including Kayne’s original). Secondly, it is difficult to see how spoken language and hierarchical structure could co-exist without some principle mapping hierarchical structure onto linear order, so something akin to the LCA is required—whereas the overt expression of case, conversely, is not a necessary feature of human language. In sum, whatever advantages there might be to the dependent case approach, it is conceptually problematic from a minimalist perspective.

Even putting these problems aside, a very specific—and very significant—issue remains in regard to split intransitive systems. Dependent case as outlined under the general schema in (38) requires the presence of two arguments: but this simply *cannot apply to intransitive clauses where only one argument is present* (cf. the remark on Hale and Keyser (1993) above).

One potential solution to this problem is that one of the core cases in a split intransitive system is a lexical case, in the specific sense of Woolford (2006b): an idiosyncratic, lexically-selected case (cf. M. Baker 2015: 47fn.15). But an analysis in terms of lexical case does not capture the significant systematicity of case assignment in most of these languages. In Chol, for example, intransitive verbs denoting consecutions almost always occur with one set of agreement marking, intransitive verbs not denoting consecutions almost always occur with the

26. A more generally applicable theory along similar lines is certainly conceivable (see Pesetsky 2011)—but no such theory has been worked out in detail.

other set. An analysis in terms of lexical case, which is prototypically lexically idiosyncratic, does not have anything interesting to say about these patterns. See the following chapters for further discussion of the systematicity of split intransitive case assignment.

Another possibility is that case differences under split intransitive alignment relate to the domains of case assignment. For example, perhaps a ‘patientive’ case marking **P** and **S_p** arguments is only assigned within a particular domain (regardless of the presence of other arguments). On a more traditional approach, this domain might be VP (where **S** and **S_a** are higher in the clause in Spec,vP); on a VICTR approach it might be TransitionP, for example.²⁷ This solution, however, jettisons the ‘dependent’ part of dependent case and starts to look a lot more like a traditional structural case approach—why not formalise matters and say that v or Consecution or whatever assigns [Case:PAT] but only to arguments in its c-command domain? (This is more-or-less the analysis of (some) split intransitive systems we shall end up with, in fact.) It does appear that the dependent case approach struggles to account elegantly for split intransitive systems; the revisions required to make it work are not appealing.

It is perhaps partially on account of these difficulties that M. Baker and Bobaljik (2017: §5.5; henceforth B&B) argue that true split intransitive case alignment does not in fact exist. Certainly this would overcome the problem if true; non-existent systems do not have to be accounted for under the dependent case theory or any other approach. (Agreement is understood differently and does not need to be accounted for in dependent terms (B&B: 133 and see also M. Baker 2015: chapter 2; though cf. Bobaljik 2008), so split intransitive agreement systems are not a problem for the dependent case theory.) However, I believe B&B are in fact wrong to suggest there are no true split intransitive case systems. I will not counter their arguments in detail here, but will briefly overview the problems in their account.

Firstly, they underestimate the frequency of split intransitive case systems: compare the figures in B&B (§5.1) to §3.1 above. B&B suggest there may be only half a dozen or so languages reported to have split intransitive case systems, but my database contains 23, meaning they are (only) about a third as common as languages with split intransitive agreement. Secondly, whilst their argument that no language has uniformly split intransitive case alignment does apparently create certain problems for the inherent case view (though see discussion in §3.2.2 above), the dependent case approach also has its own problems. Thus, while the morphologically unmarked status of the ergative/agentive in certain apparently split intransitive languages (Northern Pomo, Imonda), along with other facts about these languages, indeed suggests it is not an inherent case, this analysis cannot be generalised to most split intransitive case systems.²⁸ Finally, their suggestion that Basque and Laz have concealed arguments of

27. If a dependent case approach to split intransitive alignment along these lines were adopted, the different levels of structure provided by the VICTR Hierarchy could provide a very useful way of capturing these domains, and in particular for capturing certain patterns of cross-linguistic variation (in one language patientive is assigned within ConsecutionP, in another within TransitionP, etc). Thus the VICTR Hierarchy and the dependent case approach are certainly not incompatible, and it would be possible to present arguments for the VICTR Hierarchy in dependent case approach terms. However, as will be seen shortly, I still conclude that the dependent case approach is not the most promising way of capturing these systems.

28. Northern Pomo, its close relative Eastern Pomo, and Imonda are in fact the only languages in my database to have zero marked agentive in a split intransitive case system. However, I do in fact agree with B&B that the

some sort in unergatives is not convincing; no real evidence for such arguments is provided. I thus suggest true split intransitive case systems do, in fact, exist, and will provide a number of analyses of such systems throughout this dissertation.

In sum, I conclude that the dependent case approach is unpromising when it comes to accounting for split intransitive alignment.

3.7.1.2 Various other approaches

Numerous other approaches to ergative case systems have been proposed in the literature. As none of these appears particularly desirable, I will discuss them only briefly.²⁹

Firstly, there is the ‘thematic ergativity’ approach (Levin 1983, Marantz 1984, Dowty 1991); this has ‘largely been abandoned’ on the basis of various empirical evidence against it (Sheehan 2015: 61). Another approach, developed by Johns (1992) specifically for Inuktitut, treats clauses with ergative alignment as nominalisations—but is not clear that this can readily be claimed for the majority of split intransitive case systems.

‘Smuggling’ approaches attempt to account for ergative case systems along the lines of the passive (Roberts 2010b; Koopman 2012). Roberts suggests that ergative subjects are ‘smuggled’ above the object in order to avoid a defective intervention effect. Sheehan (2015: 65) cites some issues with this approach: to these we might add a crucial one as far as understanding split intransitive alignment goes, namely that in intransitive clauses smuggling is not a viable analysis of case effects as there is no other potential intervening DP for the subject to be smuggled past. This, then, also does not provide a useful basis for a theory of split intransitive case.

There are also various ‘Parametrised Agree’ approaches. Bobaljik’s (1993) Obligatory Case Parameter can be dismissed on the grounds of the ‘substantial empirical challenges’ raised by Manning (1996) (Sheehan 2015: 65). The more recent account of Müller (2009) and Assmann et al. (2015) rests on certain, not uncontroversial assumptions and makes overly strong predictions concerning ‘syntactic ergativity’. Furthermore, and most crucially here, ‘[a]ltering the model to allow for languages such as Basque and Chol [i.e. languages with split intransitive alignment] requires considerable complication of the elegant model (see their section 5.2)’ (Sheehan 2015: 66). Overall, I do not consider this sort of approach promising.

3.7.2 Other approaches to split intransitivity

On the model adopted here, split intransitive alignment patterns can be understood in terms of the VICTR Hierarchy in terms of sensitivity of case/agreement to the values of the VICTR heads. Cross-linguistic variation arises due to sensitivity of case/agreement to different heads in different languages. For example, in Eastern Pomo (see §3.3.2), case marking is sensitive to the value of the Volition head, in Chol (see §3.3.4) it is generally sensitive to Consecution, and

‘agentive’ in certain split intransitive languages is not an inherent case, though it is in others; see §3.2.2.
29. This subsection owe a great deal to Sheehan’s (2015: §4) classification of different theories.

so on. Note again that the sorts of properties to which split intransitive alignment tends to be sensitive are mostly those relating to the thematic heads proposed.

In the remainder of this section I will compare the VICTR approach with some other potential approaches to split intransitive alignment, with particular attention to the typology of the semantic basis of split intransitivity discussed in §3.3. In each case, the present approach makes more fine-grained distinctions, which are empirically supported.

3.7.2.1 The Unaccusative Hypothesis

Split intransitive alignment has often been understood in terms of the Unaccusative Hypothesis, where agentive-marked arguments are understood to be external arguments and patientive-marked ones internal arguments (Perlmutter 1978: 165–66, Harris 1981, Levin 1983 and many others), as in the following representations of Georgian:

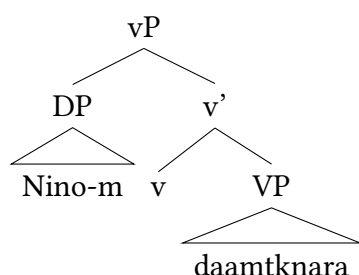
(40) Unergatives:

Nino-m daamtknara.

Nino-AGT she.yawned

‘Nino yawned.’

(Harris 1981: 40)



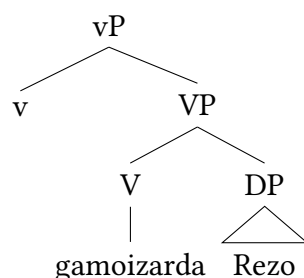
(41) Unaccusatives:

Rezo gamoizarda.

Rezo.PAT he.grew.up

‘Rezo grew up.’

(Harris 1982: 293)



Various problems with this will be discussed in subsequent chapters, but one which is already apparent is that it completely glosses over the matter of cross-linguistic variation, which (as has been shown) is quite substantial. On this sort of approach, for example, the verbs meaning ‘to hiccough’ would be associated with external arguments in Lakota (where they

occur with agentive agreement) but internal arguments in Central Pomo (where the argument receives patientive case):

(42) a. Lakhota:

Blowádkaska.

hiccough.1SG.AGT

‘I hiccough.’

(Mithun 1991: 516)

b. Central Pomo:

To· ščúkčiya.

1SG.PAT hiccough

‘I hiccough.’

(Mithun 1991: 520)

Variation between languages cannot therefore be captured in terms of the syntactic properties alone (cf. the ‘Borer-Chomsky Conjecture’) but must relate to differences in the mapping from semantics to syntax. As well as the need to complicate the architecture of the language faculty if we are to account for this variation in semantics–syntax linking, this is also problematic for M. Baker’s (1987) UTAH.

The VICTR approach, on the other hand, does not encounter these difficulties—arguments are mapped to the same structural positions cross-linguistically, and variation arises because of variation in the features of functional heads (see §3.2.3). See the discussion in §1.3.

The ambivalent class of verbs in Chol discussed in §3.3.8 are also problematic for the Unaccusative Hypothesis. On existing analyses of Chol (such as that of Coon 2010, 2013), patientive agreement surfaces in intransitives where there is only an internal argument; external arguments trigger agentive agreement:³⁰

(43) a. *Tyi* [_{VP} *k’oty-i-yety* *pro*₂].

PRFV arrive.there-ITV-2.PAT you

‘You arrived there.’

(Coon 2010: 56)

b. *Tyi* *pro*₂ [_{VP} *a-cha’l-e* *ts’ijb*].

PRFV you 2.AGT-do-DTV write

‘You wrote.’

(Coon 2010: 58)

(44) a. *Tyi* [_{VP} *wäy-i-yoñ* *pro*₁].

PRFV sleep-ITV-1.PAT I

‘I slept.’

30. For ease of illustration, I have made slightly different assumptions about the structure of these clauses than Coon; this does not affect the argument.

- b. *Tyi pro_i [_{VP} a-cha'l-e wäy-el]*.
 PRFV I 1.AGT-do-DTV sleep-NML
 'I slept (on purpose).'

(Coon 2010: 65)

For most verbs, such as those exemplified in (43), the split is sensitive to [\pm consecution]; for the ambivalents, however (an example of which is given in (44)), [\pm volition] is the determinant factor. On the traditional approach, this would suggest that even within a given language it is possible for thematically equivalent arguments to map to different structural positions, depending on whether an ordinary or an ambivalent verb is employed. Thus, while a [+consecution] verb like *wäy-el* 'to sleep' above takes an internal argument when [–volition], other [–volition, +consecution] verbs like *ja'tsijñ* 'to sneeze' or *ñojk* 'to snore' occur with external arguments (Gutiérrez Sánchez 2004: 281–83). This suggests a need for different linking rules for different verb classes even within a single language—requiring a more complicated understanding of the linking module.

On the VICTR approach, however, patterns such as this need not be problematic. All thematically equivalent arguments in Chol can be said to map to the same positions, and the variation between them can be captured in terms of the features of functional heads: the presence or absence of agreement features on the thematic heads which select ambivalent verbs corresponds to the presence of the [\pm volition] features in this structure, whereas the presence or absence of agreement features on those thematic heads which select other intransitives corresponds instead to the [\pm consecution] feature.

3.7.2.2 Proto-roles

I have assumed here that split intransitive systems can be described primarily in terms of binary features ([\pm volition], [\pm initiation], etc.), either alone or in combination, though I have allowed for lexical idiosyncrasy to play a certain role. This sort of approach is, however, rejected by Primus (1999: §4.5). In this subsection I shall present some arguments for preferring the present approach to that of Primus.

Primus argues that analyses like that of Mithun's (1991) straightforward characterisation of agreement in Guaraní in terms of stativity are insufficient. Instead, she argues that agentive/patientive marking should be related to 'Proto-Agent' properties of independence, sentience, dynamism, causation and control (cf. Dowty 1991, on which Primus draws). The more of these 'basic relations' are associated with an intransitive argument, the more likely it is to occur with agentive marking; conversely, the fewer basic relations associated with such an argument the less likely it is to occur with agentive marking (i.e. the more likely it is to occur with patientive marking).

There are certain advantages to an approach like Primus's. It captures cross-linguistic similarities well, predicting (correctly, to a large extent) that the same sort of verbs will tend to be associated with agentive marking in any given split intransitive system; the same holds of patientive marking. It also predicts that general patterns will have exceptions; this is indeed

the case (see §3.3.8).

Ultimately, however, the approach is itself problematic. For one thing, it does not account for variation between languages in any sort of structured way. At the very least, therefore, it misses significant generalisations about how, for example, volition seems to be the major factor at play in Eastern Pomo whereas stativity is the major factor in Guaraní. The fact that, in a given language, one factor often seems to be much more important than the others goes against the notion that case/agreement-marking can straightforwardly be connected to ‘counting’ the number of proto-properties in play. Relatedly, there are also problems with the notion of ‘likelihood’—dealing only with probabilities (which are themselves not clearly delimited), no very strong predictions can be made about class membership: whereas in fact generalisations about the behaviour of certain semantic classes in any given language are often very robust, with few or no exceptions. (Cf. Arkadiev 2008: 103, who writes in relation to Primus: ‘It turns out that it is usually possible to discern a single proto-property which determines the ‘split’ between Agent-like and Patient-like encoding’.)

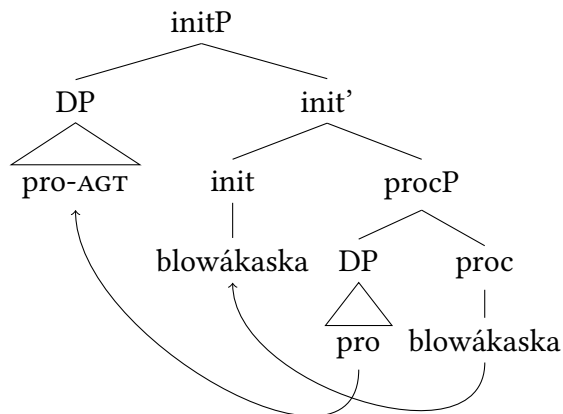
The VICTR approach, which accounts for variation in terms of features like those considered in this section, does not encounter these difficulties. It allows us to make strong generalisations about case behaviours in a given language, with correspondingly strong predictions about the behaviour of individual verbs. It also allows us to capture cross-linguistic variation: different systems are sensitive to different (sets of) features. And, like Primus’s approach, it can account for cross-linguistic similarities, as shown in §3.6, and lexical idiosyncrasies (§3.3.8). In summary, then, there are many reasons to prefer the VICTR approach.

3.7.2.3 Ramchand (2008)

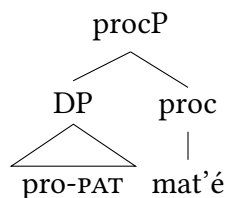
It is also worth comparing again the VICTR approach to that of Ramchand (2008). Recall from §1.2.4 that Ramchand proposes three heads, *init*, *proc* and *res*. It is possible to capture some of the distinctions made in languages with split intransitive alignment using these heads. The distinction between initiated and non-initiated events, for example (§3.3.3) might be connected to the presence versus absence of the *init* head, perhaps with *init* assigning agentive case and arguments not merged in Spec,*init*P getting patientive instead:

(45) Lakhota:

a. *blowákaska* 'I(AGT) hiccough'



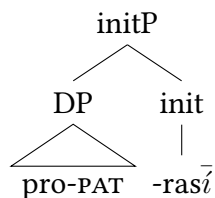
b. *mat'é* 'I(PAT) died'



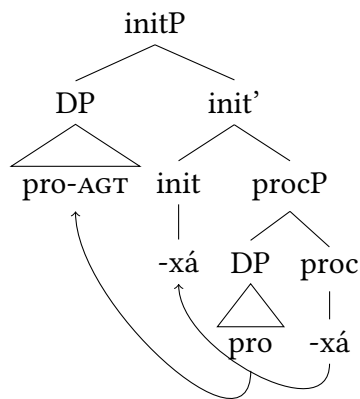
In Ramchand's system, stative intransitives have only an *init* projection, whereas even-tives also have *proc*. This might allow us to capture languages making a distinction between stative intransitives and others (§3.3.5), if for example *proc* assigns agentive in these languages, leaving arguments not merged in Spec,*procP* to receive patientive:

(46) Guaraní:

a. *še-rasĩ* 'I(PAT) am sick'



b. *A-xá* ‘I(**AGT**) go’



But certain other distinctions are decidedly more problematic. Ramchand’s system does not (by itself) account for the [\pm volition] distinction made in many languages (§3.3.2). This might be seen as particularly problematic given the frequency of such systems; indeed, they occur rather more often than the [\pm initiation] type instantiated by Lakota. Such robustly attested patterns are naturally attributed to a syntactic property rather than simply to encyclopaedic information contained in lexical items (cf. Ramchand 2008: 70–71).

Neither does Ramchand’s system account directly for those systems analysed here as sensitive to [\pm consecution] (§3.3.4). Again, such systems are frequent. We have already seen (§2.3.2, §2.4.3) the value of this distinction in capturing many of the distinctions made in English and other Western European languages, and how attempts to formulate the distinction in other ways in terms of the basic configurations allowed by Ramchand lead to incorrect predictions. For example, Ramchand assumes the same [*init*, *proc*, *res*] structure for inherently telic change of location verbs like ‘arrive’ and ‘go’ and semelfactive verbs like ‘jump’ and ‘cough’; however, these display distinct case/agreement behaviours in some languages which is thus not captured on Ramchand’s system:

(47) Basque:

- a. *Gizon-a-Ø joan da.*
man-DEF-PAT gone is
‘The man has gone.’
- b. *Gizon-a-k saltatu du.*
man-DEF-AGT jumped has
‘The man has jumped.’

On the VICTR approach, examples like (47a) are analysed as [–consecution] and those like (47b) as [+consecution], successfully accounting for the differences (see the next chapter for further discussion of the details of the Basque system).

It is thus difficult to see how this approach, without further modification, can account for various case or agreement patterns which are observed across a number of languages. The

VICTR approach, however, is able to make the same distinctions as made on Ramchand's system, whilst also making additional distinctions that can capture certain alignment patterns which Ramchand's approach seems not to.

3.8 Conclusion

This chapter has considered split intransitive alignment from a broad cross-linguistic perspective. The purpose of this has been to provide evidence for a formal model of split intransitive case and agreement, which is based in the VICTR Hierarchy and has been sketched in general terms.

The semantic basis of split intransitive alignment patterns and the encoding of this semantic basis in terms of the formal model of case and agreement adopted will continue to be the focus in the next two chapters, each of which explores in more detail a single language with this sort of alignment system: respectively, Basque and Georgian.

Appendices to chapter 3

Appendix 1: Core information on languages consulted

WALS = *World Atlas of Language Structures* (Dryer and Haspelmath 2013)

Language	Family	Location	Main source(s)
Abui	Trans-New-Guinea	Indonesia	Klamer 2008
Acehnese	Austronesian	Indonesia	Durie 1985
Acoma	Keres	New Mexico	Miller 1965
Alabama	Muskogean	Texas	Donohue 2008
Ambonese Malay*	Creole	Malaysia	Creissels 2008, Donohue 2008
Amele	Trans-New-Guinea	Papua New Guinea	Malchukov 2008
Amis	Austronesian	Taiwan	Tsudika 2008
Amuesha	Arawakan	Peru	WALS
Apurinã	Arawakan	Brazil	WALS
Arapesh (Mountain)	Torricelli	Papua New Guinea	Conrad 1991
Arawak	Arawakan	Venezuela, Guyana, Suriname, French Guiana	WALS
Arikara	Caddoan	North Dakota	Merlan 1985
Atakapa	Isolate	Louisiana, Texas	Mithun 2008
Baniwa do Içana	Arawakan	Columbia, Venezuela, Brazil	Danielsen and Granadillo 2008
Basque	Isolate	Spain, France	See chapter 4
Baure	Arawakan	Bolivia	Danielsen and Granadillo 2008
Beria	Saharan	Chad, Sudan	Creissels 2008
Budukh	NE Caucasian	Azerbaijan	Harris 2002
Caddo	Caddoan	Oklahoma	Mithun 1991

Language	Family	Location	Main source(s)
Camaiura	Tupi-Guarani	Brazil	Primus 1999
Central Pomo	Pomoan	California	Mithun 1991
Chickasaw	Muskogean	Oklahoma	Andréasson 2001
Chimariko	Isolate	California	Mithun 2008
Chitimacha	Isolate	Lousiana	Mithun 2008
Choctaw	Muskogean	Oklahoma, Mississippi	Donohue 2001, Palmer 1994
Chol	Mayan	Mexico	Coon 2010
Creek	Muskogean	Oklahoma, Florida	Mithun 2008
Crow	Siouan	Montana	Kaschube 1967
Cupenõ	Uto-Aztecan	California	Palmer 1994
Dakota	Siouan	North Dakota, South Dakota	Merlan 1985
Dobel	Austronesian	Indonesia	Klamer 2008
Eastern Pomo	Pomoan	California	McLendon 1978
Galela	West Papuan	Indonesia	Holton 2008
Georgian	Kartvelian	Georgia	See chapter 5
Guajajara	Tupi-Guarani	Brazil	Primus 1999
Guaraní	Tupi-Guarani	Paraguay, Argentina, Bolivia, Brazil	Mithun 1991
Haida	Isolate	Alaska, British Columbia	Mithun 1999
Hidatsa	Siouan	North Dakota, South Dakota	Robinett 1955
Hindi	Indo-European	India	Sheehan 2017
Iha	Trans-New-Guinea	Indonesia	Donohue 2008
Ika	Chibchan	Panama, Colombia	Frank 1990
Imonda	Border	Papua New Guinea	Seiler 1985
Ingush	NE Caucasian	Russia, Kazakhstan	Nichols 2008

Language	Family	Location	Main source(s)
Kambera	Austronesian	Indonesia	Klamer 2008
Karuk	Isolate	California	Mithun 2008
Kashmiri	Indo-European	India, Pakistan	Wali and Koul 1997
Kedang	Austronesian	Indonesia	Klamer 2008
Ket	Yeniseian	Russia	<i>WALS</i>
Kewa	Trans-New Guinea	Papua New Guinea	Franklin 1971
Klon	Trans-New-Guinea	Indonesia	Klamer 2008
Koasati	Muskogean	Louisiana, Texas	Mithun 1999
Kolana	Trans-New-Guinea	Indonesia	Donohue 2001
Kott	Yeniseian	Russia	Vajda 2008
Lak	NE Caucasian	Russia	Radkevich 2016
Lakhota	Siouan	North Dakota, South Dakota	Mithun 1991
Larike	Austronesian	Indonesia	Laidig 1993
Laz	Kartvelian	Turkey, Georgia	Harris and Campbell 1995
Lezgian	NE Caucasian	Russia, Azerbaijan	Haspelmath 1993
Loma	Mande	Liberia, Guinea	Arkadiev 2008
Mandan	Siouan	North Dakota	Kennard 1936
Mangarayi	Gunwingguan	Australia	Merlan 1985
Mohawk	Iroquoian	New York, Ontario, Quebec	Mithun 1991
Nasioi	South Bougainville	Papua New Guinea	Hurd and Hurd 1970
Natchez	Isolate or Muskogean	Oklahoma	Mithun 1999
Neo-Aramaic	Semitic	Turkey, Iraq, Iran	Doron and Khan 2012
Nepali	Indo-European	Nepal	Li 2007
Northern Pomo	Pomoan	California	Deal and O'Connor 2010

Language	Family	Location	Main source(s)
Nuaulu	Austronesian	Indonesia	Donohue 2008
Oneida	Iroquoian	New York, Winsconsin, Ontario	Lounsbury 1953
Orig	Niger-Congo	Sudan	WALS
Osage	Siouan	Oklahoma	Pustet 2002
Otomi	Otomanguean	Mexico	Palancar 2008
Palu'e	Austronesian	Indonesia	Donohue 2008
Pilagá	Guaicuruan	Argentina	Vidal 2008
Saweru	West Papuan	Indonesia	Donohue 2001
Selaru	Austronesian	Indonesia	Klamer 2008
Seneca	Iroquoian	New York, Oklahoma, Ontario	Merlan 1985
Slave	Na-Dené	Northwest Territories	Rice 1991
Svan	Kartvelian	Georgia	Harris 1985
Taba	Austronesian	Indonesia	Klamer 2008
Tabassaran	NE Caucasian	Russia	Kibrik 1985, Arkadiev 2008
Tanglapui	Trans-New-Guinea	Indonesia	Klamer 2008
Tariana	Arawakan	Brazil	Aikhenvald 2003
Tibetan	Sino-Tibetan	Tibet	Agha 1993, Denwood 1999
Tlingit	Na-Dené	Alaska, British Columbia, Yukon	Mithun 2008
Tobelo	West Papuan	Indonesia	Holton 2008
Tolai	Austronesian	Papua New Guinea	Dixon 1994
Tonkawa	Isolate	Oklahoma, Texas, New Mexico	WALS
Tsou	Austronesian	Taiwan	WALS
Tsova-Tush	NE Caucasian	Georgia	Arkadiev 2008
Tundra Nenets	Uralic	Russia	Khanina 2008

Language	Family	Location	Main source(s)
Tunica	Isolate	Louisiana	Merlan 1985
Tuscarora	Iroquoian	Ontario, New York	Mithun 1999
Tzotzil	Mayan	Mexico	Cowan 1969
Udi	NE Caucasian	Azerbaijan, Russia, Georgia	Harris 2002
Warekena	Arawakan	Brazil, Venezuela	Aikhenvald 1998
Waris	Border	Papua New Guinea, Indonesia	Donohue 2008
Waurá	Arawakan	Brazil	Dixon 1994
Wichita	Caddoan	Oklahoma	Rood 1976
Wiyot	Algic	California	Mithun 2008
Yagua	Peba-Yaguan	Peru	Payne 1990
Yawa	Isolate	Indonesia	Jones 1986, Dixon 1994
Yuchi	Isolate	Oklahoma	WALS
Yuki	Yukian	California	Mithun 2008
Yupik	Eskimo-Aleut	Russia	Malchukov 2008
Yurakaré	Isolate	Bolivia	Malchukov 2008

Appendix 2: Typological database

Data from *WALS* are given in italics; otherwise data is from the main sources listed in Appendix 1 unless otherwise noted. Languages reported to have split intransitive word order alignment are marked *. Tense/aspect alignment splits are not noted.

Language	Case alignment	Agr. alignment	Conditioning factors		Basic word order	Overt morphology	Passives	Anti-passives
Abui	Split intr.	Split intr. (4-way)	[volition],	affectedness	<i>SOV</i>	Agents (case); patients (agreement)		
Acehnese		Split intr.	[initiation] (Andréasson 2001)		<i>None dominant</i>	Agents; patients	<i>No</i>	
Acoma	<i>Neutral</i>	<i>Split intr.</i>	[transition]?		<i>None dominant</i>	<i>Agents; patients</i>	<i>No</i>	<i>Yes</i>
Alabama								
Ambonese	Neutral?	Neutral?	‘Agentivity’		SVO			
Malay*								
Amele		Split intr.?	Stativity?		<i>SOV</i>		<i>No</i>	<i>No</i>
Amis		Split intr. (4-way)	Stativity,	affectedness	<i>VSO; VOS</i>	Agents; patients		
Amuesha		<i>Split intr.</i>				<i>Agents; patients</i>	<i>Yes</i>	
Apurinã	<i>Neutral</i>	<i>Split intr.</i>			<i>SVO</i>	<i>Agents; patients</i>	<i>Yes</i>	<i>No</i>
Arapesh (Mountain)	Neutral	<i>Split intr.</i>			<i>SVO</i>	<i>Agents; patients</i>	<i>No</i>	<i>No</i>

Language	Case alignment	Agr. alignment	Conditioning factors	Basic word order	Overt morphology	Passives	Anti-passives
Arawak		<i>Split intr.</i>		<i>SVO</i>	<i>Agents; patients</i>	<i>Yes</i>	
Arikara			[consecution]				
Atakapa		Split intr.	‘Agentivity’		Agents; patients		
Baniwa do Içana		Split intr. (Dixon 1994)	Stativity?		Agents; some patients		
Basque	Split intr.	Split intr.	See chapter 4	SOV	Agents (case/ agree- ment); patients (agreement only)	Dubious	Yes
Baure		Split intr.	Stativity?	VOS	Agents; patients		
Beria	Neutral?	Split intr.	[volition, consecution]?	SOV	Agents; patients		
Budukh							
Caddo		Split intr.	[volition], stativity, affect- edness	<i>None dominant</i>	Agents; patients		
Camaiura			[volition]?	<i>SOV</i>			

Language	Case alignment	Agr. alignment	Conditioning factors	Basic word order	Overt morphology	Passives	Anti-passives
Central Pomo	Split intr.		[volition], stativity, affect- edness				<i>No</i>
Chickasaw	Nom-acc	Split intr.	[volition] (mostly)	<i>SV, VO</i>	Agents; patients	Yes	Yes
Chimariko		Split intr.	[volition]?				
Chitimacha		Split intr.	‘Agentivity’				
Choctaw		Split intr. (3-way)					
Chol		Split intr.	[consecution]		Agents; patients		
Creek		Split intr.	‘Agentivity’		Agents; patients		
Crow	<i>Neutral</i>	Split intr. (Dixon 1994)		<i>SOV</i>			
Cupenõ Dakota				<i>SOV</i>			
Dobel		Split intr.	Stativity (mostly)		Agents; patients		
Eastern Pomo	Split intr.		[volition]	<i>SOV</i>	Patients only		
Galela		Split intr.	Stativity (and others?)		Agents; patients		

Language	Case alignment	Agr. alignment	Conditioning factors	Basic word order	Overt morphology	Passives	Anti-passives
Georgian	Split intr.	Nom-acc	See chapter 5	SOV	Agents; patients	Yes	No
Guajajara			[volition]?	VSO			
Guaraní	<i>Nom-acc/</i> neutral (Gregores and Suárez 1967)	Split intr.	Stativity?	SVO	Agents; patients	<i>No</i>	<i>No</i>
Haida	Split intr. (pronouns)	Split intr.	[initiation], stativity (mostly)	SOV	Agents; patients?	<i>No</i>	
Hidatsa		Split intr.		SOV			
Hindi	Split intr.		[volition], ‘unaccusativity’	SOV		Yes	<i>No</i>
Iha	Split intr. (pronouns)		‘Agentivity’?	SOV			
Ika	Erg-abs	Split intr. (marginal)	[consecution] (marginal)	SOV	Agents; patients	<i>No</i>	<i>No</i>
Imonda	Split intr.	Split intr.		SV, OV	Patients only		
Ingush	Split intr.	Split intr.				<i>No</i>	<i>No</i>
Kambera	Neutral?	Split intr.	[volition], stativity?	VS, VO	Agents; patients		<i>No</i>
Karuk		Split intr. (‘incipient’)	[volition]?		Agents; patients		
Kashmiri	Split intr.		[consecution]?	SOV		Yes	<i>No</i>

Language	Case alignment	Agr. alignment	Conditioning factors	Basic word order	Overt morphology	Passives	Anti-passives
Kedang*	Neutral (except 1SG: split intr.)	Split intr.	Stativity, telicity?		Agents; patients		
Ket	<i>Neutral</i>	<i>Split intr.?</i>		<i>SOV</i>	<i>Agents; patients</i>	<i>Yes</i>	<i>No</i>
Kewa	<i>Erg-abs</i>	Split intr.?		<i>SOV</i>	Agents only?	<i>No</i>	<i>No</i>
Klon	Split intr.	Split intr.	[volition], affectedness (largely)		Agents; patients		
Koasati	Nom-acc	Split intr. (3-way: Donohue 2008)	[volition] (mostly; Kimball 1991)	<i>SOV</i>		<i>Yes</i>	<i>No</i>
Kolana		Split intr.					
Kott		Split intr.			Agents; patients		
Lak		Split intr.?		<i>SV, OV</i>		<i>No</i>	<i>Yes</i>
Lakhota	<i>Neutral</i>	Split intr.	[initiation]?	<i>SOV</i>	Agents; patients	<i>No</i>	<i>No</i>
Larike		Split intr.	‘Unaccusativity’		Agents; patients		
Laz	Split intr.	Nom-acc			Agents only		
Lezgian	Split intr. (marginal)	<i>Neutral</i>		<i>SOV</i>	Agents only	<i>No</i>	<i>No</i>

Language	Case alignment	Agr. alignment	Conditioning factors	Basic word order	Overt morphology	Passives	Anti-passives
Loma	Split intr. (pro-nouns)	Neutral?	Stativity				
Mandan		Split intr. (Dixon 1994)		SOV			
Mangarayi						No	Yes
Mohawk		Split intr.; erg-abs	[volition, initiation], affect- edness, others		Agents; patients	No	
Nasioi		Split intr. (P≠S _p : Mithun 2008)	Stativity?	SOV	Agents; patients	No	
Natchez	Erg-abs	Split intr.	‘Agentivity’ (Mithun 2008)	SOV			
Neo-Aramaic		Split intr.	‘Unaccusativity’, (some dialects also stativity)		Agents; patients		
Nepali	Split intr.		‘Agentivity’, telicity?	SOV	Agents only		
Northern Pomo	Split intr.		[volition], perspective	SV, OV	Patients only		
Nuaulu		Split intr.					
Oneida		Split intr.?		SOV	Agents; <i>patients</i>		
Orig		Split intr.?		SOV			
Osage				SOV			
Otomi	Neutral	Split intr.	[volition], stativity	SVO	Agents; patients		

Language	Case alignment	Agr. alignment	Conditioning factors	Basic word order	Overt morphology	Passives	Anti-passives
Palu'e		Split intr.					
Pilagá	Neutral	Split intr.	Affectedness, viewpoint	<i>SVO</i>	Agents; patients		
Saweru							
Selaru	Neutral?	Split intr.	Stativity?		Agents; patients		
Seneca			Stativity (largely)	<i>None dominant</i>			<i>Yes</i>
Slave	Split intr. (pronouns)		'Unaccusativity'	<i>SOV</i>	Agents; some patients	<i>Yes</i>	<i>No</i>
Svan	Split intr.				Agents only		
Taba	Neutral?	Split intr.	[initiation]? (after Bowden 1997), stativity?	<i>SVO</i>	Agents only	<i>Yes</i>	<i>No</i>
Tabassaran	Nom-acc	Split intr.	[volition]		Agents; patients		
Tanglapui		Split intr.	[transition], affectedness		Agents; patients		
Tariana	Nom-acc	Split intr.		<i>SOV</i>			
Tibetan	Split intr.				Agents only		
Tlingit		Split intr.	'Agentivity' (largely)		Agents; patients	<i>No</i>	

Language	Case alignment	Agr. alignment	Conditioning factors	Basic word order	Overt morphology	Passives	Anti-passives
Tobelo		Split intr.	Stativity	SOV	Agents; patients		
Tolai*				SVO		No	
Tonkawa		<i>Split intr.</i>		SOV; SVO	Agents; patients	No	
Tsou		<i>Split intr.</i>			Agents only		
Tsova-Tush	Split intr. (pronouns); erg-abs	Split intr.; erg-abs?	[volition] (mostly; Holisky 1987)	SOV			
Tundra Nenets		‘Quadripartite’ split intr.?	‘Homogeneity of events’		Agents; patients		
Tunica	<i>Neutral</i>	Split intr. (P≠S _p : Mithun 2008)	Stativity?	SOV	Agents; patients	No	
Tuscarora			Stativity (with complications)	None dominant			
Tzotzil	Neutral	Split intr.		VOS	Agents; patients		
Udi	Split intr.	Nom-acc?	[consecution]?	SOV	Agents only?		
Warekena*		Split intr. (3-way)		SVO	Agents; patients	No	
Waris			‘Agency’, ‘affect’				
Waurá*							

Language	Case alignment	Agr. alignment	Conditioning factors	Basic word order	Overt morphology	Passives	Anti-passives
Wichita	Neutral	Split intr.	[volition], stativity?	SOV; OVS	Agents; patients	No	No
Wiyot		Split intr.	‘Agentivity’, stativity?	None dominant	Agents; patients		
Yagua	Neutral	Split intr.	Discourse-related	None dominant (VS, VO)	Agents; patients	No	No
Yawa	Erg-abs/ tripartite	Split intr. (A≠S _a)			S _a ; P/S _p		
Yuchi	Neutral	Split intr.		SOV	Agents; patients	No	
Yuki	Split intr.		[volition], stativity, affect- edness		Agents; patients		
Yupik		Split intr.?	[volition], evidentiality	None dominant		No	Yes
Yurakaré		Split intr.?					

Chapter 4

Basque

4.1 Introduction

Basque (*euskara*, a language isolate spoken in the Basque Country (parts of Spain and France), with around 468,000 native speakers—Lewis et al. 2016) possesses a split intransitive alignment in case and agreement, with a directly corresponding split in auxiliary selection. In canonical monotransitive clauses, subjects receive the agentive case ending *-(e)k* while direct objects receive the unmarked patientive case:¹

- (1) *Gizon-a-k exte-a-Ø saldu du.*
man-DEF-**AGT** house-DEF-**PAT** sold has
‘The man has sold the house.’

Agentive and patientive arguments also trigger separate agreement endings. For example, first person singular agentive arguments trigger the suffix *-t*, e.g. *haut* ‘I have you’, *dut* ‘I have him/her/it’. First person singular patientive arguments, however, trigger the prefix *n-*, e.g. *nauk* ‘you have me’, *nau* ‘he/she has me’. (See Hualde et al. 2003 for further information.)

Intransitives, as in other split intransitive systems, may occur with subjects in either case.² In Basque, this is largely determined by the lexical verb (subject to certain semantic generalisations to be discussed). Examples of verbs with subjects in, respectively, agentive and patientive cases are as follows:

- (2) a. *Gizon-a-k ikasi du.*
man-DEF-**AGT** studied has
‘The man has studied.’
b. *Gizon-a-Ø etorri da.*
man-DEF-**PAT** came is
‘The man has come.’

1. The agentive and patientive are usually called ‘ergative’ and ‘absolutive’ in the literature. I use the labels agentive and patientive for consistency with the other languages discussed in this dissertation; see §3.1.2.

2. The Basque literature typically restricts the term ‘intransitive’ to verbs taking patientive subjects only. See §1.1.4 for discussion of the use of the term ‘intransitive’ in this dissertation.

Agentive subjects of intransitives trigger agentive agreement on the auxiliary; patientive subjects trigger patientive agreement.

As in the examples above, most Basque sentences have a participle plus auxiliary formation; this is similar to the formation of the periphrastic perfect in languages like Italian, German etc., though it is not restricted to perfects. The form of the auxiliary corresponds directly to the case and agreement taken by the verb. Verbs (including transitive verbs) with agentive suffixes occur with the auxiliary **edun* HAVE; verbs with patientive subjects with the auxiliary *izan* BE.

Two factors in particular complicate the picture just presented. Firstly, Basque has a wide degree of dialect variation, in respect to case/agreement/auxiliary selection as well as many other properties. The most extensive discussion of this dialect variation as regards case etc. is that of Aldai (2009; see also Berro 2010, 2012). The broad generalisation is that eastern varieties of Basque make very little use of the agentive in intransitive contexts, whereas it is found much more widely in western varieties (central varieties pattern between the two). The claims of this chapter generally concern only *western* Basque, which has very many more speakers than the eastern varieties and from which most of my data are drawn.

The second complication concerns the use of periphrastic constructions with the ‘light verb’ *egin*. In these constructions, *egin* combines with a nominal element to produce a formally transitive sentence³ which corresponds to a simple intransitive in many other languages (and indeed *egin* forms often have simple intransitive equivalents in Basque):

- (3) *Gizon-a-k dantza egin du.*
man-DEF-AGT dance did has
‘The man danced.’

That is, the concept expressed in English by the verb *to dance* is often expressed in Basque by a nominal plus light verb construction which might be translated more literally ‘to do dance’.

egin constructions generally denote meanings classed here as ‘consecutions’. Other examples include *berba egin* ‘to speak’, *bidaia egin* ‘to travel’, *zurrunga egin* ‘to bark’ and many more (see lists in de Rijk 2008: 299–303). A few denote changes (e.g. *leher egin* ‘to explode’, *alde egin* ‘to leave’; see Aldai 2009: 798 for further examples) and some possibly states (e.g. *dirdira egin* ‘to shine’; de Rijk 2008: 299). *egin* constructions always take agentive subjects.

Because consecutions are so commonly denoted by *egin* constructions, and agentive-marking ‘simple’ (that is, non-*egin*) intransitive verbs tend to be either consecutions or states, there are fewer simple agentive-marking intransitives than might otherwise have been the case, and speakers often give uncertain judgements on the acceptability of particular cases with these verbs. However, it is still possible to make good generalisations about these simple agentive-marking verbs. For reasons of space, and because *egin* forms may not ‘count’ as

3. In the sense that the nominal element appears to be a distinct constituent from the verb *egin* and has argument properties; see Uribe-Etxebarria (1989), Laka (1993: 152–53), Etxepare (2003: §4.6.1).

intransitives given their formally transitive nature, I do not consider *egin* constructions further here—though note that as typical consecution-denoting verbs with agentive subjects they are in line with Basque consecution verbs in general, as simple consecution verbs also ordinarily have agentive subjects (see §4.2.3).

Case marking in Basque has been extensively discussed in the literature, as will be covered at the start of the next section. The contribution of this chapter will be, firstly, a more explicit semantic characterisation than has previously been attempted of the basis of the agentive/patientive split with intransitives, in terms primarily of the categories of Sorace’s (2000) Auxiliary Selection Hierarchy and of the features encoded in my own VICTR Hierarchy (§4.2). I will present an analysis of case, agreement and auxiliary selection in terms of the VICTR Hierarchy in §4.3. I then present an original systematic consideration of other split intransitive behaviours in Basque (§4.4); in §4.5 I build on the evidence considered to compare the VICTR approach with existing approaches. Finally, I compare Basque to the other languages already discussed in this dissertation (§4.6). §4.7 concludes.

4.2 The semantic basis of the case split in Basque

Basque case assignment, agreement and auxiliary selection have been discussed extensively in the literature: in addition to other references to follow see, for example, Ortiz de Urbina (1989), Cheng and Demirdache (1993), Aldai (2006), Berro (2012) and Berro and Etxepare (2017). However, relatively few attempts have been made to characterise the patterns explicitly. They are often connected to the unergative/unaccusative distinction (e.g. by Levin 1983, Addis 1990, Laka 1993), though this is too vague to be particularly useful. Etxepare (2003) and de Rijk (2008) give various lists of verbs classified by their case-marking behaviour and subdivided into various semantic categories. Aldai (2009) and Berro (2010, 2012) each discuss certain aspects of the basis of the case split in the context of dialectal variation.

In this section I shall give a new classification of case-marking patterns in Basque drawing on the categories of intransitives identified by Sorace (2000) and the features adopted in the VICTR approach.

4.2.1 Sources of data

The data in this section are drawn from a number of sources: both the existing literature and consultation of Basque speakers by the present author, through a number of online surveys. The literature and the results of the surveys are very largely in agreement, though differences are noted when they arise. The main sources consulted in the literature are the following: de Rijk’s (2008) grammar of (his interpretation of what constitutes) Standard Basque, Aldai’s (2009) discussion of variation in Basque dialects and Alberdi’s (2003) discussion of loanwords from Romance into Basque. Reference has also been made to the discussion of Basque in Levin (1983: chapter 6).

The first of the five surveys involved the translation of simple intransitive sentences from

Spanish; the results of this survey, though helpful in some respects, are not discussed in detail here. The methodology of the remaining surveys was broadly similar to that employed for the English surveys discussed in §2.2.1. Speakers were presented with a range of intransitive verbs, which either exemplified the categories identified by Sorace (2000) or else considered of particular interest on the basis of the Basque literature already cited, in a number of different contexts: different case frames, and subsequently with other constructions diagnostic split intransitivity (the results concerning the latter are discussed in §4.4). Where demographic data were collected (for the second survey), the great majority of speakers were born or lived in the western part of the Basque Country.

One point of difference from the English surveys was that acceptability judgements were requested throughout on an 11-point Likert scale with values from 0 to 10. These have been idealised using the standard judgement notation, where average scores in the 0.00–2.99 range are assigned the ‘*’ notation, those in the 3.00–7.99 range ‘?’, and those in the 8.00–10.00 range unmarked (i.e. fully acceptable). Scores in each of these three ranges are denoted respectively by roman, italic and boldface in the tables of results.

The main results of the case survey are summarised in table 4.1.

It is to be stressed that in general my findings support the existing reports of the literature. Where this is not the case, this is mentioned explicitly below.

Verb	Translation	AGT	PAT
<i>bazkaldu</i>	‘to have lunch’	9.61	0.44
<i>ikasi</i>	‘to study, learn’	9.73	0.56
<i>trabailatu</i>	‘to work’	3.73	1.21
<i>komulgatu</i>	‘to take communion’	7.72	4.10
<i>jolastu</i>	‘to play’	8.88	5.00
<i>olgatu</i>	‘to have fun’	3.26	5.37
<i>borrokatu</i>	‘to fight’	9.03	6.80
<i>mintzatu</i>	‘to talk’	3.86	8.83
<i>dutxatu</i>	‘to shower’	1.14	9.23
<i>ezkondu</i>	‘to get married’	0.89	9.77
<i>dantzatu</i>	‘to dance’	8.03	4.59
<i>korritu</i>	‘to run’	6.04	1.16
<i>nabigatu</i>	‘to sail, navigate’	8.33	1.46
<i>igerikatu</i>	‘to swim’	2.34	1.65
<i>saltatu</i>	‘to jump’	7.28	1.96
<i>bidaiatu</i>	‘to travel’	9.06	2.81
<i>jauzi</i>	‘to jump’	3.04	3.25
<i>paseatu</i>	‘to go for a walk/ride’	6.21	4.81
<i>ibili</i>	‘to walk’	1.85	8.69
<i>dardaratu</i>	‘to tremble’	3.27	2.88
<i>irristatu</i>	‘to skid’	2.00	9.45
<i>ikaratu</i>	‘to tremble with fear’	1.39	9.61
<i>argitu</i>	‘to shine’	2.93	5.19
<i>dirdiratu</i>	‘to shine’	6.41	3.33
<i>iraun</i>	‘to last, stand’	9.55	0.83
<i>deskantsatu</i>	‘to rest’	8.32	2.00
<i>antsiatu</i>	‘to worry’	2.37	3.46
<i>jardun</i>	‘to be busy’	7.30	6.21
<i>gelditu</i>	‘to stop, remain’	2.37	9.22
<i>hazi</i>	‘to grow’	0.96	9.10
<i>hil</i>	‘to die’	0.89	9.30
<i>jaio</i>	‘to be born’	0.26	9.34
<i>aldatu</i>	‘to change’	4.57	9.56
<i>irakin</i>	‘to boil’	9.30	4.50
<i>eboluzionatu</i>	‘to evolve’	8.52	5.81
<i>erori</i>	‘to fall’	0.42	9.38
<i>iritsi</i>	‘to arrive’	0.85	9.71
<i>etorri</i>	‘to come’	0.38	9.93

Table 4.1: Average scores for verbs with subjects in agentive and patientive cases

4.2.2 Transition verbs and patientive

Verbs in Basque which denote simple transitions—verbs in Sorace’s (2000) ‘change of location’ and ‘change of state’ classes—are almost all associated with patientive case in all dialects. Concomitantly, these [–consecution,+transition] verbs are also associated with patientive agreement and auxiliary *izan* BE. (I discuss manner of motion verbs, here analysed as [+consecution,+transition] in the following subsection.) Examples of [–consecution,+transition] verbs used in sentences are as follows:

- (4) a. *Gizon-a-Ø iritsi da.*
man-DEF-PAT arrived is
‘The man arrived.’
b. *Gizon-a-Ø hil da.*
man-DEF-PAT died is
‘The man died.’

Other change of location verbs associated with patientive include: *joan* ‘to go’, *etorri* ‘to come’, *erori* ‘to fall’, *igan* ‘to ascend’, *sartu* ‘to go in’, *irten* ‘to come out’ and others (de Rijk 2008: 116, 136–38). Other change of state verbs associated with patientive include: *jaio* ‘to be born’, *desagertu* ‘to disappear’, *erre* ‘to burn’, *hautsi* ‘to break’ etc. (de Rijk 2008: 136–38, 276, and see there for longer lists; de Rijk’s characterisations of the case properties of these verbs are supported by my own results).

Also in this category are intransitive verbs whose radical is a noun, adjective or adverb, used with the meaning ‘to become X’, e.g. *aberats* ‘rich’ yields *aberastu* ‘to become rich’, *berandu* ‘late’ gives *berandutu* ‘to get late’, *adiskide* ‘friend’ gives *adiskidetu* ‘to become friends’ (–*tu* is the regular past participle suffix found in the citation form of verbs). These verbs thus denote a change of state, and as might be predicted take patientive subjects:

- (5) *Gizon-a-Ø aberastu da.*
man-DEF-PAT rich.became is
‘The man became rich.’

Nouns in the allative case can also be used as verb radicals with the meaning ‘to move to N’, e.g. *atera* ‘to the door’ yields *ateratu* ‘to go out’; *extera* ‘to home’ gives *exteratu* ‘to go/come home’. These can be construed as change of location verbs—again, they take patientive subjects as would be predicted:

- (6) *Gizon-a-Ø ateratu da.*
man-DEF-PAT gone.out is
‘The man went out.’

See de Rijk (2008: 151–53) for further discussion of these derived verbs, and additional examples.

The general rule, then, is that if a verb denotes a change it is associated with patientive marking. There are, however, a few exceptions to this general rule: verbs (apparently) denoting changes which are in fact associated with the agentive (agentive case, agentive agreement, and auxiliary **edun* HAVE). These include, and may well be restricted to, two related verbs meaning ‘to boil’—*irakin* and *irakitu*—plus two other verbs, *aldatu* ‘to change’ and *eboluzionatu* ‘to evolve’ (Aldai 2009: 792).

In all four instances it is possible the verbs in question are not formally [+transition] at all. Whilst English *boil* is clearly a change of state verb (thus e.g. it allows the causative alternation: *The water boiled, Lucy boiled the water*), Aldai writes concerning the Basque *irakin/irakitu*:

Although *boil* may seem a straightforward change of state applying to a liquid, notice that, from a cognitive perspective (unlike a physical perspective), there is not a clear-cut end-point delimiting that change. Rather, what is cognitively noticeable is an activity occurring in the liquid (after the boiling point has been reached). Thus, *boil* may be conceptualized as a non-patientive activity instead of a patientive change.⁴ (Aldai 2009: 792)

In present terms, then, *irakin* and *irakitu* ‘to boil’ are very possibly a sort of consecution, and not changes of state at all. If this is the case, the occurrence of these verbs with agentive marking is thus expected. However, attractive as this idea is, the fact remains that *irakin* consistently patterns with [+transition] verbs in other respects: it does not permit the nominalising suffix *-le* (equivalent to English *-er*), it has a transitive causative alternant and can be used as an attributive participle (e.g. *ur irakina* ‘boiled water’). These issues are covered in §4.4 below, and suggest that *irakin* really is grammaticalised as [+transition], but happens to idiosyncratically take agentive subjects nevertheless.

My informants did strongly accept *irakin* with the agentive in the following sentence:

- (7) *Ur-a-k irakin du.*
 water-DEF-AGT boiled has
 ‘The water has boiled.’

However, the average score with the patientive given to the sentence in (8) was toward the middle of the scale:

- (8) ?*Ur-a-Ø irakin da.*
 water-DEF-PAT boiled is
 ‘The water has boiled.’

4. Aldai employs the term ‘patientive’ in reference to thematic properties, not case.

This was unlike many other verbs where the patientive tended to be either more strongly accepted or more strongly rejected. Thus, speakers prefer *irakin* with the agentive but are not completely opposed to its use with the patientive.

As concerns *aldatu* ‘to change’ and *eboluzionatu* ‘to evolve’, Aldai (2009: 792) claims these are ‘occasionally heard with [agentive] subjects in Western Basque’. Respondents to my second survey strongly accepted *aldatu* with patientive ((9a)); with agentive it scored on average towards the middle of the scale ((9b)):

- (9) a. *Gizon-a-Ø aldatu da.*
 man-DEF-PAT changed is
 ‘The man has changed.’
 b. ?*Gizon-a-k ikasi du.*
 man-DEF-AGT changed has
 ‘The man has changed.’

With the same respondents, the opposite overall pattern emerged with *eboluzionatu*: a middling average score with the patientive ((10a)) and strong acceptance with the agentive ((10b)):

- (10) a. ?*Animalia-Ø eboluzionatu da.*
 animal-AGT evolved is
 ‘The animal has evolved.’
 b. *Animalia-k eboluzionatu du.*
 animal-AGT evolved has
 ‘The animal has evolved.’

Although these verbs clearly denote ‘changes’, it is not clear that they are transitions in a formal sense. Recall the definition of Pustejovsky (1991: 40) given in §1.1.3: is ‘an event identifying a semantic expression, which is evaluated relative to its opposition’. But it is not straightforwardly obvious that ‘to change’ can be understood as a transition from ‘not changed’ to ‘changed’, and even less so that ‘to evolve’ should be understood as a transition from ‘not evolved’ to ‘evolved’. This ambiguity may also cause problems for the grammars of Basque speakers, meaning these verbs are (sometimes) grammaticalised as [–transition]; hence, they are more easily accepted with agentive subjects.

We may also note, as does Aldai (2009: 792), that *eboluzionatu* is a recent loanword (from Romance). On the analysis adopted here (see §4.3.2 below for discussion), the Basque agentive has a formal equivalence to the Romance nominative, in that both are structural cases assigned by T. Romance intransitives like Spanish *evolucionar* of course take nominative subjects. It is plausible that Basque speakers, who are generally bilingual in Spanish (Amorrortu 2003: 64), might in recent times have started to borrow Spanish nominative-subject verbs as agentive-

subject ones (this would not apply to older loanwords). Analogy (in either direction) between the semantically similar *eboluzionatu* ‘to evolve’ and *aldatu* ‘to change’ might also play a role.

4.2.3 Consecution verbs and agentive

Whereas transition verbs are generally associated with the patientive, verbs of the sort described here as consecutions prototypically take arguments in the agentive in (western) Basque. Recall that these verbs correspond to traditional so-called ‘unergatives’. Following Sorace (2000), we may identify three main types—controlled and non-motional (like ‘work’ and ‘play’), controlled and motional (like ‘swim’ and ‘run’), and uncontrolled (like ‘cough’ and ‘tremble’)—to which we may add emission verbs like ‘shine’ and ‘rumble’. The following examples show the typical agentive-marking pattern with simple verbs of this type:

- (11) a. *Gizon-a-k ikasi du.*
 man-DEF-AGT studied has
 ‘The man has studied.’
- b. *Gizon-a-k dantzatu du.*
 man-DEF-AGT danced has
 ‘The man has danced.’
- c. *Gizon-a-k dardaratu du.*
 man-DEF-AGT trembled has
 ‘The man trembled.’
- d. *Eguzki-a-k argitu du.*
 sun-DEF-ERG shone has
 ‘The sun shone.’

However, whilst there are only a few exceptions to the rule that transition verbs take patientive arguments (as discussed above), there are numerous apparent exceptions to the generalisation that consecution verbs occur with arguments in the agentive. Closer analysis, however, reveals that these ‘exceptions’ fall into three main groups: (i) verbs of motion; (ii) verbs which are semantically reflexive or reciprocal, (iii) certain verbs denoting non-volitional events. However, the first two of these groups are amenable to an analysis which suggests they may not be as exceptional as they first appear, and the exceptionality of the third (small) group can be understood in terms of the core feature sets: thus, there is in fact a good deal more systematicity to the Basque case assignment system than may superficially appear to be the case. I shall now discuss the three groups of apparent exceptions in turn (§§4.2.3.1–4.2.3.3), followed by brief further discussion of the emission verbs (§4.2.3.4).

4.2.3.1 Verbs of motion

A number of verbs denoting manner of motion are mentioned in the literature as associated with patientive, or as variable between patientive and agentive (even in the western dialects). Included in this category Alberdi (2003: 34) lists the Romance loanwords *saltatu* ‘to jump’, *nabigatu* ‘to sail, navigate’, *paseatu* ‘to go for a walk or ride’ and *dantzatu* ‘to dance’; to these we can add the native verb *jauzi* ‘to jump’ from de Rijk (2008: 136).

My findings suggest speakers prefer the agentive with every one of these verbs except *jauzi* ‘to jump’, where the patientive is very slightly favoured. Both *saltatu* ‘to jump’ and *nabigatu* ‘to sail, navigate’ nevertheless receive rather low average ratings with the agentive, but *paseatu* ‘to go for a walk or ride’ and *dantzatu* ‘to dance’—whilst still rated better than with the patientive—score towards the middle of the acceptability range with agentive marking.

Three other manner of motion verbs tested—*igerikatu* ‘to swim’, *korritu* ‘to run’ and *bida-iatu* ‘to travel’—were each likewise preferred with the agentive, being given low ratings with the patientive: though note that *korritu* and (especially) *igerikatu* received rather low ratings even with the agentive, speakers preferring *egin* constructions for these senses.

Only one verb tested which unambiguously denotes a manner of motion scored significantly higher with the patientive: *irristatu* ‘to skid’. (Though see also the discussion of *ibili* ‘to walk, move about’ at the end of this subsection.) Note that this verb denotes an uncontrolled event and is hence less prototypically agentive than those discussed above, which may be a contributing factor in its case assignment properties. *irristatu* was offered by several respondents to the first survey as a translation of Spanish *patinar* ‘to skid, to slip; to skate’: several others gave instead forms of *patinatu* ‘to skate’ which, unlike the near-synonymous *irristatu* is consistently associated with the agentive. *irristatu*, then, appears somewhat idiosyncratic in its case properties.

The overall generalisation, then, is that there is a certain tendency for verbs denoting motion to be accepted with patientive arguments, although generally speaking the agentive is still preferred. This general preference for agentive is in line with the generalisation that [+consecution] verbs are associated with agentive in Basque. The alternative possibility of these verbs occurring with the patientive can be put down to the analysis of verbs of this type—not only in Basque but cross-linguistically—as not just [+consecution] but also [+transition] as well (see §1.1.3). Recall from the previous section that [+transition] verbs in Basque do in general take patientive subjects. These [+consecution, +transition] verbs thus exhibit featural properties typical of both the agentive-subject and patientive-subject classes, and so can occur with subjects in either case: see further discussion in §4.6.2.

Finally, a note on *ibili*, sometimes glossed as ‘to walk’. This verb is strongly accepted with the patientive, and rejected with the agentive. This may appear surprising, given the manner of motion verbs discussed above generally seem to allow both cases to some degree. However, the behaviour of *ibili* can be better understood when it is noted that ‘to walk’ is often a rather misleading translation, and it often has a more general meaning along the lines of ‘to go about’ or ‘to move’. This suggests that it is not, at core, a consecution verb at all

(that is, it does not inherently specify the manner of motion at all), but rather a verb in the ‘change of location’ category: it is [–consecution,+transition]. Hence, the strong preference for patientive is entirely as expected. Nevertheless, walking (as opposed to some other means of travel) is often implied, though this is by no means always the case, for example it can also be used to mean ‘to commute’ (not necessarily on foot), ‘to run’ and ‘to fly’ (of e.g. birds).

Note that a very sizeable minority of speakers, in my first survey, asked to translate Spanish *El hombre camina* ‘The man walks, is walking’, did not volunteer a form with *ibili* alone (as in (12a)) but rather made use of some other phraseology like that seen in (12b), literally ‘The man goes about (*ibili*) on foot’:

- (12) a. *Gizon-a-Ø dabil.*
 man-DEF-PAT move.about
 ‘The man walks.’
- b. *Gizon-a-Ø oin-ez dabil.*
 man-DEF-PAT foot-INS move.about
 ‘The man walks.’

That *ibili* alone was felt by a considerable number of speakers to be insufficient as a translation of *caminar* ‘to walk’ again suggests the more general meaning, not specifying manner of motion inherently, may be more basic—but note again that many other speakers did feel *ibili* alone to be sufficient in this context.

4.2.3.2 Reflexive/reciprocal verbs

In addition to the verbs of motion discussed in the previous subsection, the literature also reports a number of other verbs, apparently of the consecution class, which may occur with patientive marking in Basque, rather than the ‘expected’ agentive marking otherwise associated with this class. In this subsection I will argue that the great majority of these may be analysed as including a covert reflexive or reciprocal element.

Indeed, many of these verbs are loanwords with their origins in forms that are reflexive in Romance. These include *dutxatu* ‘to shower’, *mutinatu* ‘to rise up, to rebel, to mutiny’, *portatu* ‘to behave, to act’, *atrebitu* ‘to dare’, *federatu* ‘to federate’ (Alberdi 2003: 33–34, 41–43) and others. The general tendency is for such verbs to be borrowed as patientive-marking in Basque (Alberdi 2003: 33). Note that in Romance they are marked with an overt clitic pronoun, as in the following French example:

- (13) *Lucie s’ est douchée.*
 Lucie REFL is showered
 ‘Lucie showered.’

In Basque, however, no such pronominal form is pronounced:

- (14) *Gizon-a-Ø dutxatu da.*
 man-DEF-PAT showered is
 ‘The man showered.’

I suggest, however, that covert reflexive marking of some sort can be posited for these verbs in Basque. That is, they are syntactically not really so different from their Romance counterparts. This reflexive element triggers the use of patientive case on the subject (see §4.3.3).

Good support for this analysis is found in the fact that one reflexivisation strategy in Basque likewise does not involve the use of overt reflexive marking, excepting that the argument is marked in the patientive case (with the concomitant patientive agreement and auxiliary *izan* BE) (Saltarelli 1988: 220; Artiagoitia 2003: 629–30). For example:

- (15) *Amaia-Ø ez da zaintzen.*
 Amaia-PAT not is taking.care
 ‘Amaia doesn’t take care of herself.’ (adapted from Artiagoitia 2003: 629)

Thus, there is strong independent evidence that Basque does not require an overt reflexive element to form reflexive clauses (and that the arguments of reflexive clauses formed in this way are patientive-marked). Given this, it is not surprising that Romance reflexive verbs should also use the same covert reflexivisation strategy when borrowed into Basque. I will return to this in §4.3.

In some instances the reflexive origin of a loanword may be less obvious, as is the case with *komulgatu* and *komekatu* (both) ‘to take communion’ and *olgatu* ‘to have fun’. These are derived from words which are not reflexive in modern French and Spanish but which seem to have had reflexive uses historically: see Alberdi (2003: 35) for discussion. Alberdi (2003: 34) reports these verbs as variable in the case they govern: this is supported by my survey, where speakers gave fairly high scores to sentences with *komulgatu* and *olgatu* regardless of the subject’s case, though preferring the agentive with *komulgatu* and the patientive with *olgatu* (*komekatu* was not tested). The natural analysis is that, in those cases where they occur with the patientive, these verbs like those discussed above have retained a reflexive element, although this may have been lost in the source language. Plausibly also, the phonological similarity between *olgatu* and *komulgatu* may have reinforced the similar syntactic patterning.

The same analysis—the presence of a covert ‘reflexive’ encoding triggering patientive case-marking—can also be extended to a number of other verbs, including several native verbs. A number of these appear to be reciprocal in character. *ezkondu* ‘to get married’ and *solastatu* ‘to converse’ are two verbs associated with patientive marking (de Rijk 2008: 138) that clearly seem to involve a semantic notion of reciprocity. Cross-linguistically, reciprocity and reflexivity are commonly encoded in the same way (Payne 1997: 200; this is true for example of the Romance languages); Basque also allows reciprocals to be formed via ‘detransitivisation’ (patientive case and *izan* BE) with some verbs, in the same way as reflexives (Artiagoitia 2003: 617–18):

- (16) *Anai-arreb-a-k asko maite dira.*
 brother-sister-DEF-PL much love they.are
 ‘The brothers and sisters love each other.’ (Artiagoitia 2003: 618)

We can analyse these verbs in the same way as the Romance reflexive loanwords just discussed, as involving a covert reflexive element which is responsible for the patientive marking.

Several otherwise problematic verbs may also fall into this category of ‘reciprocal’ verbs, including *jolastu* ‘to play’, *borrokatu* ‘to fight’ and *gudukatu* ‘to wage war’ reported by Etxe-
 pare (2003: 390) as varying between agentive- and patientive-marking. In my survey speakers clearly preferred the agentive with these verbs, but did give relatively high scores with the patientive. Also of note in this category is the verb *mintzatu* ‘to talk, to converse’, which is consistently found with the patientive in spite of its clear (volitional, non-motional) consecution semantics.

Note that verbs of this sort frequently occur in reciprocal contexts:

- (17) a. *Haurr-ak elkarr-i mintzatu zaizkio.*
 child-DEF.PL.PAT each.other-DAT spoken they.are.to.him
 ‘The children have spoken to each other.’ (Rebuschi 2004: 857)
- b. *Epi-Ø eta Blas-Ø elkarr-en kontra borrokatu dira.*
 Epi-PAT and Blas-PAT each.other-GEN against fought they.are
 ‘Epi and Blas fought against each other.’ (Artiagoitia 2003: 609)

It is plausible, then, that verbs like *jolastu* etc. are (sometimes, or in the case of *mintzatu* always) encoded as formally reflexive in the same way as the verbs discussed above. This is suggested by examples such as the following, where the sense ‘talked/played with each other’ is implicit:

- (18) a. *Luzaz mintzatu ginen horreta-z.*
 widely conversed we.were these-INS
 ‘We talked at length about these things.’
- b. *Zelai-txo bat-ean jolasten ziren.*
 meadow-DIM INDEF-INNESS playing they.were
 ‘They were playing in a small meadow.’ (Azkarate 1996)

However, not every use of these verbs is reciprocal, as is clear for example where the subject is singular:

- (19) *Gizon-a-Ø mintzatu da.*
 man-DEF-PAT spoken is
 ‘The man spoke.’

It might be questioned, therefore, whether an analysis of the case-marking behaviour of these verbs in terms of their grammaticalisation as reflexives is really appropriate. However, because syntactic features do not need to map directly onto semantic properties, it is plausible that covert reflexive marking, initially found with certain verbs in reciprocal contexts, might be generalised to other uses of those verbs as well. The use of reflexive formations with these sorts of verbs is also attested in the neighbouring Romance languages, as in the following example from French:

- (20) *Les femmes se battent pour leurs droits.*
 the women REFL fight for their rights
 ‘The women fight for their rights.’

Note, however, that we do not expect this sort of grammaticalisation to take place at random. It is only to be expected with intransitive verbs which readily allow reciprocal uses.

4.2.3.3 Uncontrolled consecutions

The class of uncontrolled consecutions ([–volition,+initiation,+consecution] intransitives) exhibit somewhat variable behaviour: though note that this class is very small which makes it difficult to draw generalisations. Some are preferred with agentive marking, e.g. *dardaratu* ‘to tremble’—though respondents were in fact not terribly accepting of this verb with either case. Others are preferred with patientive marking, e.g. *ikaratu* ‘to tremble with fear’. Essentially, then, case-marking with uncontrolled consecutions in Basque appears to be lexically determined. *irristatu* ‘to skid’ also occurs with patientive subjects, as discussed in §4.2.3.1 above; this likely relates to its motional semantics (i.e. it is featurally [+consecution,+transition]).

The mixed behaviour of this group of verbs may be related to the fact that they deviate from the agentive core feature set to a greater degree than the controlled consecutions, as will be discussed in §4.6.2.

4.2.3.4 Verbs of non-agentive internal causation

Verbs of emission are also worth discussion. These verbs show very consistent behaviour in Basque—they occur with agentive subjects. For example:

- (21) *Eguzki-a-k argitu du.*
 sun-DEF-ERG shone has
 ‘The sun has shone.’

This pattern is also seen with other light emission verbs like *dirdiratu* ‘to shine’ and sound emission verbs like *erauntsi* ‘to rumble’ (Berro 2010: 59).

It was suggested in §2.2.7 that these verbs should be seen as [+consecution]. Their behaviour in Basque is thus in line with other [+consecution] verbs which also take agentive subjects (see §4.2.3 above).

Note that non-agentive internally caused verbs in Basque which denote a reasonably clear change of state, e.g. *hazi* ‘to grow’, are (as discussed in §4.2.2) consistently patientive-marking, unlike the emission verbs. These patientive-marking verbs are presumably [+transition].

4.2.4 State verbs

Whilst [–consecution, +transition] intransitives in Basque regularly have patientive subjects, and (non-reflexive) [+consecution, –transition] verbs have agentive subjects, intransitive verbs expressing states show more variable behaviour. Some take patientive subjects, others agentive ones, with no obvious semantic basis for the split.⁵

State verbs which take patientive subjects include *gelditu* ‘to stop, remain’, *kexatu* ‘to worry’, *izan* ‘to be’, *aritu* ‘to be occupied’ and several others (de Rijk 2008: 137, 152; Alberdi 2003: 41).

State verbs which take agentive subjects include *iraun* ‘to last’, *irakin* ‘to endure’, *existitu* ‘to exist’ and others (de Rijk 2008: 187; Alberdi 2003: 41, Aldai 2009: 792). Note that these verbs are in a minority; a greater number of state verbs occur with the patientive.

A few verbs show some degree of variable behaviour. For example, Alberdi (2003: 34) reports *deskantsatu* ‘to rest’ as allowing subjects in either case (though my respondents strongly preferred it with the agentive). *jardun* ‘to be busy’, reported by de Rijk (2008: 136) to be agentive-marking, was also fairly well accepted with the patientive by my respondents.

This behaviour can be readily understood in terms of the analysis of state verbs adopted here (see particularly §1.1.3 and §2.4.2.4 for previous discussion). Recall that it has been proposed that intransitive state verbs can be grammaticalised as taking either θ -‘VOLITION’ or θ -‘RESULT’ arguments, these being semantically equivalent in the absence of other roles. There is not necessarily any cross-linguistic regularity in how stative predicates map to one or the other of the two options. We can say that θ -‘VOLITION’ stative arguments in Basque take agentive, and θ -‘RESULT’ ones take patientive. (Given that agentive is generally assigned to higher arguments, and patientive to lower ones.) For most state verbs, the association with [+‘volition’] or [+‘result’] in Basque has become conventionalised; a few, however, allow variation in this regard. This sort of variation is to be expected given the variation found in the class as a whole.

4.2.5 Summary

In summary, case assignment and associated properties with Basque intransitives has a largely although not entirely consistent semantic basis, summarised in table 4.2. [+transition] intransitives generally occur with patientive subjects; [+consecution] intransitives usually have agentive subjects, though some [–volition] consecutions are exceptions to this generalisation. Verbs which are both [+consecution] and [+transition] can occur with subjects in either case.

5. An examiner suggests this may relate to a distinction between internally- and externally-caused states (cf. Ramchand 2018). However, neither this nor the other semantic categories identified in the same article appear to correspond to the Basque case split in fact.

Further apparent exceptions can be accounted for in terms of reflexive marking grammaticalised with certain consecution verbs. State verbs vary idiosyncratically as to which case their subjects occur with.

Controlled non-motional consecution	Agentive (sometimes patientive if grammaticalised as reflexive)
Controlled motional consecution	Agentive (sometimes patientive)
Uncontrolled consecution	Agentive or patientive (lexically determined)
State	Agentive or patientive (lexically determined)
Change of state	Patientive
Change of location	Patientive

Table 4.2: Summary of regular case-marking patterns in Basque

Note particularly the good correspondence between Basque case assignment and Sorace's (2000) Auxiliary Selection Hierarchy. Specifically, verbs in the topmost category (controlled non-motional consecutions) are generally associated with agentive marking. Verbs in the middle (state, uncontrolled consecutions and motional controlled consecution categories) occur with either agentive or patientive marking; verbs in the bottommost categories (changes of location and state) occur typically with patientive marking. Thus, the overall generalisation is that the closer to the top of the hierarchy a verb is, the more likely it is to occur with agentive subjects; the closer to the bottom, the more likely it is to occur with patientive subjects. This is thus further support for the ASH as a descriptive generalisation of how split intransitive behaviours pattern across a range of languages. It is particularly striking here that the conformity to the ASH is found not only with auxiliary selection (though Basque auxiliary selection does conform to it) but also with case and agreement.

This concludes the characterisation of the semantic basis of split intransitive case alignment in Basque. The following section will provide a formal account of the case patterns.

4.3 Basque case assignment and the VICTR Hierarchy

4.3.1 Introduction

The previous section characterised case assignment (and its correlates, agreement and auxiliary selection) with Basque intransitives in terms of the features $[\pm\text{transition}]$, $[\pm\text{consecution}]$, $[\pm\text{volition}]$ together with some covert reflexive marking. In this section, this will be integrated more fully into the VICTR Hierarchy approach to argument structure. In §4.3.2, I present arguments that Basque has the 'extended accusative' type of split intransitive alignment. Then (§4.3.3) I formalise Basque case assignment in terms of the VICTR Hierarchy.

4.3.2 Basque's 'extended accusative' split intransitive case system

The nature of the agentive ('ergative') case in Basque has been a matter of some debate. Some authors have argued that it is a structural case (Ortiz de Urbina 1989, Laka 1993 and others); others that it is inherent (Oyharçabal 1992, Holmer 1999, Laka 2006b). Here, I shall take the first view, summarising the arguments of one recent article on the subject (Rezac et al. 2014) and presenting some new arguments against a recent rebuttal of the claims presented there (Laka 2017). Thus, in the context of the model presented in §3.2.2, Basque has an 'extended accusative' type of split intransitive alignment: agentive and patientive are both structural cases, assigned by T and a head within the thematic domain respectively.

This is essentially what Rezac et al. (2014) argue at length: that the Basque ergative (agentive) is assigned structurally by T and that absolutive (patientive) is assigned structurally by v (i.e. within the thematic domain). Thus, the Basque agentive parallels the nominative case of nominative-accusative languages, and the Basque patientive parallels the accusative. I will only summarise Rezac et al.'s arguments here; the reader is referred to that article for full discussion.

Firstly, Rezac et al. discuss (2014: §3) how agentive is not assigned in certain nonfinite complement clauses with matrix perception verbs, for example:

- (22) *Katu-ak sagu-ak harrapa-tzen ikusi ditut.*
 cat-DEF.PL.PAT mouse-DEF.PL.PAT catch-ing seen I.have.them
 'I saw the cats catch the mice.' (Rezac et al. 2014: 1280)

Here, the patientive form of the noun *katuak* 'cats' is used, rather than the agentive form *katuek* which would be expected in finite contexts (this is taken to be an instance of exceptional case marking).

Independent evidence suggests these clauses possess a 'defective T', e.g. they do not license the negative polarity item *ezer-* in subject position:

- (23) **[Ezer(-k) gora ez egi-ten] ikusi dut.*
 anything(-AGT) up not do-ing seen I.have.it
 Intended: 'I saw nothing go up.' (Rezac et al. 2014: 1283)

Further evidence (discussed in Rezac et al. 2014: §4) comes from raising constructions such as the following with *behar* 'must', which takes agentive subjects even with embedded verbs whose subjects are normally patientive, like *etorri* 'to come':

- (24) *Jon-ek eta Miren-ek etorri behar dute.*
 Jon-AGT and Miren-AGT come must they.have
 'Jon and Miren must come.' (Rezac et al. 2014: 1290)

If agentive is assigned in a thematic position, on standard assumptions it should not be assigned to a raised argument.

Rezac et al. also appeal to the markedness of the agentive case (2014: 1313–14), amongst other phenomena. As mentioned above, they conclude that ergative is structural and assigned by T.

This conclusion has, however, been questioned by Laka (2017), who argues that ergative (agentive) in Basque is in fact an inherent case. Laka discusses the syntax of *behar* ‘need’ and argues that, contrary to Rezac et al.’s analysis, this provides evidence for an inherent case account. However, I feel that Laka’s account is problematic in several ways, and the other issues discussed above are not addressed.

The crux of Laka’s analysis is that *behar* is in fact nominal. One reason given for this (2017: 168) is that to assume a modal *behar* complicates the lexicon, given that there is independent evidence for nominal *behar* (2017: 167)—which can, for example, co-occur with an adjective:

- (25) *Ni-k [DP zu-re laguntza-ren behar gorria] dut.*
 I-AGT you-GEN help-GEN need red I.have
 ‘I have dire (lit. red) need of your help.’ (Laka 2017: 167)

However, it is certainly not impossible that *behar* should be both a modal and a noun: compare English, where ‘need’ can be modal, verbal or nominal:

- (26) a. Lucy needn’t go.
 b. Lucy doesn’t need to go.
 c. Lucy has needs.

Further, Rezac et al. suggest (2014: 46–47fn.40) that *behar* has lost its nominal properties in modal use, whilst gaining some (not all) verbal properties, such as compatibility with future suffix *-ko*.

Laka also takes issue with the ‘highly exceptional’ mechanism of raising to ergative (2017: 170–71). However, if ergative/agentive in Basque is essentially a variety of nominative, then raising to agentive is not exceptional at all. She also points to the fact that certain other raising verbs take absolutive (patientive) subjects (2017: 170), for example:

- (27) *Zu-Ø ikasle-a-Ø zara.*
 You-PAT student-DEF-PAT you.are
 ‘You are a student.’

However, even if verbs like *izan* ‘to be’ do form raising predicates, the absence of agentive marking is not particularly surprising, since we know Basque verbs in general—and especially those denoting states as modals seem to—may vary idiosyncratically in their case-marking properties. Thus no further ‘language particular exceptional processes’ (Laka 2017: 171) are required to explain this fact. Further, other languages may have both raising to subject and raising to object constructions:

- (28) a. She_i seems t_i to be happy.
 b. They want her_i t_i to be happy.

Further, even if Laka's analysis of *behar* as nominal is correct, this is not incompatible with agentive being structural. As mentioned above, Laka does not attempt to deal with Rezac et al.'s other evidence that this is the case. Ultimately, I do not believe Laka's arguments demonstrate convincingly that agentive in Basque is inherent.

Laka's concern that on Rezac et al.'s approach 'ergative' behaves very differently from how it appears to behave in other languages may relate directly to the fact that Basque has split intransitive alignment. On the model adopted here in chapter 3, 'true' ergative (marking only arguments of transitives) is always an inherent case, but *agentive* (which also occurs on intransitive arguments) may be inherent or structural depending on the language. If other languages can be shown to have structural agentive—not many languages with split intransitive alignment have been well-studied in this regard—then Basque may prove not to be so exceptional after all.

However, the status of the Basque agentive as inherent or structural is by no means crucial to defend the VICTR approach. The approach is also applicable to languages where agentive is inherent (see the following chapter), and an analysis of Basque in these terms could easily be formulated. However, I believe the evidence most strongly suggests that the agentive in Basque is structural, and this is in line with the proposal (§3.2.3) that such 'extended accusative' systems are one subtype of split intransitive alignment.

4.3.3 Formalisation of case

It has been established that Basque is probably best analysed as possessing an 'extended accusative'-type case system. That is, both agentive and patientive are structural cases; patientive is assigned in the thematic domain, and agentive in a higher position (in the tense domain; traditionally from the T head). Agentive is assigned in finite clauses to all intransitive arguments which do not receive patientive (or dative).

The key questions that this section will attempt to answer, then, are these: which head or heads within the thematic domain assign patientive case (in intransitives), and in what contexts? I will assume a VICTR Hierarchy approach; later (§4.5), I will compare this approach to other possibilities.

The discussion throughout is framed in terms of case, but recall that agreement in Basque patterns the same way. It appears that the functional heads which assign case in Basque also enter an agreement relation with the arguments to which their case is assigned. Thus, each of the case-assigning varieties of functional head identified below can also be considered to carry unvalued [ϕ :_] features which are valued by the argument with which it agrees.

Another related matter is auxiliary selection. I assume that the form of the auxiliary in Basque is most straightforwardly analysed as an essentially morphological operation, whereby a complex of functional heads is realised as *izan* BE providing it is firstly intransitive and

secondly bears a [Case:PAT] feature, and as **edun* HAVE otherwise. This provides a neat account of the auxiliary selection facts which does not require any further features to be posited. On this approach the auxiliary is essentially a single ‘lexical item’ (the spell-out of the complex of thematic heads) which is realised in different ways depending on its precise featural make-up.⁶ This is supported by the fact that **edun* lacks its own infinitive form, which it would ordinarily be expected to possess if it were an independent lexical item.⁷

It would appear most parsimonious to posit just one patientive-assigning head (occurring in different ‘varieties’ that constrain the contexts in which case is assigned). Based on the discussion in the previous section, case in Basque appears to be sensitive to all of the features [\pm volition], [\pm initiation], [\pm consecution], [\pm transition] and [\pm result]. This suggests the case-assigning head must be one which can exhibit sensitivity to all of these features: namely Volition, the highest head in the structure, which can access the features of the lower heads via c-selection and/or Agree.

In what contexts, then, does Volition assign patientive? (I will restrict the discussion to intransitive clauses only.) To summarise the discussion in the previous section, patientive case appears on the subjects of nearly all [+transition] verbs (including, though rather less consistently, on [+consecution,+transition] manner of motion verbs), many state verbs, and some uncontrolled consecutions. It also appears on the subjects of ‘reflexive’ verbs.

The [–consecution,+transition] verbs are the easiest. We can simply state the following:

- (29) Volition assigns [Case:PAT] when it selects a [–consecution,+transition] complement.

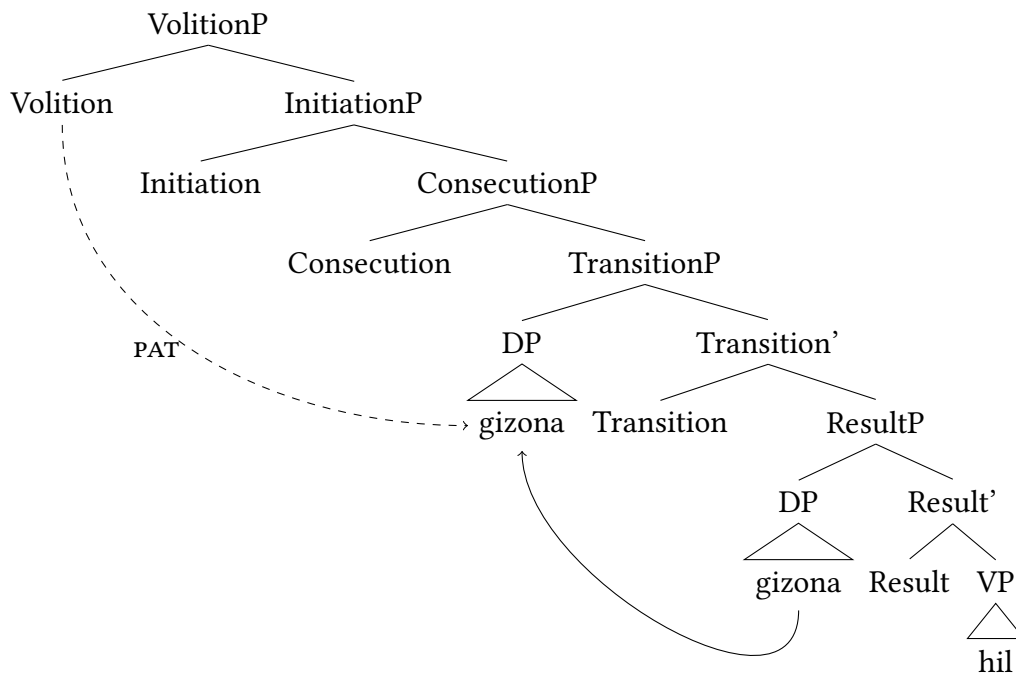
This can be represented as follows:⁸

6. Cf. Arregi (2004), who argues that the form of the auxiliary is morphologically determined by the presence or absence of ergative agreement.

7. An examiner suggests an alternative analysis, in which case is determined by the auxiliary rather than vice versa. This is not obviously a more straightforward position, as some additional mechanism is required to account for the form of the auxiliary itself, and furthermore it fails to account for a small class of instances (see de Rijk 2008: 116, 187) in which agentive or patientive case is assigned with finite verbs which lack an auxiliary.

8. As in the previous chapter, I omit verb movement and structure outside of the thematic domain from diagrams. I also omit the auxiliary.

- (30) *Gizon-a-Ø hil da.*
 man-DEF-PAT died is
 ‘The man died.’



When I say ‘Volition assigns [Case: PAT]’, this could also be phrased ‘Volition bears a [Case: PAT] feature’; the assignment takes place as a result of the Agree operation operating between this feature and the unvalued [Case: _] feature on the subject DP. Volition’s selectional properties are also encoded featurally upon it. The language-specific case assignment properties of Basque, then, ultimately reduce to the featural properties of functional heads, in line with the so-called ‘Borer-Chomsky conjecture’ (see §1.3.2).

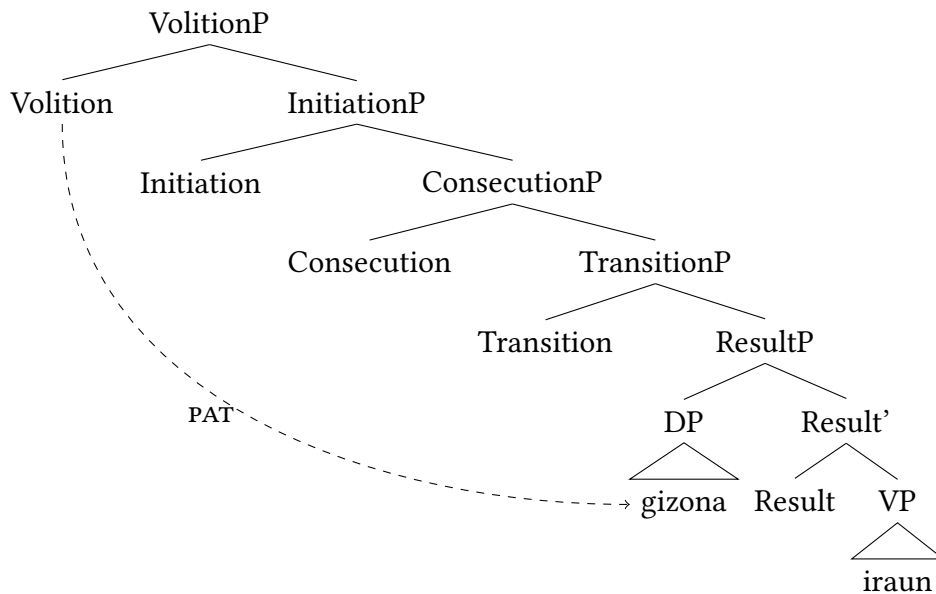
Note also that the value of the [\pm volition] feature itself is irrelevant here; both [+volition] Volition and [–volition] Volition can assign patientive.

There are a few apparent lexical exceptions to (29) (e.g. *irakin* ‘to boil’, *eboluzionatu* ‘to evolve’). However, as discussed in §4.2.2 at least some of these verbs may in fact not be grammaticalised as [+transition]. For those which are—and there is reason to believe *irakin* is, as will be seen in the following section—we state that they are selected for specifically by a variety of Volition which does not bear [Case: PAT]; the merge of this special Volition pre-empts that of the ordinary case-assigning Volition described in (29) according to the Elsewhere Condition (i.e. the more specific case pre-empts the more general).

Case assignment with stative verbs appears to be lexically determined, but this has been related to the feature values conventionally associated with the verb in question. Verbs whose only positively valued VICTR feature is [+‘volition’] occur with agentive subjects; where [+‘result’] is the only positively valued feature patientive subjects occur. Thus we can state the following:

- (31) Volition assigns [Case:PAT] when it selects a [-initiation, -consecution, -transition, +result] complement.

- (32) *Gizon-a-Ø iraun da.*
 man-DEF-PAT lasted is
 'The man lasted.'

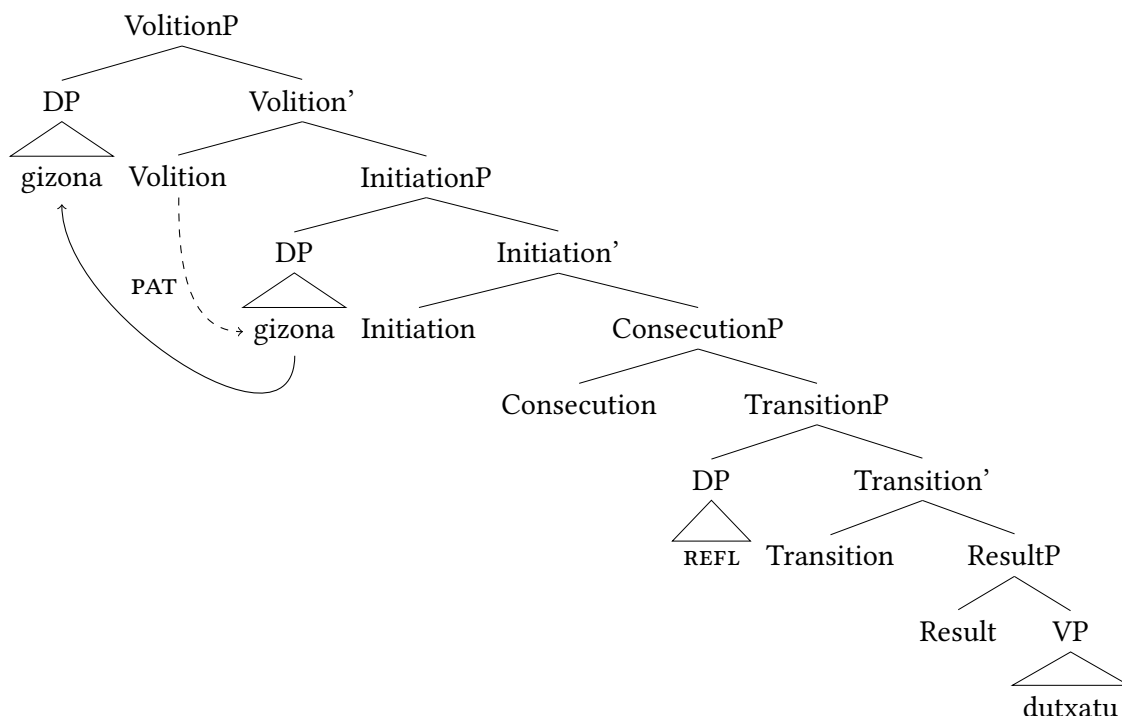


With the [+‘volition’] stative verbs, patientive is not assigned; the subject receives agentive case instead.

The other class of verbs which occur with patientive subjects are covertly-marked reflexive verbs (and certain others with a reciprocal element to their meaning in some instances). One analysis of these is that a covert reflexive pronoun REFL triggers patientive case assignment, patientive agreement and the *izan* form:

- (33) Volition assigns [Case:PAT] when it selects a complement containing REFL.

- (34) *Gizon-a-Ø dutxatu da.*
 man-DEF-PAT showered is
 ‘The man showered.’



It can still be asked why REFL should trigger [Case:PAT]. This is straightforward—it is merged in the lower part of the thematic domain. (Many of these verbs may also have transitive uses, in which instance a non-reflexive argument may occupy the same position.) If we assume this, the three main case assigning patterns formalised in (29), (31) and (33) can be unified in the following informal statement:

- (35) Patientive case is ordinarily assigned by Volition when its complement contains an argument merged in Spec,TransitionP or below.

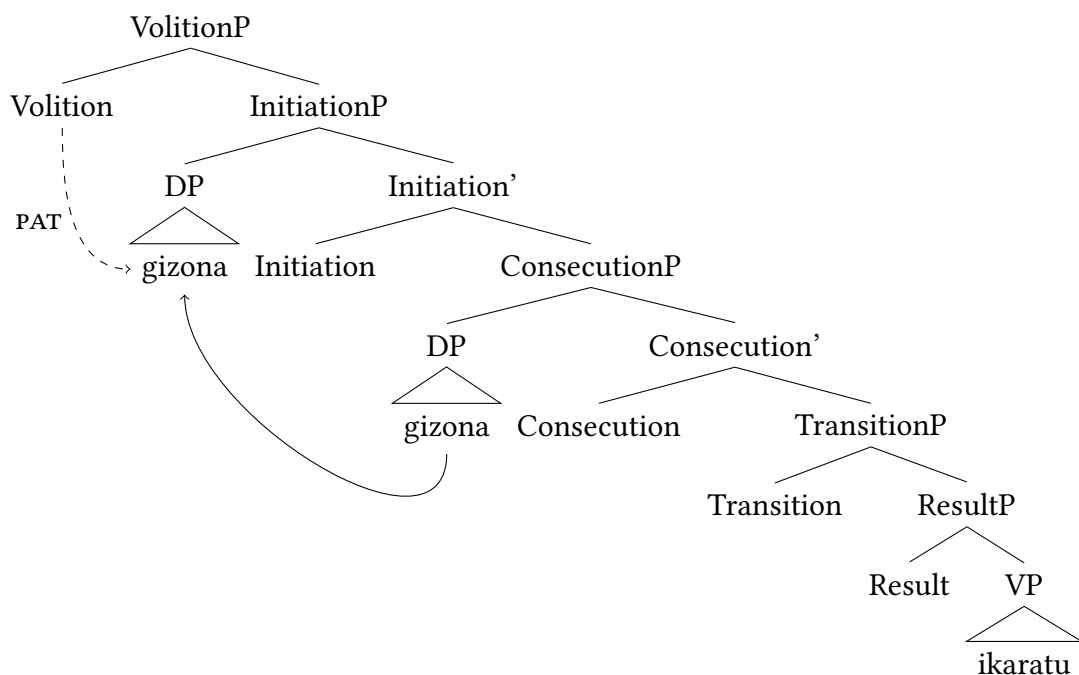
The perhaps initially heterogeneous nature of (29), (31) and (33) thus reduces to a single, generally consistent pattern.⁹

Two classes of verbs show more variable behaviour than those discussed above. With the uncontrolled consecution verbs ([–volition,+initiation,+consecution]) the assignment of patientive appears to be lexically idiosyncratic:

- (36) [–volition] Volition assigns [Case:PAT] when it selects a [+initiation,+consecution] complement containing one of a set of particular lexical Vs.

9. A technical question here is whether REFL itself requires case, and if so where it gets it from. It is plausible that the coindexation of the overt argument and REFL allows case to be transmitted from one to the other. Other possibilities are that REFL is, in fact, a lower copy of the overt argument, or that both originate inside the same constituent (the ‘big DP’ hypothesis of Zwart 2002).

- (37) *Gizon-a-Ø ikaratu da.*
 man-DEF-PAT tremble.with.fear is
 ‘The man trembled with fear.’



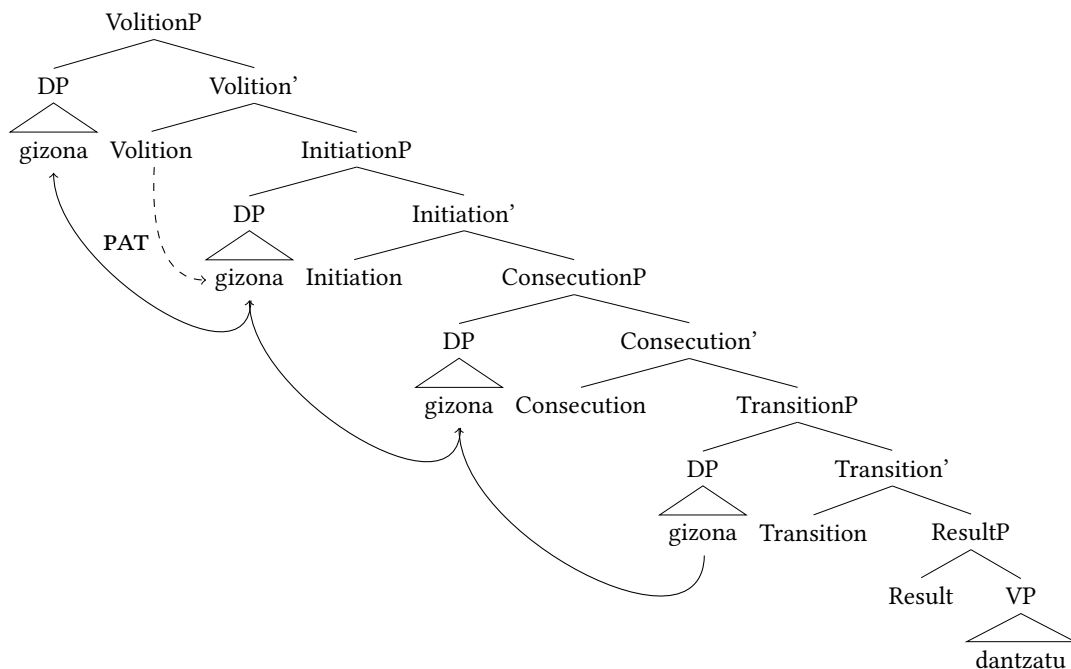
In this instance, note, there is sensitivity to the value of $[\pm\text{volition}]$, because (intransitive) $[+\text{volition}]$ Volition never assigns patientive when it has $[+\text{consecution}, -\text{transition}]$ complements. Subjects of these verbs (controlled non-motional consecutions) always receive agentive case.

The pattern in (36) is an exception to the general pattern summarised in (35), as with verbs like *ikaratu* ‘to tremble with fear’ the argument is merged lowest in Spec,ConsecutionP. However, this is a marginal and lexically idiosyncratic pattern, and such lexical idiosyncrasies are expected to occur from time to time (see §2.2.2, §3.3.8).

Finally, motional consecutions sometimes occur with agentive and sometimes patientive subjects. This can be captured as follows:

- (38) Volition optionally assigns $[\text{Case:PAT}]$ when it selects a $[+\text{consecution}, +\text{transition}]$ complement.

- (39) *Gizon-a-Ø dantzatu da.*
 man-DEF-PAT danced is
 ‘The man danced.’



This rule also reduces to the general statement of patientive case assignment given in (35), with one caveat—it is optional. Where (38) does not apply, an argument merged in Spec,TransitionP exceptionally does not receive patientive. Note, however, that these verbs have properties of both the agentive and patientive core feature sets (see also discussion in §4.6.2 below): in particular, their [+consecution] specification might suggest they should occur with agentive subjects, whereas their [+transition] value suggests they should occur with patientive ones. This conflict may thus provide an acquisition-based explanation for why they have not (yet) fully assimilated to the general pattern in (35).

In summary, then, the seemingly rather complex system of case assignment in Basque intransitives can be described in terms of a small number of ‘rules’ relating to the case-assigning properties of a particular functional head, which instantiate a single general pattern with certain marginal exceptions. These ‘rules’ are, in fact, features encoded on the head itself. This is possible on the additional assumptions of the existence of the VICTR Hierarchy.

This concludes the discussion of case-marking in Basque on its own terms. In the following section, I shall discuss a number of other split intransitivity diagnostics in Basque and show how these also provide arguments in favour of the VICTR approach.

4.4 Other split intransitive behaviours in Basque

4.4.1 Introduction

The agentive/patientive case split and the corresponding splits in case and auxiliary selection are the most obvious split intransitivity diagnostics in Basque, but a number of others also exist. In this section, I discuss in turn the partitive case (§4.4.2), diagnostics of telicity (§4.4.3), the causative alternation (§4.4.4), cognate objects and similar arguments (§4.4.5), the agentive nominalising suffix *-(tzai)le* (§4.4.6), the impersonal construction (§4.4.7) and postnominal past participles (§4.4.8). §4.5 summarises and discusses how these diagnostics are further support for the use of the VICTR features in the analysis of case already given.

Formal analyses are sketched for each diagnostic. As was the case for the analyses presented for English in §2.2, these are intended primarily to illustrate the viability of VICTR analyses for these phenomena, and so detailed arguments for the particular analyses presented is not given; further research would be valuable in many instances. Some of the analyses are very similar to those presented for English, and the reader is referred back to §2.2 for more detail. It will be noted again that many of the analyses can be understood in terms of selectional features of heads.

Much of the data in this section is drawn from the surveys of native speakers of which the methodology was overviewed in §4.2.1. The survey results concerning the diagnostics discussed in this section are summarised in table 4.3, with the exception of the telicity diagnostics which are covered in table 4.5.

Verb	Translation	Preferred case	Partitive	Causative	-(<i>tzai</i>)le	Postnominal past participle
<i>ikasi</i>	‘to study’	AGT	0.38	1.13	9.70	6.75
<i>dutxatu</i>	‘to shower’	PAT	8.43		1.50	4.00
<i>mintzatu</i>	‘to speak’	PAT	6.88	1.14	7.29	1.50
<i>dantzatu</i>	‘to dance’	AGT	3.13		1.80	0.86
<i>nabigatu</i>	‘to navigate’	AGT	1.00	1.14	8.67	4.38
<i>deskantsatu</i>	‘to rest’	AGT	0.43	2.43	1.29	5.50
<i>iraun</i>	‘to last’	AGT	1.63	0.75	1.71	2.25
<i>gelditu</i>	‘to stop, remain’	PAT	8.75	7.11	3.00	2.90
<i>soberatu</i>	‘to be left over’	PAT	3.13		1.13	1.86
<i>hazi</i>	‘to grow’	PAT		5.20	1.20	5.19
<i>hil</i>	‘to die’	PAT	9.10	8.88		8.60
<i>aldatu</i>	‘to change’	AGT	2.67	7.20	5.22	7.00
<i>jaio</i>	‘to be born’	PAT		0.57		4.18
<i>irakin</i>	‘to boil’	AGT		9.70	1.57	8.57
<i>erori</i>	‘to fall’	PAT		0.63	2.89	5.60
<i>etorri</i>	‘to come’	PAT	8.80	0.25	1.88	2.83
<i>heldu</i>	‘to arrive’	PAT		0.71		1.25
<i>ibili</i>	‘to walk’	PAT			3.11	5.25
<i>joan</i>	‘to go’	PAT			3.38	

Table 4.3: Average scores for various split intransitivity diagnostics

4.4.2 Partitive case

One further split intransitivity diagnostic which does coincide with the three discussed above is the marking of arguments with the partitive case ending *-(r)ik* (see also Levin 1983: 313–19, de Rijk 2008: 292). Under the appropriate circumstances—negative, interrogative, exclamative and conditional clauses (Levin 1983: 315)—an intransitive which would ordinarily take an patientive argument may instead take a partitive one, for example:

- (40) a. *Ez da haurr-a etorri.*
 not is child-DEF(-PAT) come
 ‘The child has not come.’
 b. *Ez da haurr-ik etorri.*
 not is child-PART come
 ‘No child has come.’ (Berro 2010: 74, citing Salaburu 1992: 427)

However, intransitives which require the agentive do not take partitive arguments:

- (41) a. *Ez du haurr-a-k ikasi.*
 not has child-DEF-ERG studied
 ‘The child has not studied.’
 b. **Ez du haurr-ik ikasi.*
 not has child-PART studied
 ‘No child has studied.’

These intransitives are ungrammatical with the partitive even with auxiliary *izan* BE:

- (42) **Ez da haurr-ik ikasi.*
 not is child-PART studied
 ‘No child has studied.’

A parallel pattern is found amongst transitives: objects (which are usually patientive) may occur in the partitive case, but subjects (usually agentive) do not.

Crucially, note that the relations between the agentive, the patientive and the partitive hold even of intransitive verbs where the ordinary choice of case appears semantically anomalous. The partitive is not, therefore, possible with the semantically [–consecution, +transition] (‘un-accusative’) verb *irakin* ‘to boil’ which takes agentive case:

- (43) a. *Ez du ur-a-k irakin.*
 not has water-DEF-ERG boiled
 ‘The water has not boiled.’

- b. **Ez du/da ur-ik irakin.*
 not has/is water-PART boiled
 ‘No water has boiled.’

The partitive is, however, possible with the consecution (‘unergative’) verb *mintzatu* which otherwise takes patientive subjects:

- (44) a. *Ez da haurr-a mintzatu.*
 not is child-DEF(-PAT) spoken
 ‘The child has not spoken.’
 b. *Ez da haurr-ik mintzatu.*
 not is child-PART spoken
 ‘No child has spoken.’

Various analyses of the Basque partitive are possible; what is crucial is that they must capture the fact that the partitive is restricted to contexts in which the patientive would occur, in other sorts of clauses. An attractive way of accounting for this is to posit that patientive actually is assigned in partitive contexts, (i.e. an argument does have its [Case:_] feature valued as [Case:PAT]) and the appearance of partitive morphology is dependent on that argument bearing that [Case:PAT] feature—where [Case:PAT] is absent, the partitive morphology cannot occur.

I briefly sketch two ways in which this might be formalised. The first follows that of de Rijk (1996, 2008: 291, 295). De Rijk argues that the argument bearing the partitive marking is ‘governed’ by deleted indefinite pronouns, which must bear absolutive (i.e. patientive). Evidence for this is provided by the fact that these pronouns can also occur overtly:

- (45) *Ez dago (ezer) txarr-ik.*
 not is anything wrong-PART
 ‘There is nothing wrong.’ (de Rijk 2008: 291)

(An alternative to the deletion analysis is that there exist phonologically null pronouns which are listed separately in the lexicon, with similar semantics to their overt counterparts.)

It is not clear how exactly this case ‘government’ should be formalised. One possibility is that the indefinite pronouns in question bear both an unvalued [Case:_] feature which is valued [Case:PAT] in the course of the derivation, and a [Case:PART] feature which is assigned to the overt subject. This would require a mechanism to explain why the indefinite pronouns themselves are spelled out with patientive rather than partitive case, when they are overt.

Another possibility follows de Rijk’s (1996: 150) observation that the partitive ending *-(r)ik* has ‘all the characteristics of a determiner rather than a case marker’ in certain contexts. Evidence given for this is, firstly, the reliance on the presence of absolutive (patientive) case and, secondly, the fact that it does not co-occur with other articles. This suggests that the partitive

in the contexts which interest us here may be analysed as simply a form of the indefinite absolute article which is licensed in certain clause types (negative, interrogative, exclamative and conditional, as listed above).

Let us assume these clauses are associated somehow with a feature which we can call [+P], whereas other sorts of clause are [-P]. The article in D agrees with the value of [\pm P], and this—together with its case and definiteness features—determines how it is spelled out. Most of the time, in fact, the value of [\pm P] does not affect the realisation of D, but in one particular set of instances—where D also bears the values [Case:PAT, -definite]—the article is spelled out as *-(r)ik* in [+P] contexts and $-\emptyset$ otherwise. Some of the forms of D in Basque on this model are presented in table 4.4.

	PAT, -def	PAT, +def	AGT, -def	AGT, +def	...
+P	<i>-(r)ik</i>	<i>-a</i>	<i>-(e)k</i>	<i>-ak</i>	...
-P	$-\emptyset$	<i>-a</i>	<i>-(e)k</i>	<i>-ak</i>	...

Table 4.4: Realisation of articles/case in Basque

4.4.3 Telicity

Verb	Translation	Preferred case	<i>bost minutuz</i> 'for five minutes'	<i>bost minutaten</i> 'in five minutes'
<i>ikasi</i>	'to study'	AGT	6.67	9.00
<i>mintzatu</i>	'to speak'	PAT	8.33	6.80
<i>jauzi</i>	'to jump'	PAT	3.00	5.14
<i>bidaitu</i>	'to travel'	AGT	5.33	4.20
<i>dantzatu</i>	'to dance'	AGT	7.62	6.33
<i>igerikatu</i>	'to swim'	AGT	3.80	2.75
<i>paseatu</i>	'to go for a walk'	AGT	7.40	3.83
<i>argitu</i>	'to shine'	AGT	3.50	1.33
<i>dirdiratu</i>	'to shine'	AGT	7.33	6.00
<i>jardun</i>	'to be busy'	AGT	8.00	9.75
<i>deskansatu</i>	'to rest'	AGT	7.60	7.50
<i>iraun</i>	'to last'	AGT	6.00	0.00
<i>olgatu</i>	'to have fun'	PAT	5.50	4.00
<i>hazi</i>	'to grow'	PAT	2.50	7.20
<i>hil</i>	'to die'	PAT	0.00	7.50
<i>jaio</i>	'to be born'	PAT	1.50	7.25
<i>irakin</i>	'to boil'	AGT	4.00	8.00
<i>etorri</i>	'to come'	PAT	4.20	6.75
<i>heldu</i>	'to arrive'	PAT	2.67	9.25
<i>ibili</i>	'to walk'	PAT	8.33	2.00
<i>desagertu</i>	'to disappear'	PAT	7.57	8.75

Table 4.5: Average scores with diagnostics of telicity

Unaccusativity has often been connected to telicity (see references in §2.2.5). Basque speakers do not appear to have particularly strong judgements, in general, regarding the standard

telicity diagnostics ‘for’/‘in’ + phrase denoting a period of time. However, there is some degree of discrimination:

(46) a. *Gizon-a bost minutu-z ibili da*
 man-DEF(-PAT) five minute-INSTR walked is
 ‘The man walked for five minutes.’

b. **Gizon-a bost minitu-ta-n ibili da.*
 man-DEF(-PAT) five minute-PL-LOC walked is
 ‘The man walked in five minutes.’

(47) a. **Gizon-a bost minutu-z heldu da.*
 man-DEF(-PAT) five minute-INSTR arrived is
 ‘The man arrived for five minutes.’

b. *Gizon-a bost minitu-ta-n heldu da.*
 man-DEF(-PAT) five minute-PL-LOC arrived is
 ‘The man arrived in five minutes.’

As the examples above show, the verb *ibili* ‘to move about, to walk’ is accepted with *bost minutuz* ‘for five minutes’ but not with *bost minututan* ‘in five minutes’; with *heldu* ‘to arrive’ the situation is reversed. We may then say that *ibili* is atelic whereas *heldu* is telic.

Nevertheless, in many cases speakers’ judgements appear to be rather weaker than for the two verbs just discussed. Some overall patterns can be discerned, however. Intransitive verbs denoting changes of state and location seem to be more strongly (sometimes considerably so) accepted with *bost minututan* than with *bost minutuz* in most cases, suggesting it may be possible to classify them as telic; this applies even with verbs like *hazi* ‘to grow’ and *irakin* ‘to boil’, the equivalents of which are atelic in English—although not with *ibili* ‘to move about’, as already discussed. With other intransitives—those denoting states and (non-motional) consecutions—the pattern tends to be reversed, suggesting these verbs may be classed as atelic. This is true even of manner of motion verbs which sometimes take patientive arguments, like *paseatu* ‘to go for a walk or ride’, *dantzatu* ‘to dance’. This patterning—‘for five minutes’ being noticeably dispreferred only with transition verbs, though not with all of them—is broadly in line with what is observed in English.

Thus something of a split sensitive to [\pm consecution] and [\pm transition] is therefore apparent, with [–consecution,+transition] verbs tending to pattern as telic and others as atelic. However, a verb’s case frame does not appear to have a direct relation to telicity. Agentive-marking transition verbs like *irakin* ‘to boil’ nevertheless seem to pattern closer to telic than atelic, whereas patientive-marking consecution verbs like *mintzatu* ‘to speak’ pattern closer to atelic. Overall there may be a slight preference for patientive marking with telic verbs and agentive marking with atelic ones, but the correspondence is by no means absolute. We can conclude, then, that telicity is basically independent of case-marking in Basque. In formal

terms, it can be connected to the feature [\pm result]; inherently telic verbs are [+result], and [+transition] verbs are more readily associated with this feature.

4.4.4 The causative alternation

Basque, like many other languages, has a productive causative alternation, whereby the same verb may be used in both intransitive and transitive frames (Oyharçabal 2003; de Rijk 2008: 274–76). In Basque (prototypically), the agentive-marked argument of the transitive alternant is interpreted as the cause of the state or change predicated of the patientive argument by the verb; the patientive argument is also expressed in the intransitive alternant, and is interpreted as undergoing the same state or change, but the agentive argument is omitted:

- (48) a. *Gizon-a hil da.*
 man-DEF(-PAT) die is
 ‘The man has died.’
 b. *Errege-a-k gizon-a hil du.*
 king-DEF-AGT man-DEF(-PAT) die has
 ‘The king killed the man.’ / ‘The king made the man die.’

The matter of which intransitive verbs in Basque have transitive alternants expressing causation in this way is a somewhat complex one. The consensus in the literature is that the alternation is found with only patientive-marking intransitives (not agentive-marking ones), yet not with all of them (Oyharçabal 2003: 237–44, de Rijk 2008: 136–37). For example, the alternation is found with *hil* ‘to die’~‘to kill’, as seen in example (48a), and also with many other patientive-marking intransitives. These include many change of state verbs (e.g. *hautsi* ‘to break’, *erre* ‘to burn’ ...), but also many state verbs (e.g. *izutu* ‘to be frightened’~‘to frighten’, *nazkutu* ‘to be disgusted’~‘to disgust’, *geratu* ‘to remain’~‘to stop’ etc.) and certain verbs of directed motion (e.g. *heldu*, ‘to (make) arrive’, *atera* ‘to (make) go out’)—verbs in the latter two classes do not alternate in English (see §2.2.2). Of some note is the permissibility of the causative with *aldatu* ‘to change’, which prefers patientive subjects but does allow agentive ones to some extent. These verbs are all [–consecution]: either [+transition] (the change of state and directed motion verbs) or [+‘result’] (the stative verbs).

The causative alternation is not found, however, with a small, closed subclass of patientive-marking verbs (Oyharçabal 2003: 240–41, 243; de Rijk 2008: 136–37), for example *etorri* ‘to come’:

- (49) a. *Gizon-a etorri da.*
 man-DEF(-PAT) come is
 ‘The man has come.’

- b. **Errege-a-k gizon-a etorri du.*
king-DEF-AGT man-DEF(-PAT) come has
‘The king came the man.’ / ‘The king made the man come.’

Other verbs in this class of patientive-marking intransitives which do not allow the causative alternation include *erori* ‘to fall’, *jaio* ‘to be born’ and several others (Oyharçabal 2003: 243).

It is ‘hard to explain’ (Oyharçabal 2003: 243) why many of these verbs do not allow causative alternants when semantically similar verbs do. One possible interpretation is that the verbs which allow the causative alternation are prototypically [–initiation] in their intransitive readings—broadly the same analysis, following Ramchand (2008), as adopted for English in chapter 2—but that the set of [–initiation] verbs is larger in Basque than in English. This would suggest that some directed motion verbs like *heldu* ‘to arrive’ are [–initiation] by default in Basque, whereas their English counterparts are [+initiation] by default (though they also have [–initiation] readings).

Certain groups of patientive-marking intransitives form more systematic exceptions to the generalisation that these verbs have causative alternants. The alternation does not occur with reflexive verbs nor with those that semantically denote consecutions (Oyharçabal 2003: 234, 235). Reflexives, firstly, do permit transitive alternants, but these do not have causative meaning:

- (50) a. *Haurr-a beztitu da.*
child-DEF(-PAT) dressed is
‘The child got dressed.’
b. *Gizon-a-k haurr-a beztitu du.*
man-DEF-AGT child-DEF(-PAT) dressed has
‘The man dressed the child.’ (adapted from Oyharçabal 2003: 234)

These verbs are [+initiation,+consecution] on the present analysis.

Other [+consecution] verbs which allow patientive subjects (e.g. *mintzatu* ‘to speak’,¹⁰ *dantzatu* ‘to dance’, *borrokatu* ‘to fight’ etc.) also lack transitive alternants (Oyharçabal 2003: 235–37):

- (51) a. *Gizon-a mintzatu da.*
man-DEF(-PAT) spoken is
‘The man has spoken.’
b. **Errege-a-k gizon-a mintzatu du.*
king-DEF-AGT man-DEF(-PAT) come has
‘The king spoke the man.’ / ‘The king made the man speak.’

10. de Rijk (2008: 138), however, suggests *mintzatu* does have a causative alternant; this is not supported by the results of my survey.

This is strong evidence for a split between [+consecution] verbs and other intransitives which cross-cuts the Basque case split.¹¹

Agentive-marking intransitives appear to overwhelmingly lack causative alternants:

- (52) a. *Gizon-a ikasi du.*
 man-DEF(-PAT) studied has
 ‘The man has studied.’
- b. **Errege-a-k gizon-a ikasi du.*
 king-DEF-AGT man-DEF(-PAT) studied has
 ‘The king made the man study.’

Other verbs in this category include *nabigatu* ‘to navigate’ and so forth. Note that the alternation is ruled out not only with agentive-marking [+consecution] verbs, but also agentive-marking ([+‘volition’]) state verbs like *iraun* ‘to last’ and *deskansatu* ‘to rest’.

Interestingly, however, the causative alternation is accepted by my informants with the agentive-marking *irakin* ‘to boil’—in fact, these informants accept the alternation with *irakin* more strongly than with any other verb tested:

- (53) a. *Ur-a-k irakin du.*
 water-DEF-AGT boiled has
 ‘The water has boiled.’
- b. *Errege-a-k ur-a irakin du.*
 king-DEF-AGT water-DEF(-PAT) boiled has
 ‘The king boiled the water.’ / ‘The king made the water boil.’

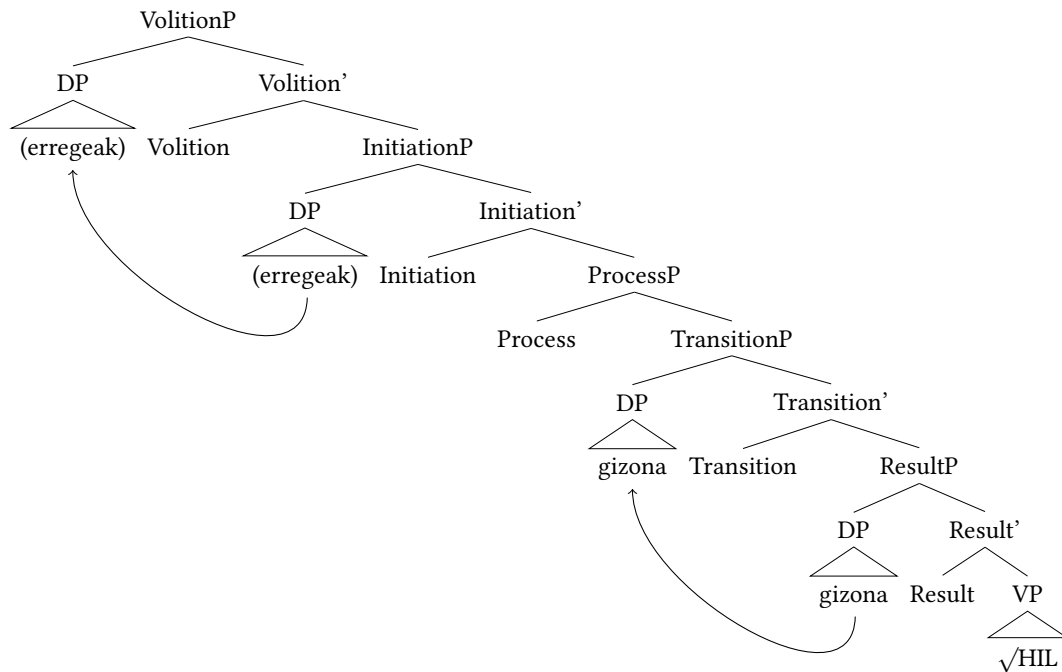
irakin is a very unusual verb, in that it apparently denotes an (externally-caused) change of state yet nevertheless takes agentive arguments. Yet in regard to the causative alternation it appears to pattern with the other change of state verbs, suggesting (along with other evidence to be discussed below) that it is grammaticalised as [+transition]. This again demonstrates that the causative alternation and case marking are sensitive to different sets of criteria.

In summary, then, the causative alternation is restricted to [–consecution] verbs in Basque, though it does not occur with all of them. The availability of the alternation appears to be essentially independent of case marking. If the analysis suggested above is correct, then the causative alternation is an alternation between [–initiation] Initiation (the intransitive alternant) and [+initiation] Initiation (the transitive alternant)—as suggested for English and as diagrammed for Basque below (see also figure 4.1): complements are listed before specifiers;¹²

11. One patientive-marking [+consecution] verb that may allow a causative alternant according to de Rijk (2008: 137–38) is *jauzi* ‘to jump’. This is plausibly related to the fact that this verb also has a [+transition] feature and is therefore further from the values of the agentive core feature set—though other [+consecution, +transition] verbs do not alternate. However, Oyharçabal (2003: 235) claims *jauzi* lacks a causative alternant.

12. Recall the following conventions on selectional features: complements are listed before specifiers; the category of the complement is given first and any other features required to be contained within the complement follow in square brackets.

- (54) *Gizona hil da. / Erregeak gizon-a hil du.*
 ‘The man died.’ / ‘The king killed the man’.



<p>Initiation +initiation Select:Consecution[+transition] Select:D</p>
--

Figure 4.1: Causative Initiation

Further, the alternation is only possible with [–volition,–consecution] verbs: the causative Initiation must select for a [–consecution] complement, and cannot be selected by the [+‘volition’] Volition head which occurs with agentive-marking state verbs.

4.4.5 Cognate objects etc.

Basque, like other languages, allows some intransitive verbs to take cognate objects, alongside a limited set of other complements, e.g. complements indicating spatial length; this is discussed in Berro (2010: 13–15) and Berro (2012: §5). For example:

- (55) *Jolas polit bat jolastu zuten.*
 game nice INDEF(-PAT) play they.have
 ‘They played a nice game.’ (Berro 2010: 15)

- (56) *Bi kilometro korritu ditut oinutsik.*
 two kilometres run I.have barefoot
 ‘I ran barefoot two kilometres.’ (Etxepare 2003: 395)

It appears that only verbs associated with [+initiation,+consecution] features are able to take objects of this type. This is true independent of the case properties of the verb: thus even verbs like *mintzatu* (a [+consecution] verb which assigns patientive) have transitive alternants (Berro 2010: 14–15):

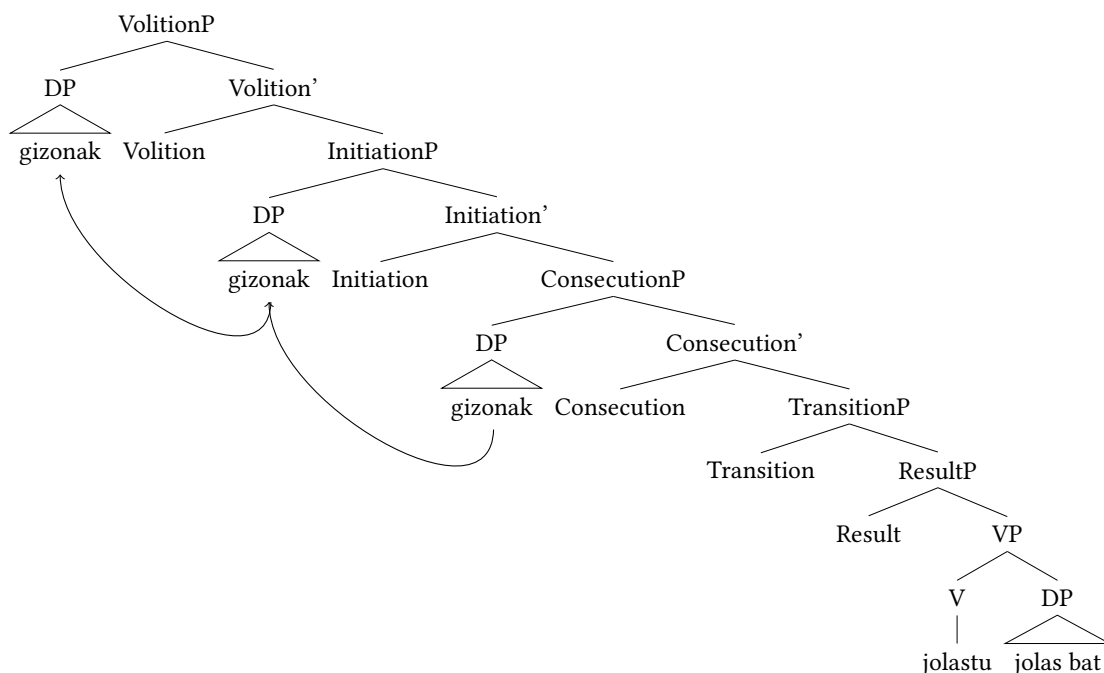
- (57) *Pitaud mintzatu dugu.*
 Pitaud(-PAT) talked we.have
 ‘We have talked to Pitaud.’ (adapted from Berro 2010: 14)

[–consecution] verbs cannot take objects, even if they assign agentive: this is true for example of *irakin* ‘to boil’, *iraun* ‘to last’; neither can the emission verbs e.g. *distiratu* ‘to glitter’ (Berro 2012: 17), which although they are [+consecution] are also [–initiation] on the analysis adopted here:

- (58) **Izarr-a-k distir-a distiratu du.*
 star-DEF-AGT glitter-DEF(-PAT) glittered has
 ‘The star has glittered a glitter.’ (Berro 2012: 17, citing Fernández 1997: 117)

We can adopt a similar analysis for cognate objects in Basque as for English (see §2.2.6.2 for details)—namely, that the cognate object selected by [+consecution] Consecution and so is incompatible with verbs which can only occur with the [–consecution] value (see also figure 4.2):

- (59) *Gizon-a-k jolas bat jolastu du.*
 man-DEF-AGT game INDEF(-PAT) play has
 ‘The man played a game.’



<p>Consecution +consecution Select:Transition[N_c] Select:D</p>

Figure 4.2: Consecution with cognate objects (N_c is shorthand for sorts of object eligible for selection)

4.4.6 Suffix *-(tzai)le*

The Basque suffixes *-tzaile* and *-le*, equivalent to English *-er*, denote the agent of an action described by a verb. *-le* is typically found with verbs which form their past participles in *-n* or *-i*, and *-tzaile* with other verbs (Trask 1997: 216–17).

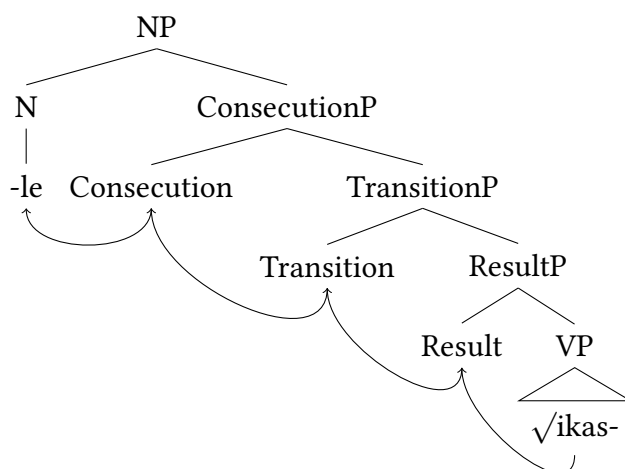
As in English, the agent-denoting suffix as far as Basque intransitives are concerned is principally restricted to [+consecution] verbs (‘unergative’ verbs), e.g. *nabigatu* ‘to navigate’ > *nabigatzaille* ‘navigator’, *ikasi* ‘to study’ > *ikasle* ‘student’. It may be found even on a verb like *mintzatu* ‘to speak’ (> *mintzatzaille* ‘speaker’) which, although [+consecution], takes patientive marking—though speakers’ judgements are slightly weaker with this form than with the others just listed. On the other hand, the suffix tends not to occur with [–consecution] verbs (‘unaccusatives’): **erorle* ‘faller’, **gelditzaille* ‘remainder’ etc. This holds even of a verb

like *irakin* ‘to boil’ which takes agentive case (**irakile* ‘boiler’), though speakers have less clear-cut judgements about ?*aldatzaile* ‘changer’ (< *aldata* ‘to change’, which allows agentive arguments to some degree). Speakers also reject *-(tzai)le* forms of the agentive-assigning stative verbs *deskantsatu* ‘to rest’ and *iraun* ‘to last’.

In summary, the availability of an agent nominal form in *-(tzai)le* does show some correspondence with a verb’s case frame, but this correspondence is by no means absolute. Indeed, the evidence suggests that the availability of *-(tzai)le* forms tends to correspond to the [\pm consecution] distinction even when the case employed with a given verb does not. This is evidence that this distinction is operational in Basque even if case assignment is not systematically sensitive to it, and casts doubt on the theory that all agentive-assigning verbs can be considered ‘unergative’ and all patientive-assigners ‘unaccusative’: if this is the case, then why does the availability of *-(tzai)le* not conform to this pattern?

Once more, we can analyse the Basque *-(tzai)le* construction along similar lines to a parallel construction found in English, in this case the agentive suffix *-er* (of *speaker*, *runner* etc.). The analysis for English, which also holds in Basque, is that the derivational ending (*-er*/*-(tzai)le*) ordinarily selects a [+consecution] complement, and hence is generally not available with [–consecution] verbs (see also figure 4.3):

(60) *ikasle*



$$\left[\begin{array}{l} \mathbf{N} \\ -(tzai)le \\ \text{Select:Consecution}[+consecution] \end{array} \right]$$

Figure 4.3: Suffix *-(tzai)le*

There are, however, a number of idiosyncratic exceptions where [–consecution] complements may be selected (as in English). (See §2.2.6.2 for the analysis of English presented in more detail.)

4.4.7 The impersonal construction

Basque allows subjectless clauses with auxiliary *izan* and third-person singular patientive agreement to take on an ‘impersonal’ reading, for example:

- (61) *Asko borrokatu da herri honetan.*
a.lot fought is town this-INE
‘People have fought a lot in this town.’ (Berro 2010: 72)

In Basque, as in many languages (see e.g. Perlmutter 1978, Zaenen 1988), the impersonal construction appears to be a split intransitivity diagnostic. It occurs not only with intransitive verbs that normally take agentive subjects, as in (61), but also with patientive-marking consecution verbs like *mintzatu* ‘to talk’ (Fernández 1997, Berro 2010: 71–72):

- (62) *Asko mintzatu da horr-etaz.*
a.lot spoken is that-about
‘People have talked a lot about that.’ (Berro 2010: 72)

Fernández and Berro claim the impersonal is not possible with ‘unaccusatives’, for example:

- (63) **Asko jaio da.*
a.lot born is
‘People were born a lot.’ (Berro 2010: 72)

However, my survey results suggest the impersonal is at least fairly well accepted with some [–consecution] verbs (verbs denoting states or transitions), by at least a good proportion of speakers:¹³

- (64) a. *Asko gelditu da.*
a.lot remained is
‘People have remained a lot.’
b. ?*Asko aldatu da.*
a.lot changed is
‘People have changed a lot.’
c. ?*Asko hil da.*
a.lot died is
‘People have died a lot.’

In some cases the construction is strongly rejected:

13. The second and third of these examples are marked ? to reflect average judgements of 6.86 and 6.57 respectively; note, however, that respondents also gave a score of 6.57 with *mintzatu*, for which Fernández and Berro report the construction as grammatical.

- (65) a. **Asko hazi da.*
 a.lot grown is
 ‘People have grown a lot.’
- b. **Asko irristatu da.*
 a.lot skidded is
 ‘People have skidded a lot.’
- c. **Asko ikaratu da.*
 a.lot trembled is
 ‘People have trembled a lot.’

hazi is a change of state verb; *irristatu* and *ikaratu* denote uncontrolled consecutions.

There is some indication that the main factor at play here is [\pm volition]. Those verbs which allow the construction tend to denote controlled events, or at least events which can be construed as controlled. Those which disallow it, however, are those for which a controlled reading is difficult.¹⁴

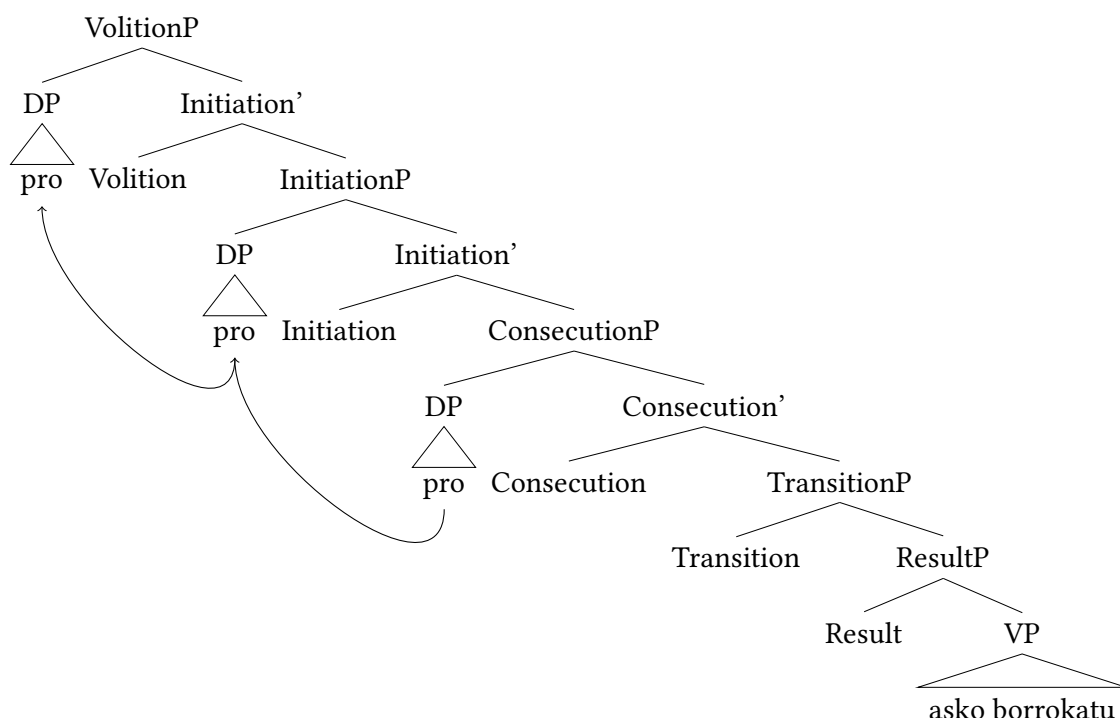
This result has parallels in other languages. For example, Zaenen (1988) argues that the impersonal passive in Dutch is limited to ‘intentional’ events. Blevins (2003: 480–81) likewise notes how impersonal passives are often said to have ‘agentive’ interpretations, for example in German. The pattern in Basque, then, may simply be one language-specific manifestation of a phenomenon which is found much more widely.

Let us assume that restriction of impersonals to [+volition] clauses is the correct one. A formal analysis of the impersonal construction in Basque, then, might posit a covert pronoun *pro* with arbitrary reference—but with an important restriction on the distribution of this *pro*, however, which is that it must bear the θ -VOLITION role / be merged in Spec,VolitionP. Thus, it cannot occur in [–volition] contexts.¹⁵

14. Ortiz de Urbina (2003: 582–90) also discusses the availability of impersonals with patientive-marking verbs, noting a restriction to verbs with implicit human subjects but not otherwise characterising precisely which verbs allow the construction.

15. In the example which follows, I represent *asko* as part of VP purely for the purposes of simplicity.

- (66) *pro asko borrokatu da.*
 pro a.lot fought is
 ‘People have fought a lot.’



I cannot say why exactly this restriction that this sort of *pro* must bear θ -VOLITION should hold. However, it is known that the distribution of arbitrary elements is elsewhere restricted by modality considerations. For example, arbitrary PRO in the following English example appears only to be licensed in contexts of obligation or possibility (after Clark 1990):

- (67) a. Lucy explained how PRO to solve the problem.
 b. *Lucy explained PRO to solve the problem using geometry.

Volitionality may also be construed as a modal property (this need not be at odds with its being a thematic property, as argued here). In this case, it is not surprising that it might similarly restrict the distribution of arbitrary elements, even if the precise mechanism by which it does so is unclear. However, the nature of the mechanism is not of prime importance here, and I will leave the matter aside.

4.4.8 Postnominal past participles

In English, the prenominal past participle construction is available with (a subset of) verbs denoting changes but not with other intransitives: *fallen leaves*, *melted butter* but **survived man*, **worked students* etc. Basque also allows past participles to modify nouns, although such participles are postnominal, not prenominal.

The acceptability of postnominal past participles in Basque shows a certain correlation with the status of a verb as [\pm transition], although this correlation is by no means absolute. Nevertheless, the construction is most readily accepted with verbs like *irakin* ‘boil’ and *hil* ‘die’, which denote transitions:

- (68) a. *ur irakin-a*
 water boiled-DEF
 ‘the boiled water’
- b. *gizon hil-a*
 man died-DEF
 ‘the dead man, the man who has died’

Note that *irakin* is an agentive-assigning verb whereas *hil* is associated with the patientive; the availability of the postnominal participle construction cannot be tied to a verb’s case properties, therefore. (This is also additional evidence that *irakin* really is [$+$ transition].) Not dissimilarly, the construction is also accepted with *aldatu* ‘to change’, which also permits agentive subjects to an extent (though it prefers patientive ones).

Not all transition verbs appear to accept the construction, however (compare **the come man* in English):

- (69) **gizon etorri-a*
 man come-DEF
 ‘the man who has come’

With [$-$ transition] verbs, the construction is generally less accepted:

- (70) a. *?gizon ikasi-a*
 man studied-DEF
 ‘the man who has studied’
- b. *?gizon deskantsatu-a*
 man rested-DEF
 ‘the man who has rested’
- c. **gizon mintzatu-a*
 man spoken-DEF
 ‘the man who has spoken’

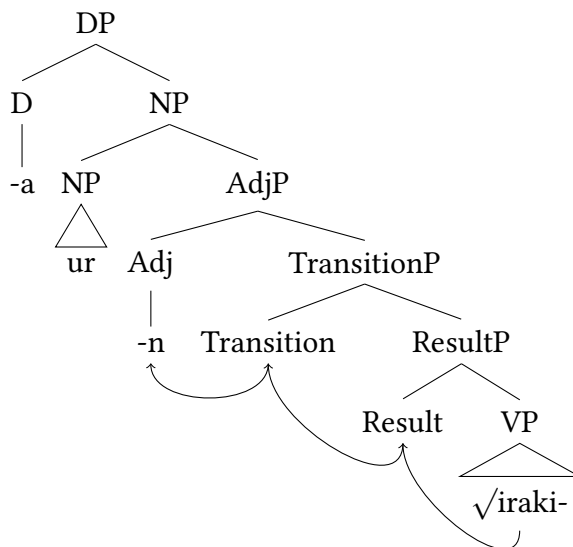
Note that *ikasi* and *deskantsatu* are agentive-assigning verbs, whereas *mintzatu* assigns patientive. Again, then, no strong relation to case patterns appears to hold.

Whilst it is not, then, possible to categorically relate the acceptance of postnominal past participles to the featural specification [\pm transition], there is evidence that it plays some role.

It also appears that the acceptability of this construction is not related to a verb's case assignment properties. This is yet more evidence, then, that split intransitivity in Basque is not a unitary phenomenon.

As far as a formal analysis is concerned, we can adopt a similar approach once more to that adopted for attributive past participles in English—that these are formed by means of a suffix which prefers [+transition] complements:

- (71) *ur irakin-a*
 water boiled-DEF
 'boiled water'



The Basque suffix can select [–transition] verbs more readily than its English counterpart, however. Also, as in English, some [+transition] verbs are idiosyncratically unavailable to be selected in this construction. (See §2.2.4 for more details of the English-based account.)

4.4.9 Summary

The different classes of verbs identified by the different split intransitivity diagnostics considered here for Basque are summarised in table 4.6.

As the table shows, the different diagnostics do not pick out the same sets of verbs. I return to this point in the following section, in the comparison of the VICTR approach to traditional approaches to split intransitivity in Basque.

As the diagnostics discussed in this section provide evidence (to varying degrees of reliability) for the operation of the VICTR features, we can also use them to independently justify much of the proposed featural basis for case assignment given in §4.3.3. Thus, it has been argued that cognate objects and *-(tzai)le* are evidence for [+consecution], and the impersonal construction may be evidence for [+volition]. Because [+volition, +consecution] verbs have been proposed to allow or require agentive subjects, a verb which can occur with any of these

<i>Case and related diagnostics</i>	
Case	Changes vs. others with various exceptions; states variable
Agreement	Same as case
Auxiliary selection	Same as case
Partitive	Only in PAT contexts
<i>Other diagnostics</i>	
Telicity	Broadly changes vs. others, but not absolutely Not directly tied to case
Causatives	Only with a subset of transition/state verbs
Cognate objects etc.	Consecution verbs
-(tzai)le	Predominantly with consecution verbs
Impersonals	Volitional verbs
Postnominal past participle	Preferred with transitions (not absolute)

Table 4.6: Summary of classes identified by diagnostics

other diagnostic constructions is predicted to be agentive-assigning. So it is that verbs like *ikasi* ‘to study’ and *nabigatu* ‘to navigate’, which typically take agentive subjects, do allow both -(tzai)le and the impersonal construction according to the present results. However, the same has been found of *mintzatu* ‘to speak’, a verb which takes patientive subjects. Yet this verb has also been argued to be typically [+volition,+consecution]—this is in fact supported by its availability with the diagnostics in question. Its patientive-assigning behaviour has been suggested to be due to the additional presence of covert reflexive marking. This thus does not undermine the analysis of case in terms of the [\pm volition, \pm consecution] features; it merely further demonstrates the need for an additional property to be considered.

Similarly, verbs which allow the causative alternation are always [–consecution], and if the analysis of case is right they are thus predicted, provided they are not stative, to have patientive subjects. This is likewise borne out—verbs which allow the causative alternation, like *hil* ‘to die~to kill’, take patientive subjects, with the exception of *irakin* ‘to boil’ and (inconsistently) *aldatu* ‘to change’, which have already been argued to be lexically idiosyncratic anomalies.

Further, telicity has been argued to be weak evidence for the [+transition] feature. It is thus predicted that verbs which pattern as telic will generally be patientive-assigning (unless they are [+consecution,+transition] manner of motion verbs). This is again supported by the fact that those verbs which most clearly disallow *bost minutuz* ‘for five minutes’ and permit *bost minutaten* ‘in five minutes’, like *heldu* ‘to arrive’, *hil* ‘to die’ and *hazi* ‘to grow’, all take patientive subjects.

One diagnostic which does not so neatly support the proposed analysis of case is that of the postnominal past participles. The availability of these has also been suggested to correlate roughly to [+transition], but they are quite well accepted even with some agentive-assigning verbs like *ikasi* ‘to study’, contrary to prediction. However, as this diagnostic corresponds only weakly to the [\pm transition] feature it cannot be taken as strong independent evidence for it and this result is not particularly concerning. Overall, the patterning of these other diagnostics

in relation to the VICTR features is good further evidence that the proposed featural analysis of case in Basque is the right one.

In the following section, I will argue that the patterning of these diagnostics is further evidence for the operation of the VICTR Hierarchy in Basque, with a focus on comparison to existing approaches.

4.5 The VICTR Hierarchy and other approaches

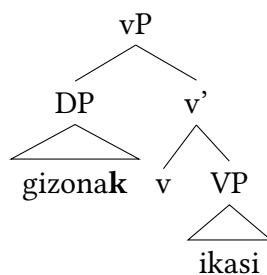
4.5.1 The Unaccusative Hypothesis

The focus of this section will be to argue further for the VICTR Hierarchy approach, through a comparison to two other possible approaches: the Unaccusative Hypothesis (this subsection) and Ramchand (2008) (§4.5.2). (The reader is referred again to the similar discussion of split intransitivity diagnostics in English in §§2.2–3, where similar arguments are presented.)

Previous approaches, as mentioned above, have tended to relate case marking (and the related properties of agreement and auxiliary selection) in Basque to Perlmutter’s (1978) Unaccusative Hypothesis. Under these analyses, agentive subjects of intransitives are external arguments; patientive subjects are internal arguments. A representation of this under standard minimalist assumptions about phrase structure is given in the following diagrams:

- (72) a. Agentive-marking intransitives (‘unergatives’):

Gizon-a-k ikasi du.
 man-DEF-AGT studied has
 ‘The man has studied.’

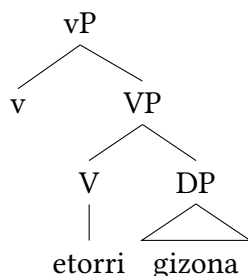


b. Patientive-marking intransitives ('unaccusatives'):

Gizon-a-Ø etorri da.

man-DEF-PAT came is

'The man has come.'



I now wish to present some arguments for favouring the VICTR Hierarchy approach to case in Basque presented above to the traditional sort of analysis just sketched. The reader will note various similarities to the discussion of English in §§2.2–3, and is referred there for more detail on some of the points raised.

Firstly, the linking of semantics to syntax under an Unaccusative Hypothesis-type model would be quite complex. In addition to the arguments already made (see §1.3.1, §§2.2–3), which also hold for Basque, certain further points can be noted. For one thing, case-marking in Basque does not always line up with a verb's apparent classification in English, something which will be discussed in more detail in §4.6. This is seen, for example, in the behaviour of verbs like *mintzatu* 'to speak', which is marked as patientive—purportedly an 'unaccusative' property—in contrast with an English verb like *talk* which consistently behaves as an 'unergative' verb, and in many other instances. While there are further complications with the assumption that case-marking relates to the unergative/unaccusative division in this way (to be discussed below), if we assume that the two could be straightforwardly linked in this way then it would appear we may need different linking rules for Basque compared to English. Thus, it appears the linking rules are not universal: suggesting they certainly must be learned, creating further difficulties for the acquisition of semantics–syntax linking in addition to those already discussed.

Complicating matters further is the issue of the state class, whose members vary between agentive and patientive subjects, apparently on an idiosyncratic lexical level. (This contrasts with English, where—according to Levin and Rappaport Hovav (1995) and other authors, verbs denoting states are unaccusative.) The VICTR approach furnishes some explanation as to why this might be—both Volition and Result are state-denoting heads, and so stative arguments can be merged in either position—whereas on the Unaccusative Hypothesis approach there is no obvious basis for the variation.

These issues of cross-linguistic difference lead back to M. Baker's Uniformity of Theta Role Assignment Hypothesis (UTAH), previously discussed in §1.3.1. If we allow for variation between languages in the positions of external and internal arguments of semantically very

similar predicates, as the comparison of Basque and English apparently demands under the assumption of the Unaccusative Hypothesis, then it would appear that the UTAH does not hold as a cross-linguistic universal. The VICTR approach, on the other hand, allows the UTAH to be maintained. Case-marking varies, but thematic roles do not (except in the very constrained case of state verbs). Of course, it is independently obvious that English and Basque have separate case-marking properties, so we must build this variation into our model anyway—in which case, it can be argued to be preferable that we do not complicate matters further by also permitting significant variation in thematic role assigning. Again, therefore, the VICTR approach seems to have advantages over the Unaccusative Hypothesis in the description of Basque and its relation to other languages.

Let us now turn to consider the other split intransitive behaviours; it may be helpful here to look back to table 4.6. The central observation of importance here is, again, that *the diagnostics do not pick out the same sets of verbs*. (This is essentially the same result as found for English, though the details differ.) While core case assignment, agreement, auxiliary selection and the distribution of the partitive do correspond, the other diagnostics identify different classes, each with a more-or-less coherent semantic basis. In fact, the patterning of diagnostics allows us to identify a similar set of features as identified for English: [\pm volition], [\pm consecution], [\pm transition] and [\pm result], and possibly [\pm initiation] if this is operative in the causative alternation.

These ‘mismatches’ between diagnostics would be decidedly problematic for an Unaccusative Hypothesis-type approach, where verbs are in general expected to categorise as either unergative or unaccusative. I will now discuss a number of particular ways in which this is true of Basque.

The main point to note, again, is that there are a number of problematic overlaps between the groups of verbs identified by the different split intransitive diagnostics which are difficult to account for on the Unaccusative Hypothesis. This is apparent, for example, when we consider the relation between case-marking and other diagnostics like the causative alternation, cognate objects and *-(tzai)le*. On the face of it, these last three diagnostics look like rather good support for the Unaccusative Hypothesis. They pick out verbs from two mutually exclusive classes: the causative alternation occurs with (a subset of) state and transition verbs, cognate objects and *-(tzai)le* are restricted to verbs in the consecution class (with some possible idiosyncratic exceptions in the latter instance). Further, these two classes correspond well to the unergative and unaccusative classes as identified by Perlmutter (1978) and subsequent work.

Case, however, creates some definite complications. (Note that this is in spite of the fact that Basque case-marking has itself been used as support for the Unaccusative Hypothesis, by Levin (1983) and others, and the classes identified by Basque case-marking do again roughly line up with those proposed by Perlmutter.) The causative alternation is mostly restricted to patientive-assigning verbs, but is also possible with the agentive [$+$ transition] verb *irakin* ‘to boil’, and ruled out with patientive-assigning verbs which depict neither changes nor states (patientive-marking consecution verbs, e.g. *mintzatu* ‘to speak’), as discussed in §4.4.4. Mean-

while, *-tzaile* can occur with *mintzatu*—which is not what would be predicted if it were sensitive to the same property as case—and does not occur with agentive-assigning state verbs (§4.4.6). Cognate objects, likewise, are limited to consecution verbs, and do not occur with agentive-marking verbs in other categories (§4.4.5).

All this suggests that case and these other diagnostics are basically independent (though there are also noteworthy similarities between the classes identified by case and those picked out by the others). This is decidedly problematic for an approach which holds that these diagnostics are sensitive to just two argument positions, ‘external’ and ‘internal’. In numerous cases, the status of a given verb as unergative or unaccusative in regard to the diagnostic of case would seem to be at odds with the status that can be derived from another diagnostic.

A similar issue arises when we consider the impersonal construction (see the data discussed in §4.4.7). This lines up neither with case (the availability of the impersonal construction is not restricted to agentive-marking verbs) nor with the other diagnostics just discussed. On the latter point, recall that causatives, cognate objects and *-tzaile* allow us to draw the [\pm consecution] discussion. But the impersonal is possible with [$-$ consecution] verbs, for example *borrokatu* ‘to fight’ ((61)) and *gelditu* ‘to remain’ ((64a)). The availability of the impersonal appears to be determined by distinct factors from all these other split intransitivity diagnostics, therefore.

We also see evidence that the [$+$ transition] verbs should be treated as a separate class. This is apparent from the diagnostics of telicity (§4.4.3) and the availability of postnominal past participles (§4.4.8). While these do not correspond absolutely with any of the features identified, there is nevertheless a noticeable correspondence with a verb’s [\pm transition] status. Crucially, state verbs do not pattern with [$+$ transition] verbs in this regard. This is not straightforwardly accounted for under the assumptions of the Unaccusative Hypothesis, where transition and state verbs are often held to comprise a single ‘unaccusative’ class.

The complexities of the interactions between the classes identified by the diagnostics can be seen particularly when we consider intransitive state verbs. On Unaccusative Hypothesis assumptions, we might argue these can be (i) either unergative or unaccusative (on the basis of case), (ii) generally unaccusative (on the basis of cognate objects, *-(tzai)le* and some state verbs which allow the causative alternation) or (iii) broadly unergative (on the basis of telicity and postnominal past participles). This extreme ambiguity is clearly not a good thing. And, as discussed, other verbs (e.g. *mintzatu* ‘to speak’) also seem to classify differently depending on the diagnostic in question. All this is difficult to account for in Unaccusative Hypothesis terms—but it is exactly the sort of thing we expect on the VICTR Hierarchy approach.

All this is in spite of the fact that each of the classes identified, as was also illustrated for the classes identified in English, seems to have a reasonably clear semantic basis (though in Basque matters are admittedly not totally clear-cut with many of the diagnostics). The features [\pm volition], [\pm consecution] and [\pm transition] (in particular) seem to be of real value in capturing the membership of the classes picked out by each diagnostic, even if each diagnostic is sensitive to one or more of these features in slightly different ways. Thus, as was

argued for English, most classes have a reasonably coherent semantic basis without separate appeal to notions of ‘unergative’ and ‘unaccusative’—which again suggests we can dispense with these latter notions. The value of these particular features, those which have been argued to be category-defining features on the VICTR approach, is a further argument for the VICTR Hierarchy.

Note also that, although the VICTR approach allows different split intransitivity diagnostics, it does not require that each diagnostic pick out a distinct class. This possibility is seen clearly in Basque in the behaviour of the agentive-patientive case split, agreement, auxiliary selection and the partitive (§4.4.2). This is because, while different constructions may be sensitive to different features, there is nothing to prevent two or more constructions being sensitive to the same set of features, or associated with the same heads, in particular instances.

In summary, the behaviour of different split intransitive diagnostics in Basque (as in English) provides further support for the VICTR approach in contrast to an analysis closer to the traditional Unaccusative Hypothesis.

4.5.2 Ramchand (2008)

It is also worth considering what an analysis of the Basque data here considered might look like in terms closer to those of Ramchand (2008). As with the previous discussion of other languages (§2.3.2, §2.4.3, §3.7.2.3), it is not clear that Ramchand’s approach is able to account for the observed data.

Any of the five basic configurations of *init*, *proc* and *res* appears able to occur with patientive case, and most of them with agentive case also. Thus, [*init*, *proc*, *res*] verbs like *etorri* ‘to come’ and *jaio* ‘to be born’ often have patientive subjects, but verbs like *saltatu* ‘to jump’ and *korritu* ‘to run’—whose subjects are typically agentive—may well be in this category as well some of the time, as has been discussed in relation to their translational equivalents in other languages. The present approach has accounted for this split in terms of the [\pm consecution] and [\pm transition] features, for which Ramchand has no equivalent. Change of state verbs (e.g. *erre* ‘to burn’, *hautsi* ‘to break’), which may constitute the [*proc*] and [*proc*, *res*] classes, are almost uniformly associated with patientive. However, it is plausible that the emission verbs (e.g. *dirdiratu* ‘to shine’) should also be analysed as [*proc*], and these have agentive subjects. If this analysis is correct, then Ramchand’s approach also fails to make this distinction, again made on the VICTR approach in terms of [\pm consecution] and [\pm transition].

Furthermore, some [*init*] only verbs (stative verbs like *aritu* ‘to be occupied’) have patientive subjects, but others have agentive ones (e.g. *existitu* ‘to exist’). This is accounted for on the present approach in terms of the claim that such verbs may be either [+‘volition’] or [+‘result’], something which cannot be achieved on Ramchand’s model. Likewise, while most [*init*, *proc*] verbs have agentive subjects (e.g. *ikasi* ‘to study’), certain non-volitional events (e.g. *ikaratu* ‘to tremble with fear’) are exceptions to this general rule—Ramchand’s approach, with no [\pm volition] distinction as found in the VICTR model, does not account for this.

Ramchand’s approach possibly does with a number of the other split intransitive behaviours

here considered. I will leave aside postnominal past participles and telicity, as the data are not particularly clear in these instances. The causative alternation can possibly be analysed in similar terms to that above and Ramchand's analysis of English, i.e. relating to the lack of an *init* projection. Cognate objects (and their ilk) and the agentive suffix *-(tzai)le* can be understood as restricted to [*init*, *proc*] verbs. However, it is not clear how Ramchand's approach can account for the impersonal construction in terms of the composition of the thematic domain, particularly if the suggestion here that it relates to volitionality is correct.

Mention should also be made of the Ramchand-inspired analysis of split intransitive alignment in Basque of Berro (2012). Rephrased in terms closer to Ramchand (2008) itself than Berro adopts, and considering only the variety of Basque under investigation here, verbs which take patientive subjects have a *proc* component whereas those which take agentive subjects have only an *init* component. This is a significant departure from Ramchand's original analysis, as many predicates with agentive subjects are eventive, but verbs with only *init* for Ramchand must be stative. It cannot be considered as evidence of the viability of Ramchand's original approach, therefore.

In summary, the approach of Ramchand (2008) makes some but not all of the distinctions required to account for split intransitivity in Basque. The proposed modifications to this approach here, particularly the [\pm consecution] and [\pm transition] features (decomposing *proc*), the [\pm volition] feature, and the [+‘volition’]/[+‘result’] split amongst statives, do however allow these distinctions to be better captured.

4.6 Basque and other languages

In this section, I compare split intransitivity in Basque to English and other Western European languages (chapter 2). I present some further ways in which this comparison supports the VICTR Hierarchy.

4.6.1 Basque and English

Turning to the comparison of Basque and English, it is notable that these two unrelated languages both share a common property—in both languages, different split intransitivity diagnostics identify different groups of verbs. More specifically, there are both similarities and differences in which diagnostics identify which classes. In both languages, the cognate object construction and agentive nominalising suffix (*-er/- (tzai)le*) generally occur with [+consecution] verbs. Similarly, in both the causative alternation and attributive (pre-/postnominal) past participle formation is preferred with [–consecution] verbs. However, we also see differences here. Basque causatives are available with intransitive verbs in a wider class than their English equivalent, being found with many stative and change of location verbs, rather than with only change of state verbs. And Basque postnominal past participles are more readily formed from [–transition] verbs than is possible with prenominal past participles in English.

Both the similarities and the differences can be understood in terms of the core feature sets

Core feature set	[volition]	[initiation]	[consecution]	[transition]	[result]
Agentive	+	+	+	–	(–)
Patientive	(–)	(–)	–	+	+

Table 4.7: The core feature sets

introduced in §2.4: see table 4.7. *-er/- (tzai)le* identify θ -CONSECUTION arguments as being of the same ‘sort’ as transitive higher arguments. This can be related to the status of this feature as one of the agentive core features: [+consecution] is prototypically associated with higher arguments, and so when these suffixes are extended to intransitive contexts they likewise surface in [+consecution].

Both Basque and English also allow cognate objects with [+consecution] verbs. The construction can be seen as restricted by virtue of the fact that it is most natural to add a lower argument only when the existing argument has some property prototypical of higher arguments, in this case θ -CONSECUTION.

Likewise, the causative alternation and attributive past participles suggest similarities between intransitive arguments lacking θ -CONSECUTION and transitive lower arguments. This relates to [–consecution]’s status as one of the patientive core features. But Basque and English deploy the other patientive core features (namely [+transition] and [–initiation]) slightly differently here, which along with apparent lexical idiosyncrasy leads to differences in the exact distribution of the constructions in the two languages.

The agentive/patientive core feature set distinction is similar, of course, to the traditional distinction between external and internal arguments. But the postulation of multiple features relating to an argument’s role and position—here argued to be encoded on multiple heads in the VICTR hierarchy—allows for a more subtle understanding of the parallels between split intransitive behaviours in different languages, which not only accounts for resemblances but also for ways in which they differ.

One class of verbs which is particularly notable in relation to the comparison between Basque and English are the emission verbs (§4.2.3.4, cf. §2.2.7). Whilst these verbs show somewhat variable behaviour in English, in Basque they are consistently agentive-marking. This suggests that, in Basque, the [+consecution] feature alone is generally enough to trigger agentive case, whereas in English these verbs are far enough from the values of the agentive core feature set that their behaviour is rather less consistent.

4.6.2 Basque and the Auxiliary Selection Hierarchy

In this subsection I consider the various split intransitivity diagnostics in Basque in light of Sorace’s (2000) Auxiliary Selection Hierarchy (ASH), previously discussed in §2.4. It is striking that most (though not all) of the split intransitivity diagnostics in Basque show good correspondence with the ASH. A simplified representation of the major correspondences, focusing on typical verbs in each of Sorace’s three top-level divisions (consecution, state, and change) is given in table 4.8; see the previous discussion for more details.

	Case	Telicity	Causative	Cog. obj.	-(tzai)le	Postnom. ppart.
<i>Consecutions</i>	AGT	Atelic	No	Yes	Yes	No
<i>States</i>	AGT/PAT	Atelic	Yes/no	No	No	No
<i>Changes</i>	PAT	Telic	Yes/no	No	No	Yes

Table 4.8: Typical behaviour of Basque verbs in relation to the ASH

The ASH allows us to compare languages: given that many English split intransitivity diagnostics and auxiliary selection in other Western European languages correspond with the ASH, this demonstrates that Basque and these other languages are rather similar in this respect. Particularly with regard to auxiliary selection, these correspondences are not particularly surprising: Basque, though not genetically related to French, Italian, German etc., is in close contact with other Western European languages and we might expect it to share in syntactic behaviours of this sort which cross-cut language families. The split intransitive alignment of Basque in case and agreement, which so closely parallels the auxiliary split, might also be related to this. However, the further evidence for the ASH from another language not previously studied in relation to it is still noteworthy.

There are, however, differences between the different diagnostics in Basque, and between these and the behaviours considered in the other languages, which mean the ‘cut-off points’ on the hierarchy are in different places between diagnostics/languages. This is exactly what we might have expected given Sorace’s original article and the discussion in chapter 2, but is again noteworthy. It can be understood in terms of the core feature sets: the agentive set tending to lead to certain diagnostics picking out verbs at one end of the hierarchy, and the patientive set to other diagnostics identifying verbs at the other end. The most salient features in this instance are [+consecution], one of the agentive core features which generally corresponds to agentive subjects in Basque, and [+transition], one of the patientive core features generally corresponding to patientive subjects. Those predicates which are both [+consecution, +transition] (the manner of motion verbs; §4.2.3.1) may occur with subjects of either type, with a preference for the agentive.

The verbs in the uncontrolled consecution and state categories also show variation in Basque. As was shown in §4.2.3.3 and §4.2.4, these can take subjects in either case depending on the verb in question (whereas, apart from the motional consecutions, verbs in the other categories tend to show more uniform behaviour). In ASH terms, this is not unexpected because these categories are toward the middle of the hierarchy, which is where this sort of variation is expected to be limited to if it occurs. In VICTR terms, uncontrolled consecutions, being [–volition, +consecution], are slightly further from the agentive core set than their controlled ([+volition, +consecution]) counterparts: thus they are a little further from the prototypical transitive higher argument, which may explain why agentive case-marking has not been so consistently extended to this class. Stative verbs, on the other hand, are not particularly close to either the agentive or patientive core sets; additionally their semantics leaves them open to be grammaticalised as either [+‘volition’] or [+‘result’]. Both of these properties can be seen as contributing to these verbs’ inconsistent case behaviour.

This ability to provide some explanation for this sort of variation is another advantage of the present approach, contrasting to a traditional Unaccusative Hypothesis-type approach, which cannot so easily say why these categories of verbs should vary when others do not.

One split intransitivity diagnostic does not correspond quite so well to the ASH, namely that of the impersonal construction. However, it can still be seen as constrained by the agentive core feature set, in that it is restricted to [+volition] verbs. This also exhibits how different features of the core feature sets may be prioritised in different contexts. It is not surprising that the agentive core features should play a role here; the impersonal construction is also found with transitives, where it licenses the omission of a higher argument. The intransitive variant thus extends this possibility to a subset of intransitives whose argument parallels transitive higher arguments in a particular way.

In sum, we observe similarities and differences between Basque and other Western European languages which provide support for the descriptive value of the ASH and the explanatory value of the VICTR-based core feature sets approach to variation.

4.6.3 Basque and split intransitive alignment

Our understanding of Basque must not be divorced from our understanding of split intransitive case and agreement in other languages. Recall from chapter 3 that the Basque system is just one variety of split intransitive alignment amongst many, and that there is considerable variation in the forms these systems take and the thematic properties they are sensitive to. But recall also that similarities can be observed between languages.

I have already argued (§4.3.2) that Basque can be seen as an example of the ‘extended accusative’ type of split intransitive alignment argued for in chapter 3. The semantic basis of split intransitive case and agreement in Basque is closest to the [\pm consecution] type discussed in §3.3.4, though with considerable subtleties to be taken into account as §4.2 has made clear. In any case, the case/agreement patterns seen in Basque can still be understood in terms of the agentive and patientive core features, as discussed in the previous subsection and also considered in terms of the wider split intransitive type in §3.6.

One factor that plays a part in Basque case-marking has been argued to be covert reflexive marking (§4.2.3.2). This marking is separate from the VICTR features which restrict the great majority of variation in split intransitive systems; if it were able to be associated with verbs in a totally ad hoc way, it could lead to a great deal of unpredictable variation. In this latter regard, it should again be stressed that this sort of reflexive marking is only available with verbs which (in at least some of their senses) can be construed as semantically reflexive or reciprocal, as shown for example by the use of overt reflexive marking with such verbs in other languages. This significantly limits the degree to which this feature can be used to explain otherwise unexpected case or agreement patterns.

4.7 Conclusion

This chapter has considered split intransitive behaviours in Basque. To start with, consideration was made of case, agreement and auxiliary selection. §4.2 considered the semantic basis of these properties. §4.3 presented a formal model in terms of the VICTR Hierarchy, along with evidence that Basque instantiates the extended accusative type of split intransitive alignment, thus providing some further evidence for the existence of this type. Following this, the discussion was expanded to consider a range of further split intransitive behaviours in Basque (§4.4). These, it was argued in §4.5, provide further evidence for the VICTR Hierarchy, especially in light of the problems they cause for the Unaccusative Hypothesis and Ramchand (2008). In §4.6 Basque was compared to the other languages already discussed in this dissertation.

To conclude, this chapter has provided further arguments for the VICTR Hierarchy on the basis of one particular language, Basque, in addition to those arguments on the basis of other languages presented in previous chapters. The subsequent chapters will analyse the split intransitive case system of another language, Georgian, in a similar vein.

Chapter 5

Georgian

5.1 Introduction

Georgian (*kartuli ena*), the language of the Caucasian republic of Georgia and the most spoken of the Kartvelian languages with around 4.3 million speakers (Lewis et al. 2016), possesses a split intransitive-type case alignment with many superficial similarities to that of Basque, which was analysed in the previous chapter. Thus in the aorist, where this alignment is found, the arguments of some intransitive verbs take the same case-marking as transitive subjects ((1a, 1b)), whereas the arguments of other intransitives take the same case-marking as transitive objects ((1a, 1c)):¹

- (1) a. *Glekh-ma datesa simind-i.*
peasant-**AGT** he.sowed.it corn-**PAT**
‘The peasant sowed corn.’ (Harris 1981: 1)
- b. *Nino-m daamtknara.*
Nino-**AGT** she.yawned
‘Nino yawned.’ (Harris 1981: 40)
- c. *Namtskhvar-i gamotskhva.*
pastry-**PAT** it.baked
‘The pastry baked.’ (Harris 1981: 43)

In this chapter, I undertake an analysis of the split intransitive case system of Georgian in terms of the VICTR Hierarchy. I show that the case split amongst intransitives in Georgian (unlike that of other languages, see chapter 3) is indeed very similar to Basque in many ways—but I shall also highlight a number of differences. The similarities are fascinating—given the degree of geographical separation between the two languages, and the lack of any proven genetic relation—but the differences are also very interesting, given the insight they provide into the ways in which otherwise similar systems may differ from one another. I will also

1. There are also some intransitive verbs which take dative subjects (Harris 1981: 127); I do not consider these here.

discuss another split intransitivity diagnostic in Georgian, the *thematic suffixes*, and show that these, too, provide support for the VICTR approach.

An important note on terminology before proceeding: as elsewhere in this work, I refer to ‘*agentive*’ and ‘*patientive*’ cases for consistency of presentation across languages, though (as with Basque) these are not the ordinary labels employed for Georgian. The Georgian ‘agentive’ is by other authors called ‘ergative’ or ‘narrative’ case, the ‘patientive’ in turn ‘nominative’ or ‘absolutive’. As discussed in §3.1.2, I prefer to avoid the labels ‘ergative’, ‘nominative’ and ‘absolutive’ due to the potential for confusion with other uses of these terms.

It should also be noted that, as with Basque (and see discussion in §1.1.4), I employ the label ‘*transitive*’ for the sorts of verb which take both agentive and patientive arguments at once (as in (1a)), and ‘*intransitive*’ for verbs which take only a single argument with either one or the other of these cases (as in (1b), (1c)). Again, this allows for consistency of labelling across languages, so that for example monovalent verbs meaning ‘to work’ are classed as intransitive in all three of English, Basque and Georgian, though they behave somewhat like transitives in the last two insofar as they may take agentive subjects. This usage contrasts with those authors who restrict the label ‘intransitive’ in Georgian only to those verbs which may only occur with patientive subjects.

It must be recognised as well that split intransitive alignment is not the only alignment type in Georgian. Rather, it is restricted to case marking in ‘Series II’ clauses, namely clauses with verbs in the aorist or optative ‘screeves’ (a screeve is a set of inflections marking a particular combination of tense, aspect and/or mood). When used in Series I screeves (present and future indicative, present and future subjunctive, imperfect and conditional), verbs take arguments with nominative-accusative alignment, as follows:²

- (2) a. *Glekh-i tesavs simind-s.*
 farmer-**NOM** he.sows.it corn-**DAT**
 ‘The peasant is sowing corn.’ (Harris 1981: 1)
- b. *Nino-Ø amtknarebs.*
 Nino-**NOM** she.yawns
 ‘Nino yawns.’ (Harris 1981: 39)
- c. *Namtskhvar-i tskhveba.*
 pastry-**NOM** it.bakes
 ‘The pastry is baking.’ (Harris 1981: 30)

(There is also a third series, Series III, in which subjects are marked with dative and objects with nominative case (Harris 1981: 2), which like Series I do not consider here.)

Verbal agreement is nominative-accusative, even in Series II (Harris 1981: 30, 43); Anderson 1984: §1)—this is shown by the following examples, where the ‘subject agreement’ marking remains invariant in both series:

2. The accusative is usually referred to as the ‘dative’ in the Georgian literature.

- (3) a. *Namtskhvar-s vats'khob.*
 pastry-DAT I.bake.it
 'I am baking pastry.' (Harris 1981: 30)
- b. *Namtskhvar-i gamavaskhve.*
 pastry-AGT I.bake.it
 'I baked pastry.' (Harris 1981: 43)
- (4) a. *St'ven-Ø?*
you.whistle
 'Are you whistling?' (Harris 1981: 30)
- b. *Ist'vine-Ø?*
you.whistled
 'Did you whistle?' (Harris 1981: 30)
- (5) a. *Namtskhvar-i tskhveba.*
 pastry-NOM **it**.bakes
 'The pastry is baking.' (Harris 1981: 30)
- b. *Namtskhvar-i gamotskhva.*
 pastry-PAT **it**.baked
 'The pastry baked.' (Harris 1981: 43)

Already our first major difference between Basque and Georgian is apparent—whilst Basque case and agreement consistently exhibits split intransitive alignment with only limited contexts where this marking is not apparent, in Georgian split intransitive patterning is much more restricted. Nevertheless, this patterning is an important part of the Georgian system. I will not attempt to deal here with this 'split split intransitivity' in Georgian in any depth.

Under the analysis I will pursue, agentive case in Georgian is an *inherent* case assigned in Series II by particular heads, namely certain species of Volition and (subject to lexical constraints) Initiation and State. Patientive is a *structural* case assigned by T (i.e. a sort of 'nominative'). Georgian is therefore analysed as having 'extended ergative-type' split intransitive alignment (see chapter 4), unlike Basque which was analysed in the last chapter as having 'extended accusative-type' split intransitive alignment. In spite of these differences in case assignment mechanisms, the semantic factors and related syntactic features governing case assignment are shown to be quite similar in the two languages, though differences do arise. Throughout, the analysis should be assumed to refer to Series II only unless otherwise stated.

Firstly, I will analyse in detail the semantic basis of the system (§5.2) before presenting arguments for analysing Georgian as possessing an extended ergative-type split intransitive system with inherent agentive (§5.3), allowing a formalisation of the system in terms of the

VICTR Hierarchy (§5.4). I then discuss in §5.5 a distinct but related split intransitivity diagnostic, the thematic suffixes, and argue that these provide further support for the VICTR approach. §5.6 considers on the similarities and differences between Georgian and other languages previously discussed, and §5.7 compares the VICTR approach to the Unaccusative Hypothesis and Ramchand (2008). §5.8 concludes.

5.2 The semantic basis of the case split in Georgian

5.2.1 Introduction

In this section I shall present a description of the semantic basis of split intransitive alignment in Georgian. Previous attempts to do this include Harris (1981), who connects the split to a broad unergative/unaccusative distinction, Holisky (1981; see also Holisky 1979) who suggests agentive-assigning intransitives are either atelic or stative (she does not systematically discuss the patientive), and Cherchi (1997) who characterises the split in terms of $[\pm\text{aspectual}]$ and $[\pm\text{agentive}]$ oppositions. None of these analyses account for the split intransitive pattern in its entirety.

Here, I present findings taken from a sample of verbs drawn from the comprehensive dictionary of Rayfield et al. (2006). The sample, drawn from various parts of the dictionary, represents about 15% of its total length of around 1700 pages. I have also checked specifically a number of verbs corresponding roughly to the translational equivalents of the sample used for English (see §2.2.1), as well as certain other verbs of interest. The lists of verbs in Appendix A of Harris (1981) and the many verbs (mostly agentive-marking) cited in Holisky (1981) were also considered.

The analysis of Georgian case-marking in Series II proceeds as follows. The first two subsections consider the classes which show the most consistent behaviour: change of state and location verbs, which take patientive arguments (§5.2.2), followed by controlled consecutions, which take agentive arguments (§5.2.3). §5.2.4 discusses the more mixed but still systematic behaviour of uncontrolled consecutions, and §5.2.5 and §5.2.6 respectively verbs denoting states and verbs of emission (which are mostly, but not exclusively, agentive-marking). §5.2.7 summarises the findings of the section.

5.2.2 Transition verbs and patientive

Change of state verbs in Georgian almost all occur with patientive arguments in Series II. (This is a very similar pattern to that seen in Basque.) Examples include *mitsvaldeba* ‘to die’ and *audghabebs* ‘to boil’. Note in particular that Georgian has a very large number of intransitives translated into English as ‘to become ADJ’ (e.g. *davshvdeba* ‘to become childish’, *gaguladdebs* ‘to become brave’) which are consistently found with the patientive.

A rare exception to the general rule is *mat’ulobs* ‘to increase, gain; to grow, strengthen’, which also occurs with the agentive. The behaviour of this verb may relate to the presence of

the thematic suffix *-ob-* which is very strongly associated with agentive marking (see §5.5).

Change of location verbs are also generally patientive-marking in Georgian (again as in Basque), e.g. *ts'ava* 'to go (away, off)' and *vardeba* 'to fall'. *ivlis*, which may be translated 'to go', does however take agentive subjects; however, this verb may also be translated 'to walk' and is perhaps seen as [+consecution], in which case agentive marking is as expected (see the next subsection).³

Overall, we can state that as a general rule [–consecution,+transition] verbs (i.e. verbs in either the change of state or change of location class) take patientive subjects in Series II.

5.2.3 Volitional consecution verbs and agentive

[+volition,+consecution] are consistently associated with agentive in Georgian Series II. This is the case for example with *mushaobs* 'to work' and *tamashobs* 'to play'. This is again a similar pattern to Basque.

The same pattern holds of volitional manner of motion verbs ([+volition,+consecution, +trans-ition] on the present analysis). These are similarly associated with the agentive: this is true for example with *seirnob*s 'to walk' and *tsuravs* 'to swim'. Note that manner of motion verbs occur with patientive subjects when [–volition], something which is discussed further in the following subsection.

One other area in which Georgian differs from Basque is in its grammaticalisation of reflexives. Unlike Basque, which often employs a zero reflexivisation strategy (see §4.2.3.2), Georgian generally forms reflexives with an overt reflexive pronoun:

(6) *Tav-i movik'ali.*

self-PAT I.killed

'I killed myself.'

(Hewitt 1995: 84)

There are, therefore, few 'inherently reflexive' verbs in Georgian: those which do exist tend (like other controlled consecutions) to occur with the agentive. This is the case with *banaobs* 'to bathe' and *bobghavs* 'to crawl, drag oneself along'. Georgian contrasts with Basque here, therefore, where inherently reflexive verbs occur with patientive subjects. *gaibaneba* 'to be washed down, bathe' also occurs with the patientive, though there is perhaps more of a change of state sense here.

Verbs of conversing in Georgian generally occur with the agentive: *baasobs* 'to converse', *t'lik'inebs* 'to natter' and several others. This contrasts with Basque *mintzatu* 'to speak', which takes patientive subjects (see §4.2.3.1); the Georgian pattern is, however, the more expected one given the general behaviour of controlled consecution verbs in both languages. (Note also that sound emission verbs in general are agentive in Georgian; see §5.2.6.) The Georgian verb

3. Georgian has a large number of verbs derived via directional prefixes, e.g. *aivlis* 'to go up' (< *a-* 'up' + *ivlis* 'to go, walk'). Here and in the discussion of manner of motion verbs in §5.2.3 I exclude these derived forms from discussion, as the prefix sometimes seems to lead to (superficially) unexpected case behaviours. This parallels the exclusion of particle verbs like *go up* from the analysis of English (see §2.2.1); these are both matters for further research.

alaparak'deba 'to begin) to speak' does take patientive subjects, but this probably results from its inceptive sense, denoting an abstract sort of change.

5.2.4 Uncontrolled consecutions

[–volition,+initiation,+consecution] verbs, in contrast to their [+volition] counterparts just discussed, show mixed behaviour. The typical pattern seems to show further sensitivity to the [±transition] feature. Non-motional uncontrolled consecutions ([–transition]) take agentive subjects, e.g. *daamtknarebs* 'to yawn', *tsiris* 'to cry' and the dialectal form *bagbagebs* 'to shiver'. On the other hand, motional uncontrolled consecutions ([+transition]) like *gagrialdeba* 'to rattle, rumble along' and *tsurdeba* 'to skid, slide, lose one's footing' have patientive subjects. So does *tsuravs* when it occurs with the meaning 'to skid, slide, lose one's footing'—this verb was mentioned above with the volitional meaning 'to swim', in which instance its subjects are agentive. A clear alternation sensitive to [±volition] is apparent here, therefore.

Note that while in general only these [+consecution,+transition] (manner of motion) verbs show this sensitivity to [±volition] in terms of their case-marking behaviours, some [–volition,+consecution,–transition] verbs may occur with subjects in either case. These include *bobokrobs* 'to rage, storm' (used of the sea) and *kamkali* 'to shiver, shake'.

5.2.5 States

Verbs denoting states show mixed behaviour in Georgian as regards their case assignment properties. Examples of intransitive state verbs which take agentive subjects include *binadrobs* 'to reside', *arleboba* 'to exist', *tskhovreba* 'to exist, live, be alive', and *vaivag lakhoba* 'to have a wretched life'. Others, however, occur with the patientive, e.g. *darchena* 'to stay, remain'. Still more can occur with subjects of either case in Series II. Verbs of this sort denoting states include *bavshvobs* 'to behave like a child' and *baiq'ushobs* 'to be wretched, unsociable, sullen'.

Overall, at least on the basis of the verbs sampled here, most state verbs appear to be agentive marking, with a smaller number allowing both cases; exclusively patientive-marking state verbs are less common. Georgian thus exhibits more consistency than was observed in Basque, but is not fully consistent. In terms of the analysis adopted here (see §1.1.3), we can say that most stative intransitives in Georgian are grammaticalised as [+volition] (with negative values for the other features), but some occur as [+result] (again, with the other features negatively valued).

5.2.6 Non-agentive internally caused verbs

Verbs denoting non-agentive internally caused events or states merit particular discussion given their interesting behaviour cross-linguistically. As was discussed in §2.2.7, in English the behaviour of these verbs with regard to split intransitivity diagnostics is somewhat variable. In Basque, by contrast, they pattern more consistently (see §4.2.3.4).

In Georgian, verbs of sound emission generally occur with agentive subjects: *rachkhunobs* ‘to jangle, click’, *rats’k’lnobs* ‘to tinkle, ping’, *rak’unobs* ‘to rattle, bang, knock’, *rak’rak’eb*s ‘to glug, burble, warble’, *kshuis* ‘to rustle’, *zuis* ‘to buzz’. This is the same behaviour as observed in Basque. The light emission verb *kashkashebs* ‘to shine brightly’ also takes an agentive subject, as does *varvarebs* ‘to get incandescent’, in spite of the fact that it appears to denote a change of state. However, other light emission verbs—*brts’q’inavs* ‘to shine, glitter’, *brch’q’vialebs* ‘to glitter, shine, sparkle’, *gap’rialebs* ‘to be burnished, sparkle’—occur with patientive subjects.

Holisky (1981: 99–100) groups ‘verbs of motion-in-place’ together with the emission verbs. These are verbs like *trtis* ‘to tremble, shake’, *p’arp’alebs* ‘to flicker’, *plusunobs* ‘to flutter, flap’ etc. Holisky gives a long list of such verbs which are agentive-marking.

Recall (see §2.2.7) that emission and motion-in-place verbs can be classified as [–volition, –initiation, +consecution, –transition] on the present approach. The overall pattern, then, is that most emission and motion-in-place verbs pattern with other [+consecution] verbs in taking agentive subjects.

Why are some light emission verbs exceptions to this general pattern? This may be understood in terms of the core feature sets proposed in §2.4.2.1, particularly the agentive core set. On this approach, prototypical agentive arguments are associated with the values [+volition, +initiation, +consecution, –transition, –result]. Emission verbs and motion-in-place verbs share some properties of this prototype—they are [+consecution, –transition, –result]—but they also differ from it in terms of the [\pm volition] and [\pm initiation] features. Given that the class as a whole thus shows a reasonable amount of difference from the core, it appears that the agentive case property has not been fully generalised to it. It may also be notable in this regard that sound emission and motion-in-place verbs are more likely to have animate subjects than light emission verbs, in which respect the latter can also be seen as less typically agentive.

5.2.7 Summary

This concludes the discussion of the semantic basis of split intransitive case alignment in Georgian. The main findings are summarised in table 5.1.

Controlled non-motional consecution	Agentive
Controlled motional consecution	Agentive
Uncontrolled consecution	Agentive (non-motional) <i>or</i> patientive (motional)
State verbs	Mostly agentive, some allow either case
Change of state	Patientive
Change of location	Patientive
Emission verbs	Agentive; some light emission verbs patientive

Table 5.1: Summary of case assignment with Georgian verbs in Series II

Strong correspondence can be seen between Georgian case-marking and Sorace’s Auxiliary Selection Hierarchy (see §2.4); this is of course further evidence for the descriptive usefulness of that approach. The patterns are further amenable to understanding in terms of the core feature sets, based on the features of the VICTR heads, that were proposed in §2.4. Since the

distribution of case in Georgian split intransitive contexts is very similar to Basque (see §5.6 below for further discussion of this), we can understand this pattern in similar ways to the analysis given for Basque in §4.8.

This concludes the discussion of the semantic basis of split intransitive case marking in Georgian; the following sections will provide a formal analysis.

5.3 Georgian as an ‘extended ergative-type’ split intransitive language

5.3.1 Introduction

Having determined the semantic factors, encoded in terms of syntactic features, which lead to Georgian’s split intransitive case system, it remains to formalise the assignment of case in Georgian in terms of syntactic structure. This will be the focus of this section.

Recall my suggestion in chapter 4 that there are two main types of split intransitive alignment. The types differ in terms of the sources of case and agreement marking (from a head or heads within the thematic domain, referred to for convenience as θ , or from a head within the tense/aspect domain, referred to as T) and the nature of that marking (structural or inherent). In the first type, *extended accusative split intransitive*, T assigns structural agentive and θ assigns structural patientive. This system was argued in §4.3.2 to be present in Basque. In the second type suggested, *extended ergative split intransitive*, agentive is an inherent case assigned by θ , in common with the analysis adopted for ergative alignment. In this section I shall argue that Georgian belongs to the extended ergative type (specifically to the ‘high patientive’ type, where patientive is uniformly assigned by T).

Having done so, it will then be possible to present a more refined analysis which takes into account the assignment of agentive by particular functional heads with particular values. This analysis is further support for the VICTR Hierarchy approach to split intransitivity.

The line of argument in this section takes the following form: §5.3.2 discusses the lack of any argument from raising constructions, §5.3.3 gives arguments from thematic properties, §5.3.4 those from ‘split split intransitive’ patterns, and §5.3.5 an argument from morphological markedness. §5.3.6 presents evidence that patientive is from T. §5.3.7 counters the claim of Nash (2017) that agentive in Georgian is a dependent case, and §5.3.8 concludes.

5.3.2 No argument from raising

The behaviour of arguments in raising constructions has become a key diagnostic of the inherent nature of ergative case. If the ergative marking on the subject of a subordinate clause is retained when it raises into the main clause this is evidence that ergative is inherent, because it is preserved under A-movement (Woolford 2006b: §3.3). Woolford (2006b: 121) gives the following examples from Tongan, originally from Hendrick (2004):

- (7) a. *‘e lava [‘o ako ‘e Pita ‘a e lea faka-Tonga].*
 AUX possible/can COMP learn ERG Pita ABS the language Tongan
 ‘Peter can learn Tongan.’
- b. *‘e lava ‘e Pita [‘o ako ‘a e lea faka-Tonga].*
 AUX possible/can ERG Pita COMP learn ABS the language Tongan
 ‘Peter can learn Tongan.’

A similar argument might be made for the inherent nature of the agentive case in a language with split intransitive alignment. Unfortunately, however, this does not appear to be possible for Georgian, which seems to lack subject-to-subject raising entirely. The language does have raising constructions, but these involve the raising of the direct object (never the subject) from a non-finite clause, so agentive case is not involved (Anderson 1984: 171, Skopeteas et al. 2012: 151):

- (8) *Sharvali advili-a ninos-tvis shesak’eravad.*
 trousers easy-be Nino-for to.sew
 ‘Trousers are easy for Nino to sew.’ (Anderson 1984: 171)

Other constructions which diagnose case preservation in other languages under A-movement, such as passive (Woolford 2006b: §3.1, §3.2), are also absent in Georgian. Thus Skopeteas et al. (2012: 151) are able to claim ‘case preservation effects cannot be diagnosticized in this language’. We are forced therefore to look elsewhere for evidence as to the status of the Georgian agentive as inherent or otherwise.⁴ Such evidence will be provided in the following subsections.

5.3.3 Arguments from thematic properties

Skopeteas et al. (2012: §2.3) argue that the agentive is inherent in Georgian on the basis of its thematic properties. This sort of argument, which I review here, has some merit to it, but must be handled with caution.

The essence of the argument is this: agentive case is exclusively associated with a particular thematic role (‘Agent’ or *somesuch*); cases which are exclusively associated with a particular thematic role are inherent; therefore agentive is inherent. Agentive is certainly a very good candidate for a thematically-determined case: it occurs on arguments which have at least broadly similar thematic interpretations and, unlike the strict ergative, is not restricted by transitivity.

But certain caveats must also be borne in mind. Firstly, the argument that agentive is associated with a particular thematic role is not so straightforward as it has sometimes been

4. A related argument, employed by Rezac et al. (2014: §3) for Basque, uses exceptional (patientive) case marking on the subjects of embedded clauses which might otherwise be expected to be marked with the agentive as evidence that the agentive is *not* inherent in that language. If exceptional case marking exists in Georgian, I have not been able to find any information on it.

presented as being; secondly, it is plausible that a case might appear to be exclusively associated with a particular role without being inherent. I shall now discuss each of these in turn.

Concerning the first, the notion that the agentive is exclusively associated with particular thematic properties, it has already been shown in the previous section that the agentive occurs with verbs from a number of different semantic classes. It is found with controlled consecution verbs like *mushaobs* ‘to work’ (with θ -VOLITION+ θ -INITIATION+ θ -CONSECUTION arguments on the present approach), as well as some uncontrolled consecution verbs like *tsiris* ‘to cry’ (θ -INITIATION+ θ -CONSECUTION) and state verbs like *arleboba* ‘to exist’ (θ -‘VOLITION’ alone). The present approach, therefore, distinguishes different thematic properties for these verbs, and we have seen in previous chapters reasons for distinguishing these particular roles (further evidence will also be provided from Georgian itself in §5.5). There is no role which all agentive-assigning verbs have in common, and the roles found with these verbs are also found with others (e.g. some patientive-assigning verbs like *ts’ava* ‘to go (away, off)’ also have θ -VOLITION and θ -INITIATION). An approach which considers all these categories to have ‘Agent’ arguments does not straightforwardly account for the differences between them. It also runs the risk of circular reasoning: the Agent role is associated with agentive case, therefore the agentive case is used as the sole evidence for the Agent role. The agentive case is also absent with the very same verbs (and, therefore, thematically identical predicates) when they are used outside Series II: further evidence against a one-to-one correspondence between role and case (cf. M. Baker and Bobaljik 2017: §4).

However, the use of the agentive is clearly not entirely divorced from thematic properties either. It has a fairly consistent semantic basis (see the previous section) and is, in fact, found (in Series II) on the great majority of intransitive arguments first-merged in the specifier of either Consecution, Initiation or Volition, positions associated with thematic role interpretation. Whilst a more nuanced approach to the relation between thematic roles and inherent case seems to be required, it is not necessary to do away with the idea that agentive may be linked to thematic properties entirely.

On the second point, the notion that a case apparently exclusively tied to a particular thematic role might not be inherent, it is possible that other factors might coincide to give the impression of thematic relatedness for a given case which is in fact structural. This is what has been argued for the agentive in Basque (§4.3.2). The Basque agentive is generally only found on arguments which bear θ -INITIATION (provided they do not also bear θ -TRANSITION), as well as with stative θ -‘VOLITION’ arguments. Thus, there is a clear if not entirely straightforward connection between agentive case and thematic properties. However, it has been argued that the Basque agentive is *not* inherent. Rather, it is restricted to arguments first-merged toward the top of the VICTR Hierarchy because other arguments (first-merged lower) receive case in their lower positions. Additionally, there are some instances where agentive case appears where it would not be expected thematically, for example in raising constructions with *behar* ‘must, should’ (Rezac et al. 2014: §4, discussed in more detail here in §4.3.2). The apparent thematic relatedness of the agentive in Basque is thus merely a side-effect of the fact that an

argument's first-merge position relates to its thematic properties, and is not due to it being a directly thematically-determined case.

All this considered, however, I do not propose a parallel analysis of the agentive in Georgian. Georgian does not allow raising to agentive, and there is good evidence to link the patientive to T—which further suggests agentive is assigned within the thematic domain, and is therefore likely related to thematic properties. I shall discuss this evidence in the following subsections. Thus, the argument from thematic relatedness for the inherent case status of the agentive, though not applicable to all languages, does nevertheless hold for Georgian.

5.3.4 The argument from split split intransitivity

It has already been mentioned how, outside case marking with the Series II screeves, Georgian has nominative-accusative alignment. The nature of this alignment split provides a strong argument that the position of the Georgian patientive is assigned by T, and that therefore the agentive likely has some other source (e.g. it is an inherent case).

The crux of this argument is *identity of morphological marking*. The 'nominative' in the nominative-accusative series and the 'patientive' in the split intransitive series are both marked identically: with *-i* after stems ending in a consonant, and *-Ø* after stems ending in a vowel. (Thus the label 'nominative' is traditionally employed for both.) Given that the cases are morphologically identical, the simplest hypothesis is that they are *syntactically* identical—i.e. both 'nominative' and 'patientive' are realisations of a single abstract case.

Nominative case is standardly held to be valued by T. If nominative and patientive in Georgian are really the same case, therefore, then patientive is also valued by T. What does this mean for the agentive? We have been tacitly assuming that no head assigns more than one structural case; let us continue to make that assumption. This suggests the agentive is assigned elsewhere: and the most natural option is that this assignment takes place within the thematic domain.

Case assignment within the thematic domain can be either structural or inherent.⁵ Evidence that it is not structural in this instance comes from the fact that there is a separate structural case assigned within this domain in Georgian: the 'dative' (which also has the ordinary functions of the accusative, making **P** arguments in Series I alongside the nominative on **S/A**). The endings for this case are distinct from those of the agentive (dative *-s*, agentive *-m* or *-ma*). This morphological difference is a strong indication that the agentive and the dative instantiate separate underlying cases. As it is generally true that only one structural case (accusative or absolutive) is assigned to the core arguments of intransitives and monotransitives from within the thematic domain, this suggests that as the dative is structural, the agentive is not.

Cross-linguistically, accounts which posit a structural ergative assigned lower in the clause

5. Or lexical. But this can be discounted as the property of assigning agentive case is regular and for the most part semantically systematic (i.e. connected systematically to particular thematic properties), whereas 'lexical' cases are at least somewhat lexically idiosyncratic and more restricted in occurrence.

	Vowel-final stem	Consonant-final stem
Agentive	- <i>m</i>	- <i>ma</i>
Patientive	- \emptyset	- <i>i</i>

Table 5.2: Agentive and patientive case endings in Georgian

than the structural absolutive (Levin 1983; Marantz 1984) have largely been abandoned (see Sheehan 2015: §4.1). For the same reasons, we do not expect a language to have both structural agentive and structural patientive where the patientive is assigned in a higher position. This further suggests, in conjunction with the other arguments presented, that the agentive is inherent. Indeed, while the other arguments presented have certain weaknesses, this one is particularly compelling: it is not clear if we could satisfactorily account for the Georgian system on the assumption that agentive is structural.

5.3.5 Overttness of morphology

In this brief subsection I will present a further argument that contributes to the conclusion that the agentive in Georgian is inherent, though it will be noted that taken individually it is far from incontrovertible.

This argument concerns overttness of morphological marking. In Georgian, as has been seen, the agentive is marked overtly (with *-ma* or *-m*) whereas the patientive is often not (it is marked with \emptyset on vowel-final stems, though stems ending in a consonant take the ending *-i*). These patterns are presented in table 5.2.

In a language with nominative-accusative case alignment, where only one of the two core cases is marked overtly, it tends to be the accusative. Conversely, in a language with ergative-absolutive alignment, where only one of the two core cases is marked overtly, it is the ergative (Dixon 1994: 58, 62). Thus Georgian patterns here with the ergative type in that it is the case which marks **A**, not the case which marks **P**, which is overt where the other is zero (with vowel-final stems). This suggests that the Georgian agentive is akin to an ergative—and, therefore, that like the ergative it may be an inherent case.

Certain caveats must be held in mind, however. Firstly, the tendencies just mentioned are only tendencies, and do not hold absolutely. Thus, a number of languages are of the ‘marked nominative’ type where nominative is overt and accusative marked with zero (Comrie 2013). Secondly, we have, in the previous chapter, seen an example of a language with split intransitive alignment which has the same morphological markedness patterns as Georgian but which has been analysed as being of the extended accusative type. In Basque, the agentive is marked overtly (with *-(e)k*) whereas the patientive is zero-marked. But the agentive does not appear to be an inherent case in that language. So the Georgian markedness patterns certainly do not prove that the Georgian agentive is inherent. They do, however, point to this being the more likely analysis, in conjunction with typological patterns observed cross-linguistically.

5.3.6 Evidence that patientive is from T

In this subsection, I will present a further argument, taken from the literature, that the Georgian patientive is assigned by T—though I will note a particular weakness not previously discussed. In conjunction with the arguments presented above, this argument suggests that the agentive is therefore an inherent case.

The argument presented in this subsection is taken from Legate (2005, 2008; see also Nash 2017: 178). Legate argues that nominative/patientive is from T in Georgian, on the grounds that it is not found in non-finite contexts: in the following examples, **S** and **P** are instead marked in the genitive, and **A** by the genitive together with the postposition *mier*:

- (9) a. *Tamad-is damtknareba supraze uzrdelobaa.*
 tamada-GEN yawning.NML table.on rudeness.it.is
 ‘It is rude for the *tamada* to yawn at the table.’
- b. *Monadir-is mier datv-is mokvla am tqeshi akrdzalulia.*
 hunter-GEN by bear-GEN killing.NML this woods.in forbidden.it.is
 ‘The killing of bears by hunters is forbidden.’

(Legate 2008: 66, from Harris 1981: 157–58)

In the next example, the **P** argument of the infinitive is likewise marked with the genitive:

- (10) *Tsavedi tqeshi [datv-is mosaklavad].*
 I.went woods.in bear-GEN to.kill

‘I went into the woods to kill a bear.’ (Legate 2005: 238, from Harris 1981: 155)

T, the argument goes, is absent or otherwise unable to assign case in non-finite contexts; therefore no patientive case is observed.

Nevertheless this argument has a distinct weakness, in that it is not only the nominative/patientive which is absent in non-finite contexts—the agentive and accusative (traditionally called ‘dative’) do not occur either (see the above examples and also Nash 2017: §8.5.1.2). There are independent reasons for considering both of these cases to have sources within the thematic domain. Thus, while the evidence presented by Legate may suggest patientive is from T, it is certainly not conclusive. However, if this patientive is indeed from T, this is further evidence that the agentive is an inherent case assigned lower in the clause, because if patientive is from T then agentive must come from some other source.

5.3.7 Nash: agentive as dependent case

Nash (2017: §8.5) argues that the Georgian agentive is a dependent case, not an inherent case. However, I am not convinced by her position. The general weaknesses of the dependent case approach when applied to split intransitive alignment have already been discussed (see §3.7.1.1)—principally, that it is difficult to see how different intransitive arguments can

take different cases when this is not obviously triggered by the presence of other arguments (the main mechanism for case differences in this approach). Nash does present some evidence for an additional underlying argument in agentive intransitives (2017: §8.5.1.3), which relies on the presence of the prefix *i-* which is also found ‘to signal the implicit argument in non-active contexts’ (2017: 191). Thus, Nash argues, the presence of this prefix is an indicator that an implicit argument is similarly present with the agentive intransitives. On Nash’s view, a sentence like *Ninom ilaparaka* ‘Nino talked’ is literally ‘Nino caused her talking’ or ‘Nino had herself talk’.

This relies, however, on the idea that a particular phonological form must always have the same or similar function in all contexts, and, further, that Georgian forms such sentences in a way which is completely different from most (if not all) other languages. However, given that morphological syncretism is very common, it seems to me easier to assume that the *i-* form with these verbs is a separate prefix from the implicit argument *i-*, in which case no unseen argument, absent in other languages, need be posited.

Nash also points to the fact that agentive arguments nevertheless trigger number agreement (2017: §8.5.1.4); however, this is not incompatible with the inherent case view of agentive on the approach adopted here in chapter 3. Neither is the lack of agentive (or any other) case-marking on first and second person arguments (2017: §8.5.1.5), which looks like a simple instance of either a person split in case alignment and/or morphological syncretism of cases on certain elements. The lack of agentive in non-finite contexts (cf. §5.3.6 above) is somewhat problematic, but this seems to occur with the Georgian core cases generally—including accusative/dative, which seems to be assigned in the thematic domain, suggesting finiteness and case assignment by thematic heads in Georgian have a more complex relation than might be assumed.

Nash provides further arguments against the inherent case view of the ergative/agentive in her §5.3, but these can also be countered. Firstly, she claims the properties of these cases which have been used to argue for an inherent case approach are explained just as well in the dependent case approach—however, as we have seen, the dependent case approach has various conceptual problems. Secondly, she asks why, if *v* assigns the thematic role of ‘Agent’ in all languages, does it only assign case to the Agent argument in some? The usual answer, she rightly points out, is that *v* only has the relevant case feature in a subset of languages. Nash writes that this ‘amounts to a simple restatement of the parameter rather than to its explanation’ (2017: 196). There is some truth in this; however, the dependent case approach struggles with exactly the same problem.

In summary, then, Nash’s arguments do not convincingly demonstrate the superiority of the dependent case view for Georgian.

5.3.8 Summary

In this section, I have provided a number of arguments that Georgian is an ‘extended ergative’ type language: agentive is an inherent case assigned by a thematic head, and patientive is a

structural case from T. This is in contrast to Basque, argued in the previous chapter to be of the extended accusative type, and is further evidence that both types of system exist. Whilst many of the individual pieces of evidence do not allow strong conclusions to be drawn (though the arguments from split split intransitive patterns appear to form an exception), the fact that they all point in the same direction—towards the analysis adopted—makes it very likely that this is the correct analysis. Therefore, such an analysis will be adopted as the basis of the VICTR analysis in the following section.

5.4 Georgian case assignment and the VICTR Hierarchy

I have now identified the semantic basis for case assignment with Georgian verbs in Series II (§5.2) and argued that Georgian is probably best analysed as possessing an ‘extended ergative’ split intransitive case system. With these findings in place, it is now possible to give a formal analysis of Georgian case assignment with Series II verbs in terms of the VICTR Hierarchy approach adopted in this thesis.

Firstly, it is possible to identify the basic nature (structural or inherent) of the agentive and patientive cases. As Georgian has an extended ergative system, the agentive can be analysed as an *inherent* case assigned within the thematic domain. Patientive is, on the other hand, a structural case, assigned (at least in intransitives⁶) from within the tense domain. (This is of course an extension of the Aldridge/Legate approach to ergative case systems, as discussed in previous chapters.)

The second issue to be addressed is the question of which particular head or heads in the thematic domain are responsible for agentive case assignment. Let us restate the circumstances in which agentive is assigned in intransitives:

(11) Agentive case assignment occurs in Georgian Series II with:

- a. all [+volition,+consecution] verbs (controlled consecutions, including controlled manner of motion verbs);
- b. most state verbs ([+‘volition’], with negative values for other VICTR features);
- c. all [–volition,+consecution,–transition] verbs (uncontrolled non-motional consecutions, emission verbs), with the exception of some verbs of light emission.

All other intransitives (change of state verbs, directed motion verbs, uncontrolled manner of motion verbs and the remaining state and light emission verbs) have patientive subjects. A few other uncontrolled consecutions (*bobokrobs* ‘to rage, to storm’ and *kamkali* ‘to shiver, to shake’ in my sample) can occur with subjects in either case.

(11a) and (11b) are, in fact, reducible to a single statement: [+volition] verbs have agentive subjects unless they are also [–consecution,+transition], i.e. unless they denote changes of

6. I leave aside the question of whether Georgian is a ‘high patientive’ or ‘low patientive’ language, as this does not affect the analysis of intransitives, the focus here.

state or directed motion. Given the sensitivity to the $[\pm\text{volition}]$ feature, it is natural to assume that Volition is the head which assigns agentive case in the (11a) and (11b) instances. We can thus state the following:

- (12) $[\text{+volition}]$ Volition assigns $[\text{Case:AGT}]$ *unless* it selects a $[\text{–consecution, +transition}]$ complement.⁷

As in the discussion of case assignment in Basque in §4.3.3, to say a particular head assigns a particular case is shorthand for saying that head bears a particular case feature (here, $[\text{Case:AGT}]$) which is valued on an argument bearing its own $[\text{Case:–}]$ feature. In this instance, because $[\text{Case:AGT}]$ is an inherent case, the argument in question is merged in the specifier of the head in question.⁸ This contrasts with Basque where both $[\text{Case:AGT}]$ and $[\text{Case:PAT}]$ were argued to be structural, valued on arguments c-commanded by the functional head (T or Volition) bearing said features.

Still more precisely, (12) is saying that there are two varieties of $[\text{+volition}]$ Volition in Georgian. One selects specifically for $[\text{–consecution, +transition}]$ complements and does not bear the $[\text{Case:AGT}]$ feature. The other selects for other sorts of complement and does bear $[\text{Case:AGT}]$.

Georgian further differs from Basque in that the presence of the case feature does not correspond to the presence of an unvalued $[\phi:–]$ feature on the same head. Georgian has nominative-accusative agreement alignment; in intransitives there is no ϕ -agreement within the thematic domain. There is also no auxiliary selection variation to account for in Georgian.

The following trees exhibit examples of case assignment of this sort stated in (12), with a non-motional consecution ((13)), a motional consecution (manner of motion verb, (14)) and a state verb ((15)):

7. This and all subsequent claims about case assignment in Georgian apply only to thematic heads in intransitive clauses; I do not deal with transitives here.

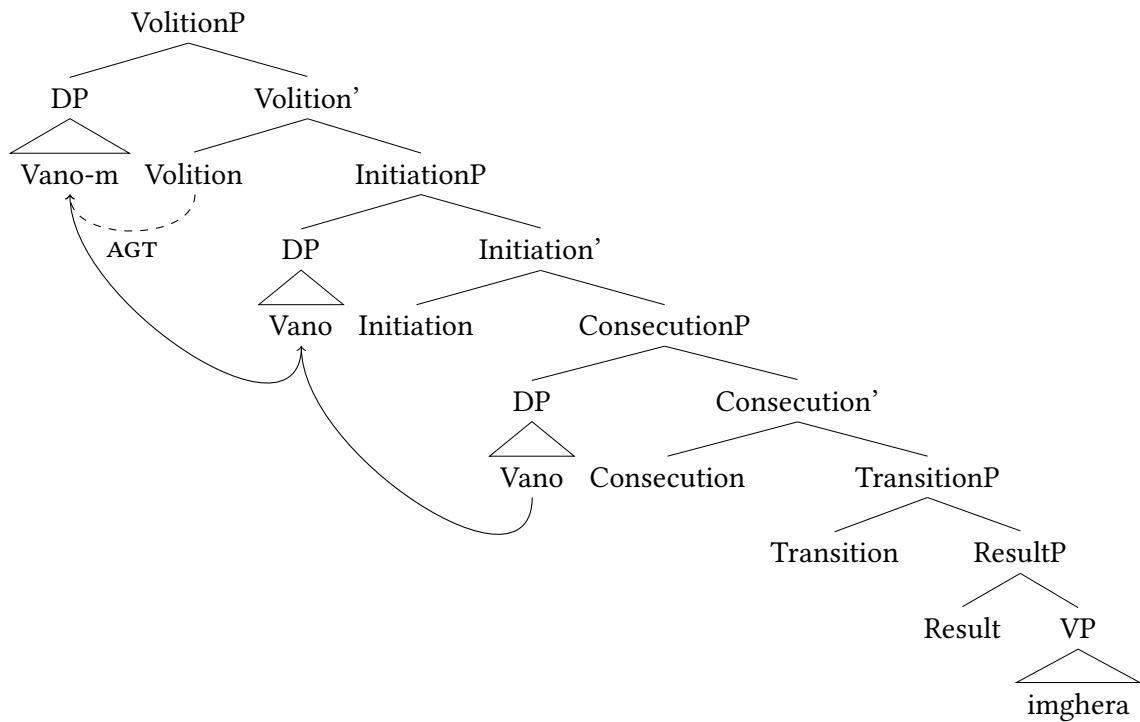
8. Note, in contrast to the traditional take on inherent case, the argument can be—and often is—also merged in the specifier positions of the lower thematic heads, however.

(13) *Vano-m imghera.*

Vano-AGT he.sang

‘Vano sang.’

(Holisky 1981: 164)

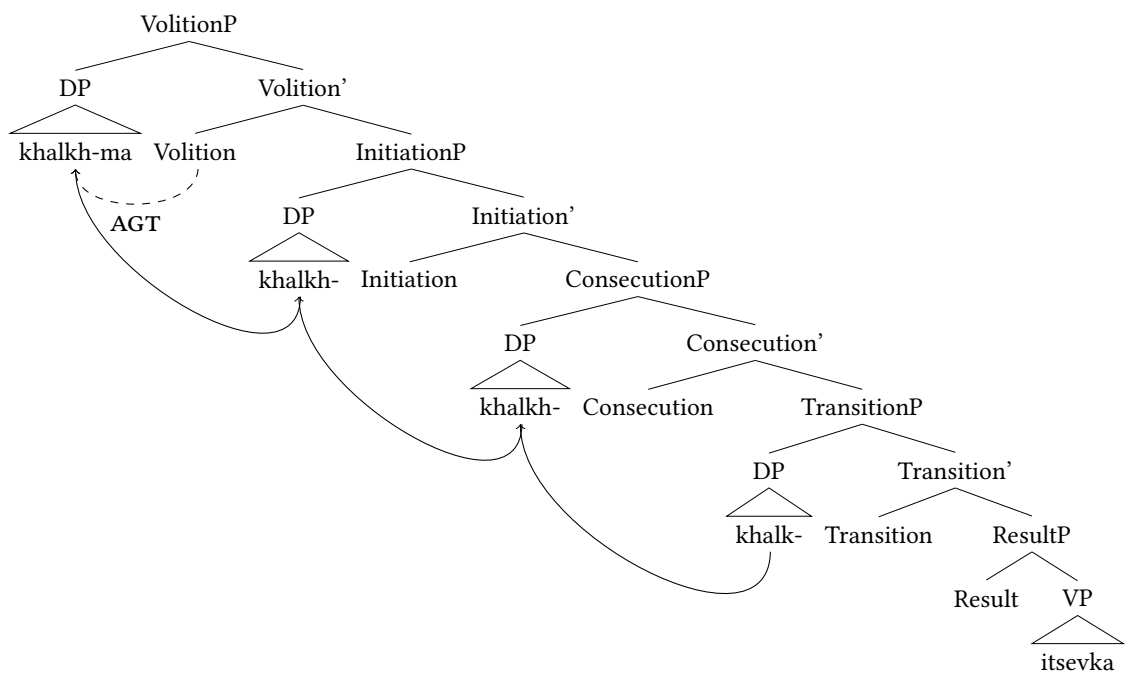


(14) *Khalkh-ma itsevka.*

people-AGT they.danced

‘People danced.’

(Holisky 1981: 143)

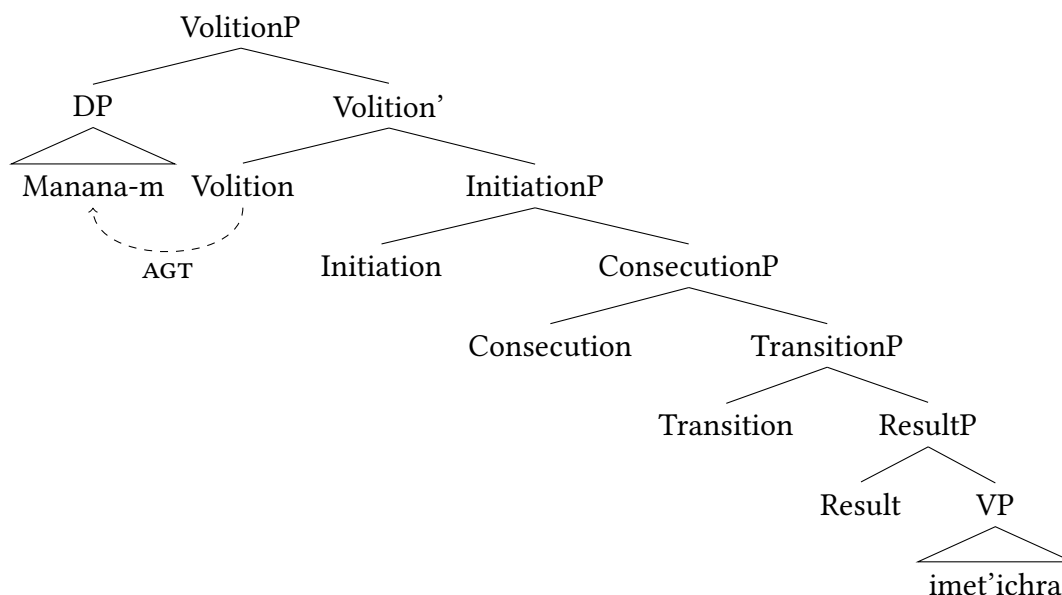


- (15) *Manana-m imet'ichra.*

Manana-AGT she.behaved.obnoxiously

'Manana was obnoxious.'

(Holisky 1981: 143)



This leaves the other environment for agentive case assignment, captured in (11c): agentive case assignment with uncontrolled non-motional consecutions and most emission verbs. If agentive is still inherent in these instances—and given the arguments of the previous section, it is most naturally assumed it is—then it cannot be assigned by Volition, as these [–volition] verbs do not merge an argument in Spec,VolitionP. The natural candidate for agentive case assignment with these verbs is [+consecution] Consecution, as follows:

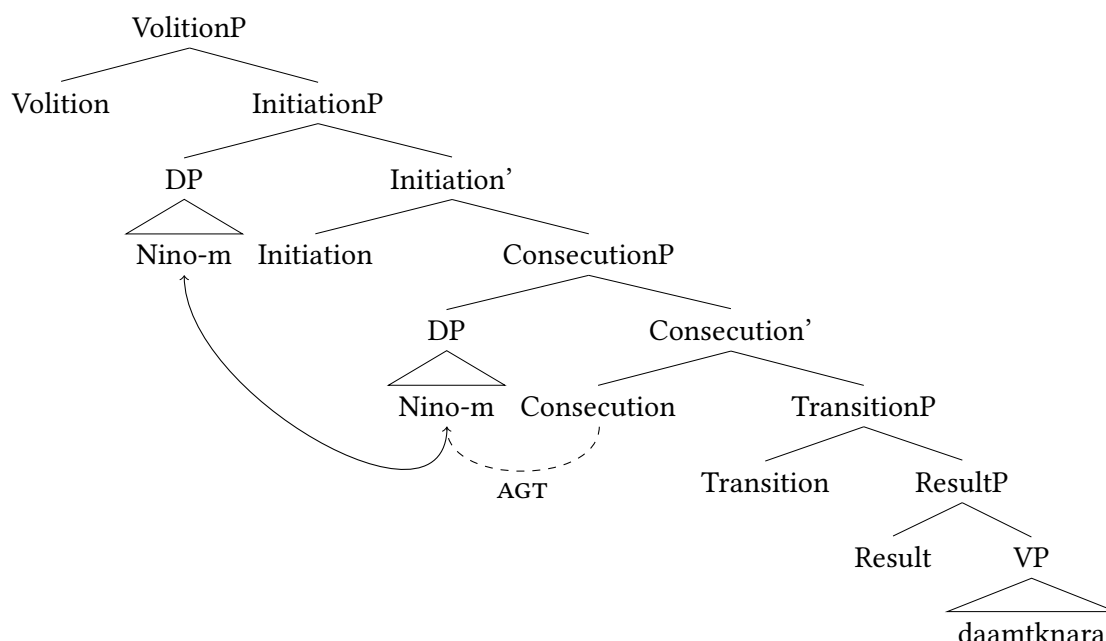
- (16) [+consecution] Consecution assigns [Case:AGT] when it selects a [–transition] complement.

(17) *Nino-m daamtknara.*

Nino-AGT she.yawned

‘Nino yawned.’

(Harris 1981: 40)



There are some lexical exceptions to (16), namely the light emission verbs and those verbs which allow subjects in either case. This suggests there are two varieties of [–transition]-selecting [+consecution] Consecution: one which bears [Case:AGT] and most usually occurs, and the other which lacks [Case:AGT] and selects specifically for these exceptional Vs.

Intransitive arguments of Series II verbs which are not assigned agentive (or some other case within the thematic domain, e.g. dative) receive patientive case—essentially a type of nominative—from T.

The presence of agentive case on an intransitive argument blocks this assignment of patientive and so it does not surface in intransitive clauses with an agentive argument.

In summary, the VICTR Hierarchy approach provides a means of formally modelling split intransitive case assignment in Georgian, as was similarly demonstrated in the previous chapter in respect to Basque. Agentive assignment is reduced to two simple rules: (12) which accounts for the majority of cases, and (16) to deal with a small residue of instances.

5.5 The thematic suffixes

Case assignment with Series II verbs is not the only morphosyntactic behaviour in Georgian in which a split amongst intransitives is apparent (see Harris 1981 for further discussion). In this section, I will look at one other such behaviour, the phenomenon of *thematic suffixes*.

Thematic suffixes, also called ‘stem formants’ or ‘series markers’ (Hewitt 1995: 143; Holisky 1981 calls them ‘present-stem formants’), are morphological elements which follow the Georgian verbal root in various forms of the paradigm—see Hewitt (1995: §4.2) for the details, which

are complex and not especially relevant here. The same root (with the same meaning) generally always occurs with the same thematic suffix where one is present, though this pattern is not without exceptions (Hewitt 1995: 146). Thematic suffixes occur with verbs of all sorts, not just intransitives. Examples of verb forms with their thematic suffixes (given in bold) include the following:

- (18) a. *mitsvalde**ba*** ‘to die’
 b. *tamasho**bs*** ‘to play’
 c. *gora**vs*** ‘to roll’

I identify thematic suffixes as a split intransitivity diagnostic because different intransitive verbs occur with different thematic suffixes, and this appears to correlate with argument structure properties.

I will suggest here that the thematic suffixes are in fact morphological realisations of the thematic functional heads. This is important because, cross-linguistically, there is little evidence for the thematic heads in terms of overtly realised material corresponding to them directly. The fact that Georgian does, however, furnish us with some such evidence is thus a significant argument for a more articulated structure of the thematic domain than has traditionally been posited, in addition to the other arguments presented throughout this thesis.

The main thematic suffixes found with intransitives are *-eb-*, *-av-* and *-ob-*. There are also various suffixes only found with transitives, which are beyond the scope of the present discussion. I discuss firstly change of state verbs, which mostly occur with *-eb-* (§5.5.1), then controlled non-motional consecution verbs, which mostly occur with *-ob-* (§5.5.2), then other verb classes which show more mixed behaviour (§5.5.3). (I employ the same sample of verbs as referred to in the analysis of case, as discussed in §5.2.1; thematic suffixes are apparent as part of the citation form.) I then give an analysis in terms of the VICTR Hierarchy (§5.5.4), and finally compare this approach to that of Nash (2017) (§5.5.5).⁹

5.5.1 Change of state verbs and *-eb-*

Verbs denoting changes of state in my sample almost always occur with *-eb-* (note that this is only a one way implication, as the discussion to follow will demonstrate). Examples include *audghabebs* ‘to boil’, *davshvdeba* ‘to become childish’ and internally caused changes like *mitsvaldeba* ‘to die’ and *dalp’eba* ‘to rot, go/smell foul’. An exception to this general rule is *mat’ulob* ‘to increase, gain; to grow, strengthen’, which—as discussed in §5.2.2—is also unusual in that it occurs with agentive-case subjects in Series II (*-ob-* verbs almost always take agentive rather than patientive subjects).

9. Nash (2017: §8.8.4.1) offers a semantic classification of thematic suffixes with intransitives which may be summarised as follows: (i) *-eb-* is found with all ‘unaccusatives’ except statives (nb. this is not the class referred to as ‘state’ verbs here, but rather refers to a class which—amongst other properties—lacks thematic suffixes altogether); (ii) *-av-* is found with manner of motion verbs; (iii) *-ob-* is found with manner of behaviour verbs. This classification is rather too simplistic in a number of respects, as comparison with the classification presented here will demonstrate.

Another set of exceptions are verbs with *-ob-* which allow both agentive and patientive subjects, where the use of the patientive denotes a change. For example, *avgulobs* meaning ‘to act maliciously’ with an agentive subject, but ‘to turn malicious’ with a patientive one. Other verbs of this type include *azidobs* ‘to be fastidious’~‘to become fastidious’.

Recall from §5.2.2 that change of state verbs almost always occur with patientive subjects. However, the association between *-eb-* and patientive marking is not so straightforward when other categories of verbs are considered, as will be shown below.

Change of location verbs show more complex behaviour than change of state verbs as concerns thematic suffixes; these will be discussed in §5.5.3.

5.5.2 Controlled non-motional consecution verbs and *-ob-*

Verbs denoting non-motional controlled consecutions are another class which shows almost uniform behaviour in regard to the thematic suffix. These verbs occur with the suffix *-ob-*. Examples include *mushaobs* ‘to work’, *tamashobs* ‘to play’, *banaobs* ‘to bathe’, etc.

These verbs all take agentive subjects in Series II (§5.2.3). This is part of a general correspondence between *-ob-* and agentive marking, though there are certain exceptions, to be discussed as part of the following subsection. (An exception within this class is *t’lik’inebs* ‘to natter’.)

5.5.3 Other classes: both *-eb-* and *-ob-*

While change of state verbs almost all occur with thematic suffix *-eb-*, and controlled non-motional consecutions with thematic suffix *-ob-*, other categories of verb show more mixed behaviour. While individual lexical verbs generally still occur with only one suffix or the other, there is less consistency within semantic classes as to which is selected.

Thus, some verbs denoting **states** occur with *-eb-*, others with *-ob-*. Examples of the first include *tskhovreba* ‘to exist, live, be alive’; examples of the second (which seems to be more frequent) are *vaivaglakhoba* ‘to have a wretched life’, *avadobs* ‘to be sickly’, *binabrobs* ‘to reside’ and *arleboba* ‘to exist’. Most of these occur with agentive case, regardless of the thematic suffix employed.

Recall from §5.2 that certain verbs in Series II may occur with subjects in either agentive or patientive case. These are all *-ob-* verbs in my sample, for example: *bavshvobs* ‘to behave like a child’, *baiq’ushobs* ‘to be wretched’. These verbs then are optional exceptions to the generalisation that *-ob-* verbs require agentive subjects.

Verbs denoting **uncontrolled consecutions** in my sample mostly occur with *-eb-*: e.g. *babanebs* ‘to shiver’, *ratsratebs* ‘to teeter, reel’ (both agentive-marking), *abanandeba* ‘(start to) stagger’, *tsurdeba* ‘to skid, slide, lose one’s footing’ (both patientive-marking). An exception to this general rule is the *-ob-* verb *bobokrobs* ‘to rage, storm’.

Sound emission verbs, which occur exclusively with agentive subjects in Series II (§5.2.6), nevertheless also occur with *-eb-* in some instances and *-ob-* in others: e.g. *rak’rakebs* ‘to glug,

burble, warble’ vs. *rachkhunobs* ‘to jangle, click’. **Light emission** verbs generally occur with *-eb-* (e.g. *kashkashebs* ‘to shine brightly’, which takes agentive subjects, and *brch’q’vialebs* ‘to glitter, shine, sparkle’, which takes patientive ones), though *brts’q’inavs* ‘to shine, glitter’ (which takes patientive subjects) has *-av-* (for more on which see below). The overall generalisation is that while *-ob-* verbs of the emission class occur only with agentive case, *-eb-* verbs occur with either case.

Motion verbs are most often found with *-eb-* or another suffix entirely, *-av-*. *-eb-* is found with directed motion verbs (e.g. *vardeba* ‘to fall’, patientive-marking), and with manner of motion verbs, both uncontrolled (e.g. *tsurdeba* ‘to skid, slide’, patientive-marking) and controlled (e.g. *aabajebbs* ‘to step upwards’, agentive-marking). *seirnobbs* ‘to walk’ is an example of a controlled manner of motion verb with *-ob-*, but this is not a typical pattern.

Motion verbs with *-av-* include *goravs* ‘to roll’, *tsuravs* ‘to swim’ (both given by Nash 2017, and also listed in Rayfield et al. 2006), *bobghavs* ‘to crawl, drag oneself along’ and *ts’ava* ‘to go away, off’. The first three are manner of motion verbs which take agentive subjects in Series II; the last is a directed motion verb which takes a patientive subject. Thus it appears *-av-* does not distinguish between the two different sorts of motion verb; relatedly, *-av-* can also occur with either case.

-av- is in fact not entirely restricted to verbs of motion, occurring also with *brts’q’inavs* ‘to shine, glitter’ (a verb of internally caused light emission; associated with patientive subjects) and *uberavs* (with various meanings: ‘to drink heavily, play, sing, be windy ...’; associated with agentive subjects—a rare instance of a verb with controlled non-motional process meanings occurring with a thematic suffix other than *-ob-*).

Table 5.3 summarises the main patterns discussed in this section, disregarding apparently exceptional forms.

Controlled non-motional consecutions	<i>-ob-</i>
Controlled motional consecutions	(<i>-ob-</i>), <i>-eb-</i> , <i>-av-</i>
Uncontrolled consecutions	<i>-eb-</i>
State verbs	<i>-ob-</i> , (<i>-eb-</i>)
Change of state verbs	<i>-eb-</i>
Change of location verbs	<i>-eb-</i> , <i>-av-</i>
Emission verbs	<i>-ob-</i> , <i>-eb-</i>

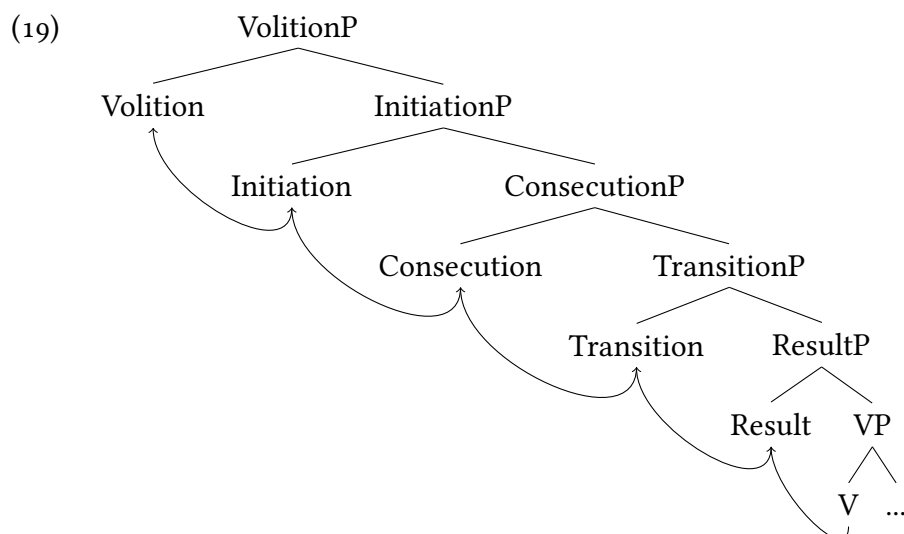
Table 5.3: Semantic categories and thematic suffixes in Georgian

5.5.4 VICTR analysis

The thematic suffixes of Georgian are readily amenable to analysis in terms of the VICTR Hierarchy. They also provide further evidence for the need of this sort of articulated structure of the thematic domain, given that the thematic suffixes taken by a given verb do not necessarily directly correspond to its case behaviour. In this subsection, I shall elaborate these arguments.

The main features to which the form of the intransitive thematic suffixes seem to be sensitive are [\pm volition], [\pm consecution] and [\pm transition]. Thus we may conclude that the

thematic suffix is essentially the spell-out of the complex of thematic heads formed by head movement.¹⁰



-ob-, first of all, is the realisation which occurs when the thematic head complex is [+volition, +consecution, –transition] in almost all cases where those particular values are present. Because verbs occurring with these features are agentive-marking, it thus correlates highly with the occurrence of agentive case.

It is not, however, necessary for these precise feature values (which correspond closely with the proposed agentive core introduced in chapter §2.4.2.1) to be present for the functional head complex to be realised as *-ob-*. *-ob-* may also be the realisation found with stative verbs, which are typically [+‘volition’] (with negative values for the other features). This suggests that [+volition, –transition] alone is ordinarily enough to trigger *-ob-*, though this pattern is not without exceptions (e.g. *tskhovreba* ‘to exist, live, be alive’). There are also some stative *-ob-* verbs which have been analysed as being [+‘result’] where they occur with patientive subjects (e.g. *baiq’ushobs* ‘to be wretched’). This is thus a marginal, lexically idiosyncratic alternative for the presence of the *-ob-* suffix, likely linked to the fact that these verbs can also occur in the more prototypical *-ob-* configuration with [+‘volition’].

A [–volition, +consecution] complex is not generally realised as *-ob-*, but certain verbs of sound emission analysed here as [+consecution] with negative values for all the other heads are an exception to this general pattern. Overall, then, the [±volition] and [±transition] features are the most important in determining the realisation of the thematic suffix, but [±consecution] does play a more marginal role, linked to lexical idiosyncrasy.

-ob- also occurs exceptionally with some [+transition] verbs, e.g. *avgulobs* ‘to turn malicious’. Patientive case marking still arises, as with other [+transition] verbs. Excluding motion verbs, to be discussed below, these all have [–transition] alternants, suggesting that this is another instance of the suffix being lexicalised with these verbs, linked to the fact that they are also associate with more prototypical *-ob-* configurations.

10. The lexical V is also assumed to be incorporated into this complex.

In the absence of the feature values associated with *-ob-*, or a lexical specification for the presence of this suffix, *-eb-* usually surfaces instead. Thus most [+transition] verbs occur with *-eb-*; this is true straightforwardly of most change of state verbs. The prevalence of motion verbs with *-eb-*, and the rarity of such verbs with *-ob-*, can be related to the [+transition] feature found with these verbs, whether they are manner of motion verbs ([+consecution,+transition]) or directed motion verbs ([−consecution,+transition]). However, a [+consecution] feature with these verbs does trigger *-ob-* in some instances, e.g. *seirnob* ‘to walk’. This exceptional behaviour can be linked to the fact that [+consecution,+transition] verbs share feature values from both the agentive and patientive core sets.

A few verbs are selected by a head or heads which are realised as *-av-*. The occurrence of *-av-* is somewhat idiosyncratic, though it is largely (though not entirely) restricted to motion verbs. This suffix is also found with transitives, where it is associated with verbs of ‘creation’, ‘destruction’ and ‘reconfiguration’ like *khat’avs* ‘to draw’ and *tesavs* ‘to sow’ according to Nash (2017: 185). One possible interpretation of this is that *-av-* is in general a realisation (both with transitives and intransitives) of the thematic head complex when it occurs with subset of [+initiation,+transition] verbs, both transitives and intransitive.

In summary, then, the thematic head complex is realised as *-ob-* when it bears the values [+volition,−transition], and *-eb-* most of the rest of the time. The form of the suffix is thus the morphological realisation of particular feature values. There are a few instances where *-ob-* appears in other contexts, or does not appear where expected, or where *-av-* is found. These can be taken as instances of idiosyncratic ‘irregular’ lexical realisations of the functional heads of the sort which are common in morphology. However, the distribution of these idiosyncratic behaviours is not wholly random, showing sensitivity to the existence of an alternant of the verb occurring in contexts where the observed realisation would be more expected, or the feature values associated with the verb: either *-ob-* arising in the presence of some other features associated with the agentive core set (suggesting a partial, lexicalised extension of the *-ob-* form from its typical featural context), or because of the presence of the [+initiation,+transition] feature values sometimes associated with *-av-*.

The realisation of the thematic suffixes in Georgian relates again to Sorace’s (2000) Auxiliary Selection Hierarchy (ASH). This can be seen in table 5.3, where the categories are ordered according to the ASH (with the exception of the emission verbs which have also been included for reference). A certain correspondence with the ASH is observed, with *-ob-* being preferred with the higher categories and *-eb-* with the lower. There are, however, various complexities: aside from those concerning *-av-*, it can also be observed that *-eb-* is more likely with uncontrolled consecutions than state verbs (which tend to prefer *-ob-*), which is not what is predicted by Sorace. However, this patterning is not problematic on the present approach, whereas the correspondence to the ASH which can be observed can be understood in terms of the core feature sets: *-ob-* generally occurs with verbs instantiating a subset of the agentive core features.

Case behaviour in Georgian also relates to the ASH, as we have seen. But it relates to the

ASH in a slightly different way, so that not all agentive-marking verbs are *-ob-* verbs, and not all patientive-marking verbs are *-eb-* verbs. The present approach treats the two phenomena of case and thematic suffixes as essentially distinct (related to basically independent properties of functional heads), but nevertheless both linked to the VICTR Hierarchy and the core feature sets (and thus both showing ASH effects). Hence it is able to account for the differences between the two in a way which the traditional approach struggles to do, whilst not losing sight of the similarities.

5.5.5 Comparison with Nash

The analysis provided here must be briefly contrasted with the account of thematic suffixes recently proposed by Nash (2017). Nash argues (§8.4.3) that the thematic suffixes are the realisation of a head above Voice, i.e. outside of the thematic domain.¹¹ There are, however, some problems with the argument she presents. Firstly, she gives evidence that the thematic suffixes are distinct from other material expressing voice distinctions: the non-active prefix *i-* and the ‘fientive’ suffix *-d*, both of which co-occur with thematic suffixes (I here follow Nash’s glosses for these elements):

- (20) a. *Khe-Ø i-gheb-eb-a.*
 tree-NOM **RIAM**-paint-**TS**-3SG
 ‘The tree is being painted.’
- b. *Khe-Ø tetr-d-eb-a.*
 tree-NOM white-**BECOME**-**TS**-3SG
 ‘The tree is whitening.’ (Nash 2017: 188)

Nash is thus presumably correct to argue, as she does, that the thematic suffix and the ‘voice’ markers cannot spell out the same head. This is, however, in no sense a problem for my approach which takes a more fine-grained approach to the structure of the voice/thematic domain.

The issue remains, however, of whether *i-* and *-d* are merged higher or lower in the structure than the thematic suffixes. Nash argues that they are merged lower. If this is correct, and *i-* and *-d* are Voice heads, then (on the assumption that Voice sits above the thematic functional heads) this means the thematic suffixes cannot be realisations of the thematic heads I propose. However, there are reasons to doubt Nash’s analysis. Firstly, I suspect the fientive suffix *-d*—which is attached to the root *before* the thematic suffix as (20b) shows, suggesting that it is indeed lower in the structure than the thematic suffix—is not really a marker of Voice at all. Rather, its function is to create ‘causative deadjectival verbs form corresponding anti-causatives’; thus it corresponds to the primitive predicate **BECOME** (Nash 2017: 188–89). On my terms, then, it is probably best analysed as either an instantiation of the Transition head or

11. This is in contrast to earlier work, Nash (1995), where she argues that the thematic suffixes are realisations of Voice itself.

as a purely derivational affix attached before the introduction of thematic material. In either case, it is merged lower than State, the head realised as the thematic suffix.

i- is a prefix, and as Nash points out, the evidence that it is merged before the thematic suffix is only indirect. Nash writes (2017: 188):

all non-active verbs take TS [= thematic suffix] *-eb*, while transitive verbs combine with different TS. Normally, transitive agentive manner verbs take *-av* but their corresponding non-active forms still show up with *-eb* [...] If [*i-*] were affixed after the composition of V with TS, it is unclear how that would result in the change of *-av* to *-eb*.

This point is illustrated by the following examples:

- (21) a. *Vano-Ø gheba^{av}s kotan-s.*

Vano-NOM he.paints.it pot-ACC

‘Vano is painting the pot.’

- b. *Kotan-i ghebe^{eb}s.*

pot-NOM he.paints.it

‘The pot is being painted.’

(Nash 2017: 188)

I have not provided an account of the realisation of thematic suffixes in transitives. In these cases, however, the expression of *-av-* vs. *-eb-* seems to relate to the value of Initiation: the [+initiation] (transitive) alternant has *-av-* whereas the [–initiation] (intransitive) alternant has *-eb-*. This may be entirely separate from the Voice prefix which is merged higher, and so the problem Nash identifies may not be a problem at all.

Part of Nash’s overall conclusion is that the thematic suffix is an Event head, merged above Voice; ergative (i.e. agentive) case is only assigned in the absence of this head. Some evidence for this is from the absence of the thematic suffix in Series II (i.e. in contexts where agentive is assigned): there is no Event (hence no suffix), and thus ergative is assigned. However, this analysis is not particularly satisfying as a deep explanation for the alignment split; other than the presence vs. absence of thematic suffixes, there is not much independent evidence for Event. I regret again that I cannot provide an alternative analysis of the alignment split here, nor of the absence of the thematic suffixes in Series II. However, I remain unconvinced by Nash’s proposal that the thematic suffixes realise a head outside of the thematic domain, and suggest that the analysis of the thematic suffixes as the realisations of thematic heads—given that they clearly relate to thematic properties—remains the most natural and attractive option. Once again, it is noteworthy that Georgian appears to encode the distinctions made by heads morphologically, something which does not occur in many languages.

5.6 Georgian and other languages

Interesting similarities and differences can be seen when split intransitive patterns in Georgian are compared to those found in other languages. In particular, consider the relation of case alignment in Georgian to that of Basque. A number of similarities can be observed, but also certain differences; these are summarised in table 5.4 (verbs which appear to be idiosyncratic exceptions to general patterns are omitted).

	Basque	Georgian
Controlled consecution: non-motional	AGT (mostly)	AGT
Controlled consecution: motional	AGT (mostly)	AGT
Uncontrolled consecution	<i>Mixed</i>	<i>Mixed</i>
State	<i>Mixed</i>	<i>Mixed: AGT preferred</i>
Change of state	PAT	PAT
Change of location	PAT	PAT
Emission	AGT	<i>Mixed</i>

Table 5.4: Summary of case-marking with intransitives in Basque and Georgian

In both languages, a general correspondence with Sorace's (2000) Auxiliary Selection Hierarchy is observed (cf. the discussion in §5.2.7 above). It is striking the degree to which similarities can be seen between the two languages; for the most part, an intransitive verb's case behaviour in Georgian directly predicts its behaviour in Basque, and vice versa. This exhibits that two unrelated and geographically distant languages may nevertheless develop case systems which closely resemble one another, at least on the surface.

However, various differences are also worth noting (see §4.2 for discussion of the Basque facts). The case behaviour of uncontrolled consecutions in Georgian can be straightforwardly related to whether or not they denote motion ([\pm transition]); this is not the case in Basque. In fact, manner of motion verbs in general show more consistent behaviour in Georgian than in Basque. The same is true of state verbs, which are mostly (though not entirely) agentive-marking in Georgian and show much more mixed behaviour in Basque. Some emission verbs in Georgian are patientive-marking whereas these verbs are always agentive-marking in Basque. Georgian, however, does not have a separate class of patientive-marking 'inherent reflexive' verbs in the way Basque does. Various verbs show apparently lexically idiosyncratic behaviour in one of the two languages, while their translational equivalents in the other do not; a few instances of this were mentioned in §5.2.

Thus, in spite of the similarities, what we see here is further evidence against the idea that there exist two classes of intransitive—unergatives and unaccusatives—whose membership is the same across languages. If that were the case, we would not expect Basque and Georgian to differ in the distribution of agentive and patientive case at all.

The approach adopted here, on the other hand, gives us some idea of why it is these particular classes of verbs which exhibit variation. Both languages seem to have taken similar sets of features (drawn from the core feature sets introduced in §2.4) as the basis for the split: typical agentive-marking verbs are [+volition,+consecution] and typical patientive-marking

verbs are [+transition]. The sorts of verbs which show variable behaviour between the two languages tend to be precisely those whose values do not fit neatly into either group: either because they have properties of both (the [+consecution,+transition] manner of motion verbs) or because they differ in one or more respects from the typical values (stative verbs and [-volition,+consecution] uncontrolled consecutions and emission verbs).

It should also be noted that superficial similarities may mask a great deal of underlying difference. Given that Georgian and Basque have been argued to represent the extended ergative and extended accusative types of split intransitive alignment respectively, the actual formal analyses presented for the two systems are somewhat different, even though they produce similar surface patterns. Georgian also differs from Basque in having a rather more substantial degree of ‘split split intransitive’ behaviour (see §5.1).

The relation of Georgian and Basque must be viewed in the context of the general typology of split intransitive alignment discussed in chapter 3. Specifically, in spite of the considerable similarities between Georgian and Basque, it must be remembered that not all languages with split intransitive alignment are so similar. Many draw their case and/or agreement split along rather different lines. Therefore, whilst the theory of split intransitive alignment must *allow* two distant, unrelated languages to possess a very similar split, it must not *require* such a high level of similarity. This is achieved under the present approach: the reader is referred back to the discussion in §3.6 in particular.

5.7 Comparison with other approaches

5.7.1 The Unaccusative Hypothesis

This section will compare the VICTR approach outlined above with two other approaches, firstly models based in the Unaccusative Hypothesis (this subsection), and then with the approach of Ramchand (2008) (the following subsection).

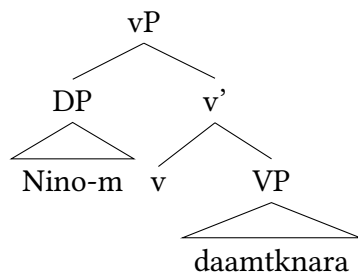
As was mentioned repeatedly in §5.5, there is a certain but by no means absolute correspondence between the thematic suffix a verb occurs with and the case of its argument in Series II. This provides us with a strong argument in favour of the VICTR approach, in line with similar arguments made in previous chapters for similar ‘mismatched’ split intransitivity diagnostics in English and Basque. This can be demonstrated if we take an analysis of Georgian in a more traditional vein, where all agentive-marked arguments in Series II are merged in Spec,vP and all patientive ones in Comp,VP:

(22) Unergatives:

Nino-m daamtknara.

Nino-AGT she.yawned

‘Nino yawned.’

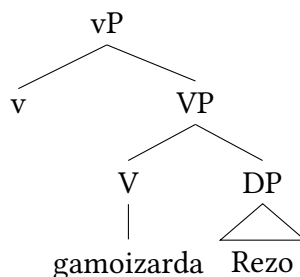


(23) Unaccusatives:

Rezo gamoizarda.

Rezo.PAT he.grew.up

‘Rezo grew up.’



We might account for the case-marking patterns on this approach by assuming agentive is an inherent case assigned by v, and patientive a structural case assigned by T (an extension of the standard inherent case analysis of ergativity).

But what about the thematic suffixes? We might say these are realisations of v. Where intransitive v takes an external argument (i.e. where agentive case is assigned), it is in general realised as *-ob-*; where it does not, it is in general realised as *-eb-*. But we are left with a number of exceptions: *-eb-* with external arguments (e.g. *ratsratebs* ‘to teeter, reel’, *t’lik’inebs* ‘to natter’), *-ob-* with internal arguments (e.g. *bobokrobs* ‘to rage, to storm’, *avgulobs* ‘to turn malicious’ when these occur with patientive subjects). This variation appears to be basically idiosyncratic as far as syntactic positions are concerned.

On the VICTR approach, some of this is not idiosyncratic at all; it is simply that case assignment and the realisation of thematic suffixes are sensitive to slightly different criteria. Where idiosyncrasy is nevertheless admitted, it is nevertheless constrained, as the summary of the patterns given above showed; the agentive core feature set plays a central role in this, though other considerations are also involved.

5.7.2 Ramchand (2008)

The analysis of Georgian proposed here in VICTR terms can also be compared with a potential analysis rooted more directly in the proposals of Ramchand (2008), as has already been done for other languages.

Consider case assignment in Series II first of all. We can observe that agentive case seems to be found with verbs that would likely be [*init*, *proc*] in a Ramchand-style analysis, such as *mushaobs* ‘to work’, *tsuravs* ‘to swim’ and *tsiris* ‘to cry’. But some verbs in this class do not take agentive subjects, namely uncontrolled motional consecutions like *tsurdeba* ‘to skid’. On the present analysis, this is captured in terms of the fact that these ‘exceptional’ verbs are [–volition, +consecution, +transition], but no such possibility is available on Ramchand’s model which distinguishes none of these features.

Agentive is also typically found in Georgian with verbs that are [*init*] alone, i.e. stative intransitives like *arleboba* ‘to exist’, although Ramchand’s approach does not obviously capture exceptions to this general rule, like *darchena* ‘to stay’. On the present approach, this is captured in terms of variable grammaticalisation of state verbs as either [+‘volition’] or [+‘result’].

Other classes of intransitives (following Ramchand’s system) have patientive subjects, although the [*init*, *proc*, *res*] category may be problematic if it can be shown—as has been argued for other languages—that verbs like *tsuravs* ‘to swim’ have a [*res*] component in some contexts. It is also not clear how emission verbs like *rachkhunobs* ‘to jangle’, which mostly take agentive subjects, should be analysed—these would have to be analysed as [*init*, *proc*] to fit the general pattern outlined above, but there is evidence that their translational equivalents in other languages should be seen as lacking an expressed initiator (see §2.2.7).

Ramchand’s system does quite well in accounting for the distribution of the thematic suffixes: *-ob-* can be said to be found with [*init*, *proc*] and [*init*] verbs and *-eb-* typically otherwise. However, there is evidence for sensitivity to [±volition] which Ramchand’s system does not account for—as for example between a controlled consecution like *tamashobs* ‘to work’ and an uncontrolled one like *babanebs* ‘to shiver’; these are both [*init*, *proc*] on Ramchand’s model. The tendency of certain manner of motion verbs to occur with *-eb-* (e.g. *tsurdeba* ‘to skid’) is also problematic, given these are also [*init*, *proc*].

In summary, Ramchand’s approach encounters the same problems with Georgian as it does with other languages: it does not account for the [±volition], [±consecution] and [±transition] distinctions or the variable representation of state verbs. The VICTR approach, which incorporates these additional distinctions into a Ramchand-style model, is more successful.

5.8 Conclusion

This chapter has looked at split intransitivity in Georgian. In §5.2, I demonstrated that Georgian has a reasonably consistent semantic basis for its split intransitive case alignment, with some lexical idiosyncrasy. In §5.3, I argued Georgian possesses an extended ergative-type split intransitive case system, which is significant in furnishing further evidence for drawing

a distinction between the extended accusative and extended ergative subtypes. §5.4 presented a formal analysis of Georgian case marking in terms of the VICTR Hierarchy; §5.5 considered another split intransitive behaviour in Georgian, the thematic suffixes, also in VICTR terms. The thematic suffixes are noteworthy as apparent overt realisations of the thematic heads. This discussion demonstrated the viability of the VICTR approach to Georgian. §5.6 considered Georgian in relation to other languages previously discussed (particularly Basque), providing further arguments for the VICTR approach, and §5.7 compared the VICTR approach to some other major approaches to split intransitivity and argument structure.

In summary, this discussion of Georgian has provided further evidence in support of the VICTR Hierarchy as means of modelling of split intransitivity within a single language and across languages. The following chapter concludes this dissertation.

Chapter 6

Conclusion

6.1 Introduction to the conclusion

The introduction to this dissertation identified a number of major questions for the work to answer:

- (I) Why should argument structure and thematic roles be described in terms of this sort of structure of thematic functional heads, as opposed to some other sort of analysis?
- (II) Why should these particular thematic heads be posited?
- (III) How does the VICTR Hierarchy account for the argument structure and thematic roles of intransitive predicates specifically, especially in comparison to existing approaches?
- (IV) How can split intransitive case and agreement systems be accounted for, specifically in terms of the VICTR Hierarchy, especially in comparison to existing approaches?

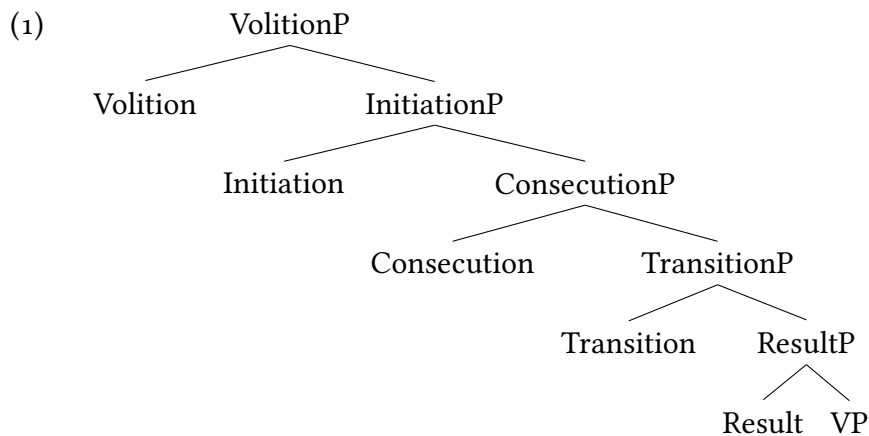
In this concluding chapter, I shall review in summary the answers to the questions which have been proposed throughout.

6.2 The nature of the VICTR Hierarchy

6.2.1 General remarks

In this section, I present answers to the first two and most general of the questions above. Note that these questions cannot be divorced entirely from those which follow: more specific discussion will follow in the next two sections.

In the introduction I introduced the structure repeated here as (1), labelled the VICTR Hierarchy:



The details of the VICTR Hierarchy and its relation to argument positions and thematic roles have been described in §1.1.1 and in detail throughout the dissertation.

The first question posed above asks why argument structure and thematic roles be described in terms of this sort of structure of thematic functional heads at all. The whole dissertation can be seen as an extended answer to this question, although it is by necessity only a partial answer—doubtless consideration of more phenomena and more languages would shed further light on the issue. Nevertheless, a detailed answer has been put forward.

Certain more general, more conceptual issues have contributed in part to this answer. The VICTR Hierarchy has been placed in the context of the more general cartographic enterprise (§1.2.1), and can be seen as a natural extension of cartographic ideas to the thematic domain. It has also been argued to provide an appealing solution to the problem of ‘linking’ semantics to syntax, in terms of the Generalised Linking Rule (§1.3.1), repeated below:

- (2) **Generalised Linking Rule:** An argument of which the lexical semantic property corresponding to the syntactic feature [+a] is predicated is merged in the corresponding Spec,AP.

The VICTR approach has also been discussed in the context of M. Baker’s (1988) Uniformity of Theta Role Assignment Hypothesis (UTAH) and the Borer-Chomsky Conjecture (BCC; §1.3). It has been argued that the VICTR Hierarchy allows both the UTAH and the BCC to be maintained in the face of evidence which is problematic for these ideas in the light of other approaches: for example, the fact that the verb meaning ‘hiccough’ is associated with agentive marking in Lakota but patientive in Central Pomo (§3.7.2.1):

- (3) a. Lakota (Siouan, North/South Dakota):
Blowádkaska.
 hiccough. **1SG.AGT**
 ‘I hiccough.’ (Mithun 1991: 516)
- b. Central Pomo (Pomoan, California):
To· ščúkčiya.
1SG.PAT hiccough
 ‘I hiccough.’ (Mithun 1991: 520)

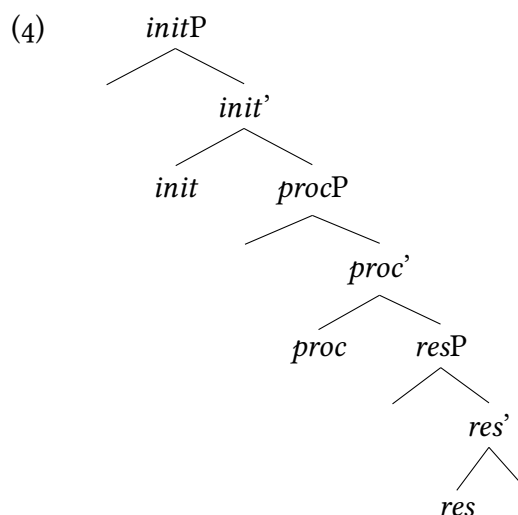
Under an Unaccusative Hypothesis analysis, the difference in case marking might be attributed to differences in the structural positions of the arguments (a sort of variation not necessarily attributable to the features of functional heads), in spite of their thematic equivalence. Under the VICTR approach, both languages merge the subject of ‘hiccough’ in the same position (Spec,InitiationP), in keeping with the UTAH, and the variation can be attributed solely to differences in which heads agree or assign case. (However, some variation in position has been permitted in a single limited set of instances, namely state verbs, with which variation in regard to split intransitive phenomena is pervasive.)

The answers to each of the other questions also contribute to answering this first, most general question in various ways. The general approach can be seen as vindicated by the advantages it enjoys over other approaches to split intransitive phenomena generally and case/agreement specifically, to be discussed in the following sections. The evidence for the particular thematic heads posited also contributes to the evidence in favour of the approach as a whole. This evidence is covered in the next subsection.

6.2.2 The inventory of thematic heads

This dissertation has argued for five ‘thematic functional heads’: Volition, Initiation, Consecution, Transition and Result. It is natural to ask, as does question (II) above, why these particular thematic heads should be posited and not some other set. Various evidence has been presented from a range of languages which has been used to argue for the operation of the features corresponding to these heads: $[\pm\text{volition}]$, $[\pm\text{initiation}]$, $[\pm\text{consecution}]$, $[\pm\text{transition}]$ and $[\pm\text{result}]$. It has been argued that these features identify classes of predicates which show different syntactic behaviour within and between languages, and there is also evidence that they operate independently of one another. I naturally illustrate this here with examples from various split intransitive phenomena, including split intransitive case and agreement: I discuss some other issues pertaining to these phenomena in the next two sections.

I have focused much of the discussion on comparison to the model of Ramchand (2008), on which the VICTR approach builds. Ramchand proposes a distinct hierarchy of three heads:



There are various reasons for preferring the more fine-grained hierarchy proposed here, which I will summarise as part of the discussion which follows.

On the present approach, [\pm volition] plays a central role in the split intransitive case and agreement systems of many languages, for example Eastern Pomo (Pomoan, California):

- (5) a. *Mí·p'-Ø q'a·lálma·ya.*

3SG-**AGT** went.home

'He went home.'

- b. *Mí·p-**al** káluhuya.*

3SG-**PAT** got.sick

'He got sick.'

(McLendon 1978: 7)

[\pm volition] also plays a minor role in several other split intransitive patterns (§2.2.6, §2.4.2.3, §4.2.3.3, §5.2.4). This inclusion of this feature thus allows an account of behaviours which are not accounted for in the model of Ramchand (2008). The same feature (when the other VICTR features are negatively valued) has been argued to distinguish some state verbs, on the assumption that Volition is a stative head.

The value of [\pm volition] does not seem to be dependent on the value of any of the other VICTR features. Semantically, volitional control of event entails initiation of that event; however because [+ 'volition'] need not predicate volitional control (in the case of stative verbs), the lower head can occur with either value of [\pm initiation].

[\pm initiation] makes a similar set of distinctions as Ramchand's (2008) *init*. It accounts, for example, for the causative alternation in English (§2.2.2), analysed as only possible with verbs that are [-initiation] when intransitive:

- (6) a. The ice cream froze.

- b. Lucy froze the ice cream.

- (7) a. Lucy talked.

- b. Lucy came.

- c. *Chris talked/came Lucy. (intended meaning: 'Chris made Lucy talk/come')

Sensitivity to this feature can also be seen in some case and agreement patterns (§3.3.3).

Many verbs with a *proc* component but no *init* on the analysis of Ramchand (2008) are [-initiation, -consecution, +transition] on the VICTR approach, e.g. *melt*, *break*. However, it has been argued that there is also a class of [-initiation, +consecution, -transition] verbs, namely (at least some) non-agentive verbs of internal causation like *stink* and *shine*. Both [+consecution] and [+transition] verbs may also be [+initiation]. This is evidence for the independent operation of the [\pm initiation] feature.

Ramchand's *proc* component corresponds to two features on the VICTR model, [\pm consecution] and [\pm transition]. These features play a role in numerous phenomena, for example in English only [+transition] verbs allow resultatives, and only [+consecution] verbs allow cognate objects:

- (8) a. The toast burned black.
 b. *Lucy talked hoarse.
- (9) a. *The toast burned a burning.
 b. Lucy talks the talk.

These same features are also seen frequently in auxiliary selection (§2.4) and case and agreement (§3.3.4, §4.2, §5.2). Each chapter has also discussed how these distinctions are not easily accounted for on Ramchand's approach.

The values of [\pm consecution] and [\pm transition] are independent of each other: stative verbs are [$-$ consecution, $-$ transition]; verbs like *work* and *cough* are [+consecution, $-$ transition]; verbs like *melt* and *go* are [$-$ consecution,+transition]. Finally, manner of motion verbs like *walk* and *swim* have been argued to be [+consecution,+transition]; this characterisation is defensible on semantic grounds and also accounts for the behaviour of these verbs across many languages—in particular, the fact that they sometimes behave like [+consecution] verbs and sometimes like [+transition] ones.

The [\pm result] feature performs a similar function to Ramchand's *res*. Its role in split intransitive phenomenon tends to be a small one, but it does play a part in some instances, for example [+result] verbs in English do not generally occur with *for hours* (§2.2.5). It has also been argued that some stative verbs are [+result], with negative values for the other VICTR features.

Verbs which contained both *proc* and *res* components on Ramchand's system tend to be [+transition,+result] on the VICTR model, e.g. *go*, *break*, *swim*. However, there are also [+consecution, $-$ transition,+result] intransitives: telic events not denoting a change of state or location like *cough* (cf. Ramchand 2008: 79–82). In addition to the stative [+result] verbs mentioned above, this exhibits the independence of [\pm result] from the value of the other features.

The various different combinations of the features have been explored throughout; see particularly §2.2.7 for suggestion of verbs that may instantiate some of the less frequent combinations. While further research is needed to demonstrate robustly that each possible combination corresponds to a particular observable class of predicates, the results so far are promising.

In spite of the differences from Ramchand (2008) highlighted, it is nevertheless striking that something so closely resembling Ramchand's basic approach, which was developed largely on semantic grounds and to a considerable extent on the basis of a single language (English), in fact holds up with only relatively minor modification when considered in relation to a range

of different syntactic constructions across a range of languages, and can be independently justified on the basis of these constructions. The VICTR Hierarchy may involve a slightly different set of heads, but it should not be forgotten that it is still a Ramchand-type approach, and that the evidence provided in this dissertation is also support for many (though not all) of the elements of Ramchand's original proposal.

I have assumed throughout that each of the five VICTR features is encoded on its own head. This assumption is not crucial for the overall argument, but there are various strands of evidence in its favour. Firstly, it is an extension of the general one feature—one head assumption of the cartographic enterprise (see §1.2.1). It also enables the semantic analysis sketched in §1.1.3, where the hierarchical ordering of features on distinct heads leads to the entailment of causational relations between subevents (following Ramchand 2008), and a straightforward statement of the Generalised Linking Rule as in (2).

The empirical evidence for the hierarchical ordering of the heads may also support the idea that each feature is associated with its own head. This evidence is however fairly partial at present, and I have not substantially addressed the issue of why the heads should be taken to occur in the particularly hierarchical ordering proposed. As has already been said, this is a question to be answered primarily from the study of verbs with two or more arguments, which have not been the focus here. Nevertheless, some support for the order assumed can be identified. The semantic analysis sketched is again reason to believe that the proposed order is plausible. Evidence also comes from the core feature sets, first substantially introduced in §2.4.2.6: the agentive core set relies on positive values of the higher three heads (Volition, Initiation and Consecution) and the patientive set on positive values of the lower two (Transition and Result). Since the agentive core features are those most frequently associated with higher arguments of transitives, and the patientive ones those most frequently associated with lower arguments, this further supports the hierarchical ordering of the first three heads above the other two.

Evidence for Volition and Initiation occupying positions above Consecution and Transition comes from the following (cf. §2.4.2.6):

- (10) a. Lucy (θ -INITIATION+ θ -VOLITION) melted the lollipops (θ -TRANSITION).
- b. Lucy (θ -INITIATION+ θ -VOLITION) buzzed the doorbell (θ -CONSECUTION).

Whilst this is not the place to go into detailed argumentation, I would like to suggest the following sentences may provide further evidence for the hierarchical orderings proposed:

- (11) a. **Volition > Initiation:** This room (θ -‘VOLITION’) sleeps five people (θ -CONSECUTION+ θ -INITIATION).¹
- b. **Consecution > Transition:** Lucy (θ -CONSECUTION+ θ -INITIATION+ θ -VOLITION) is eating the cake (θ -TRANSITION).

1. *this room* is a stative argument, suggesting it bears θ -‘VOLITION’, but the five people are still initiators of the sleeping event, cf. *Five people sleep*.

- c. **Transition > Result:** Lucy gave Chris (θ -TRANSITION) the book (θ -RESULT).²

This is, however, a matter for further research. The precise ordering of the VICTR heads is not a matter of central importance to the overall argument presented here; neither is it crucial to assume (as I have for the reasons outlined) that each feature is encoded on a separate head.

Of course, it may well be that continued research suggests some revision to the inventory of heads proposed is necessary. For example, new heads may be required to account for further distinctions not revealed by the present research. This need not, however, mean than an abandonment of the general claims of the approach—that argument structure and thematic roles are related to a hierarchy of functional heads in the thematic domain that is more elaborate than that traditionally proposed—is necessarily required. However, I have argued that the inventory of heads here proposed is that which is best supported by the evidence considered so far.

6.3 The VICTR Hierarchy and intransitives

In this section, I overview the issues of how the VICTR Hierarchy accounts for the argument structure and thematic roles of intransitive predicates specifically, and the advantages of this approach over other approaches. This is in response to question (III). I leave aside issues relating to split intransitive case and agreement systems for the following section.

Outside of case and agreement, I have considered intransitive predicates specifically from the viewpoint of various split intransitivity diagnostics in English (§2.2–2.3) and Basque (§4.4), auxiliary selection in Western European languages (§2.4) and the thematic suffixes of Georgian (§5.5). A key finding, within and between languages, is that different split intransitive diagnostics identify different divisions of intransitive predicates (see also Rosen 1984, Zaenen 1988 and others), rather than just the two universal classes proposed by Perlmutter (1978) and others. These classes are typically amenable to description in terms of precisely the thematic features proposed under the VICTR model. For example, in Georgian (as discussed in §5.5), the thematic suffix *-eb-* is found with nearly all [+transition, –consecution] intransitives, some [–transition, –consecution] intransitives and hardly any [+volition, –transition, +consecution] intransitives (controlled non-motional consecutions):

- (12) a. *mitsvaldeba* ‘to die’ [+transition, –consecution]
 b. *tskhovreba* ‘to exist’ [–transition, –consecution]
 c. *mushaobs* ‘to work’ [–transition, +consecution]

This pattern does not line up perfectly with case patterns: *tskhovreba* and *mushaobs* are both agentive-assigning verbs in spite of their different thematic suffixes; *mitsvaldeba* assigns patientive.

2. Change of possession is understood here to be an abstract change of state.

The problems these sorts of results in the different languages create for Perlmutter’s Unaccusative Hypothesis have been enumerated at length (see particularly §§2.2–3, §3.7.2.1, §4.5.1, §5.7.1). They include problematic overlaps between the supposed ‘unergative’ and ‘unaccusative’ groups (such as that just illustrated), variation within these putative groups, problems for Levin and Rappaport Hovav (1995)-style linking rules, problems for the UTAH (within and between languages), and so forth. The VICTR approach is able to overcome these problems, and also does better than the traditional approach in other respects—for example, better capturing the fact that many diagnostics identify a semantically coherent set of verbs.

From this discussion, it may appear that the VICTR Hierarchy is a radical alternative to traditional analyses following the Unaccusative Hypothesis. However, the two are similar in many respects. The VICTR analysis retains the central insight of many interpretations of the Unaccusative Hypothesis in relating split intransitivity to argument structure. It allows for a characterisation of split intransitivity that has a semantic basis directly reflected in syntax. The core difference is the number of argument positions which are posited for intransitives: only two in more traditional approaches, up to five under the VICTR approach.

The VICTR approach can also capture the patterns described by Sorace’s (2000) Auxiliary Selection Hierarchy (ASH), first discussed substantially in §2.4. An important contribution of this dissertation has been to bring to light correspondences with the ASH for a number of phenomena not previously investigated in this regard: in fact, the majority of split intransitive phenomena considered in the different languages can be seen as sensitive to the ASH in this regard, and a few such patterns are summarised in table 6.1.

	English <i>-er</i>	Basque case	Georgian thematic suffix
Controlled non-motional consecution	✓	AGT	<i>-ob-</i>
Controlled motional consecution	✓	AGT	<i>-ob-/-eb-/-av-</i>
Uncontrolled consecution	?	AGT/PAT	<i>-ob-/-eb-</i>
Existence of state	*	AGT/PAT	<i>-ob-/-eb-</i>
Continuation of state	*	AGT/PAT	<i>-ob-/-eb-</i>
Change of state	*	PAT	<i>-eb-</i>
Change of location	*	PAT	<i>-eb-/-av-</i>

Table 6.1: Selection of split intransitivity diagnostics and Sorace’s (2000) ASH

This finding is important as it demonstrates the applicability of the ASH to a range of (unrelated and geographically distant) languages, and stresses the importance of a formal account of these patterns of variation—something which is not straightforwardly achieved by the older Unaccusative Hypothesis as it stands. However, the ASH has also proved to be somewhat defective in certain respects. A clear case concerns the ordering of the controlled motional consecution class (‘walk’, ‘swim’)—these verbs often pattern with the transition verbs (as in German), but not always (as in French):

(13) German:

a. *Hans **ist** gelaufen.*

Hans **is** run

‘Hans ran.’

b. *Hans **ist** gegangen.*

Hans **is** gone

‘Hans went.’

(14) French:

a. *Lucie **a** couru.*

Lucie **has** run

‘Lucie ran.’

b. *Lucie **est** allée.*

Lucie **is** gone

‘Lucy went.’

This and other patterns have been encapsulated in terms of the agentive and patientive core feature sets introduced in §2.4.2, discussed subsequently at various points throughout (see especially §3.6, §4.6), and reproduced in table 6.2.

Core feature set	[volition]	[initiation]	[consecution]	[transition]	[result]
Agentive	+	+	+	–	(–)
Patientive	(–)	(–)	–	+	+

Table 6.2: The core feature sets

These core feature sets, which are based in the features of the VICTR Hierarchy, represent prototypical features of transitive higher and lower arguments respectively. When constructions are extended to a subset of intransitives on the basis of these features, split intransitive behaviours arise. This often leads to correspondence with the ASH, so for example [+volition,+initiation,+consecution] verbs like ‘work’ and ‘play’ are generally associated with ‘agentive’ behaviours (like auxiliary HAVE, suffix *-er*, agentive case) and [+transition,+result] verbs like *go* and *die* with ‘patientive’ behaviours (e.g. auxiliary BE, patientive case): thus capturing the higher placement of the first category (controlled consecutions) over the second (verbs from the change of state and change of location categories) on Sorace’s hierarchy. However, such correspondence need not arise on the core feature set model. In the case of the motional consecutions exemplified above, these verbs show variable behaviour cross-linguistically because they are [+consecution,+transition] and thus have properties of both core feature sets.

Therefore, the core feature set approach does not make quite the same predictions as the ASH, and is empirically superior. It can also account for split intransitive phenomena which are sensitive to properties like [\pm volition] (e.g. case in several languages as discussed in §3.3.2;

Basque impersonals considered in §4.4.7) and [\pm initiation] (also case, §3.3.3, and causatives in English, §2.2.2), where these cross-cut the categories made by the ASH or otherwise fail to strictly match it.

6.4 The VICTR Hierarchy and split intransitive alignment

In this section I turn to consider the VICTR Hierarchy specifically in regard to split intransitive case and agreement systems, a major focus of this work (see particularly chapters 3–5). I consider how the VICTR model accounts for these systems and its advantages over existing approaches. This is in response to question (IV) above.

In chapter 3, I presented a model of case and agreement, supported by the findings of investigation into the typology of split intransitive alignment, based particularly on Chomsky (2000, 2001), Legate (2002) and Aldridge (2004) and incorporating the VICTR Hierarchy. In §3.3, the semantic (and other) bases of split intransitive splits were considered and related to the VICTR Hierarchy. A number of different semantic properties were shown to determine split intransitive case and agreement in different languages, the most frequent of these corresponding to the category-defining features proposed as part of the VICTR approach: for example [\pm volition] ((15)), [\pm consecution] ((16)), [\pm ‘result’] ((17)):

(15) Eastern Pomo:

- a. *Mí·p’-Ø q’a·lálmàya.*
3SG-**AGT** went.home
‘He went home.’
- b. *Mí·p-**al** káluhuya.*
3SG-**PAT** got.sick
‘He got sick.’

(McLendon 1978: 7)

(16) Chol (Mayan, Mexico):

- a. *Tyi k’oty-i-**yety**.*
PRFV arrive.there-ITV-**2.PAT**
‘You arrived there.’
- b. *Tyi **a-cha**’l-e ts’ijb.*
PRFV **2.AGT**-do-DTV write
‘You wrote.’

(Coon 2010: 58)

(17) Guaraní:

a. *A-xá.*

1SG.AGT-go

‘I go.’

b. *Še-rasĩ.*

1SG.PAT-be.sick

‘I am sick.’

(Mithun 1991: 511)

This can be seen as some further evidence for the VICTR Hierarchy.

In §3.4 the relation of split intransitive case and agreement systems to other alignment types was discussed. It was concluded that split intransitive alignment patterns neither with the nominative-accusative or ergative-absolutive types in terms of correlation with other features, and instead seems to lie somewhere in between the two. On the basis of this, it was suggested that there are in fact two main types of split intransitive system, ‘extended accusative’ (in which the ‘accusative’ case is extended to some intransitive arguments and becomes the patientive) and ‘extended ergative’ (in which the ‘ergative’ is extended to some intransitive arguments and becomes the agentive).

This idea was taken up again in §3.5, which explored the relation of case and agreement in more detail, with the notion put forward that structural case and agreement are independent, but inherent agreement always relies on inherent case (but not vice versa). §3.6 explored the limits placed on this model by acquisitional considerations (namely, the core feature sets models), and §3.7 discussed the advantages of the VICTR approach over other competing approaches, including the Unaccusative Hypothesis and Ramchand (2008), in accounting for the data considered.

Chapters 4 and 5 then discussed two specific languages with split intransitive alignment (Basque and then Georgian) in more detail. The semantic basis of the case and/or agreement patterns of these languages was described in detail, providing further evidence for the features identified under the VICTR approach. These patterns were then subjected to formal analysis in the terms presented in §3.2. Basque was argued to be an extended accusative and Georgian an extended ergative language: this is further evidence for the division of languages with split intransitive alignment into these two subtypes. The main statement of case assignment in intransitives in Basque is as follows (§4.3.3):

(18) Patientive case is ordinarily assigned by Volition when its complement contains an argument merged in Spec,TransitionP or below.

This was represented in three particular rules; a couple of further rules accounted for some marginal instances of patientive assignment.

For Georgian, on the other hand, the following analysis was proposed (§5.4):

- (19) [+volition] Volition assigns [Case:AGT] *unless* it selects a [–consecution,+transition] complement.

Again, one further rule was posited to account for a few instances not covered by the above.

This analysis highlighted some substantial similarities between the languages but also a number of differences. While the actual formalisation of the two systems is quite different, superficially they are quite similar: for example, in both languages agentive usually occurs with the subject of [+consecution] verbs ((20a,21a)), and patientive with the subject of [–consecution,+transition] verbs ((20b,21b)):

- (20) Basque

- a. *Gizon-a-k ikasi du.*
man-DEF-**AGT** studied has
‘The man has studied.’
- b. *Gizon-a-Ø hil da.*
man-DEF-**PAT** died is
‘The man died.’

- (21) Georgian:

- a. *Nino-m daamtknara.*
Nino-**AGT** she.yawned
‘Nino yawned.’ (Harris 1981: 40)
- b. *Rezo-Ø gamoizarda.*
Rezo-**PAT** he.grew.up
‘Rezo grew up.’ (Harris 1982: 293)

See the discussion in §5.6 for further comparison. Both similarities and differences were argued to be accountable for in the VICTR approach, in terms of the core feature sets summarised in §6.3. In general terms, both languages take the same core sets as the basis for their patterning, but some verb classes which deviate from the core are dealt with in different ways.

The languages were also considered in light of other approaches. It was argued that they create problems for the traditional Unaccusative Hypothesis, as discussed in §6.3 (see particularly §4.5.1 and §5.7.1). Comparisons were also drawn to the approach of Ramchand (2008); again, I have nothing to add here that was not discussed at the end of §6.3.

6.5 Conclusion to the conclusion

Let me very briefly recapitulate the main contributions of this dissertation. I have presented a new model of the structure of the thematic domain, the VICTR Hierarchy ((1)), which I have

argued allows a better understanding of thematic roles, syntactic argument structure and other phenomena. The VICTR Hierarchy has been supplemented by other theoretical devices, particularly the Generalised Linking Rule ((2)) and an appeal to acquisitional limitations arising from the agentive and patientive core feature sets (various points throughout). I have provided support for the VICTR Hierarchy from a range of empirical phenomena, including new data and analysis: particularly I have focused on split intransitive behaviours, and especially split intransitive case and agreement, in three principal languages (English, Basque and Georgian). I have contributed to the discussion on split intransitive alignment more generally, in these analyses of particular languages and also in more general typological terms, and this has in its turn contributed to the general research domain of case and agreement, including the expansion of existing models of case to account for split intransitive patterns.

Split intransitivity has proven to be an extremely fruitful area of research. Not only are split intransitive phenomena pervasive in human language, the investigation of such patterns has shone light on a wide range of other issues. Yet only a small fraction of the many matters related to split intransitivity have been covered, and the avenues for research in other areas are also opened up: most obviously, the extension of the model proposed to other sorts of clause beyond intransitives. There is much work to be done.

Bibliography

- Adams, J. (2013). *Social Variation and the Latin Language*. Cambridge: Cambridge University Press.
- Addis, K. (1990). Basque as a non-ergative language. Unpublished ms.
- Agha, A. (1993). *Structural Form and Utterance Context in Lhasa Tibetan: Grammar and indexicality in a non-configurational language*. New York: Peter Lang.
- Aikhenvald, A. Y. (1998). Warekena. In D. C. Derbyshire and G. K. Pullum (Eds.), *Handbook of Amazonian Languages 4*, pp. 385–416. Berlin: Mouton de Gruyter.
- Aikhenvald, A. Y. (2003). *A Grammar of Tariana*. Cambridge: Cambridge University Press.
- Alberdi, X. (2003). The transitivity of borrowed verbs in Basque: An outline. In B. Oyharçabal (Ed.), *Inquiries into the Lexical-Syntax Relations in Basque*, pp. 23–46. Bilbao: UPV/EHU.
- Aldai, G. (2006). Is Basque morphologically ergative? The semantic split-intransitive case marking system of Western Basque. In B. Fernandez and I. Laka (Eds.), *Andolin Gogoan: Essays in honour of Professor Eguzkitza*, pp. 783–831. Leioa: UPV/EHU.
- Aldai, G. (2009). Is Basque morphologically ergative?: Western Basque vs. Eastern Basque. *Studies in Language* 33(4), 783–831.
- Aldridge, E. (2004). *Ergativity and Word Order in Austronesian Languages*. Ph. D. thesis, Cornell University.
- Alexiadou, A. (2001). *Functional Structure in Nominals: Nominalization and ergativity*. Amsterdam: John Benjamins.
- Alexiadou, A., E. Anagnostopoulou, and F. Schäfer (2006). The properties of anticausatives crosslinguistically. In M. Frascarelli (Ed.), *Phases of Interpretation*, pp. 187–211. Berlin: Mouton de Gruyter.
- Amorrortu, E. (2003). *Basque Sociolinguistics: Language, society, and culture*. Reno: University of Nevada Press.
- Anderson, S. (1977). On the mechanisms by which languages become ergative. In C. Li (Ed.), *Mechanisms of Syntactic Change*, pp. 317–64. Austin: University of Texas Press.

- Anderson, S. R. (1984). On representations in morphology case, agreement and inversion in Georgian. *Natural Language & Linguistic Theory* 2(2), 157–218.
- Andréasson, D. (2001). Active languages. Undergraduate thesis, Stockholm University.
- Arkadiev, P. M. (2008). Thematic roles, event structure, and argument encoding in semantically aligned languages. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 101–20. Oxford: Oxford University Press.
- Arregi, K. (2004). The *have/be* alternation in Basque. Unpublished ms.
- Artiagoitia, X. (2003). Reciprocal and reflexive constructions. In J. I. Hualde and J. Ortiz de Urbina (Eds.), *A Grammar of Basque*, pp. 607–32. Berlin: Mouton de Gruyter.
- Assmann, A., D. Georgi, F. Heck, G. Müller, and P. Weisser (2015). Ergatives move too early: On an instance of opacity in syntax. *Syntax* 18(4), 343–87.
- Azkarate, M. (1996). *Hiztegia: Euskara-gaztelania / castellano-vasco*. Usurbil: Elhuyar Kultur Elkartea.
- Baker, J. (2013). Theoretical approaches to alignment, with special reference to split/fluid-S systems. Undergraduate thesis, University of Cambridge.
- Baker, M. C. (1988). *Incorporation: A theory of grammatical function changing*. Chicago: University of Chicago Press.
- Baker, M. C. (1997). Thematic roles and syntactic structure. In L. Haegeman (Ed.), *Elements of Grammar*, pp. 73–137. Dordrecht: Kluwer.
- Baker, M. C. (2008). *The Syntax of Agreement and Concord*. Cambridge: Cambridge University Press.
- Baker, M. C. (2015). *Case: Its principles and parameters*. Cambridge: Cambridge University Press.
- Baker, M. C. and J. Bobaljik (2017). On inherent and dependent theories of ergative case. In J. Coon, D. Massam, and L. Travis (Eds.), *The Oxford Handbook of Ergativity*, pp. 759–81. Oxford: Oxford University Press.
- Berro, A. (2010). Unergative predicates in Basque varieties: Consequences for the ergative case assignment. Master's thesis, UPV/EHU.
- Berro, A. (2012). Three levels of root insertion in Basque intransitive verbs. *Journal of Portuguese Linguistics* 11(1), 7–22.
- Berro, A. and R. Etxepare (2017). Ergativity in Basque. In J. Coon, D. Massam, and L. D. Travis (Eds.), *The Oxford Handbook of Ergativity*, pp. 782–806. Oxford: Oxford University Press.

- Biberauer, T. (2017). Factors 2 and 3: A principled approach. *Cambridge Occasional Papers in Linguistics* 10, 38–65.
- Biberauer, T., A. Holmberg, I. Roberts, and M. Sheehan (2013). Complexity in comparative syntax: The view from modern parametric theory. In F. Newmeyer and L. Preston (Eds.), *Measuring Linguistic Complexity*, pp. 46–55. Oxford: Oxford University Press.
- Biberauer, T. and I. Roberts (2016). Parameter typology from a diachronic perspective: The case of Conditional Inversion. In E. Bidese, F. Cognola, and M. C. Moroni (Eds.), *Theoretical Approaches to Linguistic Variation*, pp. 259–92. Amsterdam: John Benjamins.
- Bittner, M. and K. Hale (1996). The structural determination of case and agreement. *Linguistic Inquiry* 27(1), 1–68.
- Blevins, J. P. (2003). Passives and impersonals. *Journal of Linguistics* 39(3), 473–520.
- Bobaljik, J. (1993). On ergativity and ergative unergatives. In C. Phillips (Ed.), *Papers on Case and Agreement II*, Number 19 in MIT Working Papers in Linguistics, pp. 45–88. Cambridge, Mass.
- Bobaljik, J. (2008). Where's phi? Agreement as a post-syntactic operation. In D. Harbour, D. Adger, and S. Béjar (Eds.), *Phi-Theory: Phi features across interfaces and modules*, pp. 295–328. Oxford: Oxford University Press.
- Boeckx, C. (2014). What Principles and Parameters got wrong. In M. C. Picallo (Ed.), *Linguistic Variation in the Minimalist Framework*, pp. 155–78. Oxford: Oxford University Press.
- Borer, H. (1984). *Parametric Syntax*. Berlin: De Gruyter Mouton.
- Borer, H. (2005). *The Normal Course of Events*, Volume 2 of *Structuring Sense*. Oxford: Oxford University Press.
- Bowden, J. (1997). *Taba: Description of a South Halmahera language*. Canberra: Australian National University.
- Bárány, A. (2015). *Differential Object Marking in Hungarian and the Morphosyntax of Case and Agreement*. Ph. D. thesis, University of Cambridge.
- Bárány, A. (2017). *Person, Case, and Agreement: The morphosyntax of inverse agreement and global case splits*. Oxford: Oxford University Press.
- Burzio, L. (1981). *Intransitive Verbs and Italian Auxiliaries*. Ph. D. thesis, Massachusetts Institute of Technology.
- Burzio, L. (1986). *Italian Syntax: A government-binding approach*. Dordrecht: Kluwer.

- Cheng, L. S. and H. Demirdache (1993). External arguments in Basque. In J. I. Hualde and J. O. de Urbina (Eds.), *Generative Studies in Basque Linguistics*, pp. 125–39. Amsterdam: John Benjamins.
- Cherchi, M. (1997). *Modern Georgian Morphosyntax*. Wiesbaden: Harrassowitz.
- Chomsky, N. (1970). Remarks on nominalization. In R. A. Jacobs and P. S. Rosenbaum (Eds.), *Readings in English Transformational Grammar*, pp. 184–221. Boston: Ginn.
- Chomsky, N. (1981). *Lectures on Government and Binding*. Dordrecht: Foris Publications.
- Chomsky, N. (1986). *Knowledge of Language*. New York: Praeger.
- Chomsky, N. (1995). *The Minimalist Program*. Cambridge, Mass.: MIT Press.
- Chomsky, N. (2000). Minimalist inquiries: The framework. In R. Martin, D. Michaels, and J. Uriagereka (Eds.), *Step by Step: Essays on minimalist syntax in honor of Howard Lasnik*, pp. 89–115. Cambridge, Mass.: MIT Press.
- Chomsky, N. (2001). Derivation by phase. In M. Kenstowicz (Ed.), *Ken Hale: A life in language*, pp. 1–52. Cambridge, Mass.: MIT Press.
- Cinque, G. (1999). *Adverbs and Functional Heads: A cross-linguistic perspective*. Oxford: Oxford University Press.
- Cinque, G. (2002a). *Functional Structure in DP and IP*, Volume 1 of *The Cartography of Syntactic Structures*. Oxford: Oxford University Press.
- Cinque, G. (2002b). Mapping functional structure: A project. In G. Cinque (Ed.), *Functional Structure in DP and IP*, Volume 1 of *The Cartography of Syntactic Structures*, pp. 3–11. Oxford: Oxford University Press.
- Cinque, G. and L. Rizzi (2009). The cartography of syntactic structures. In B. Heine and H. Narrog (Eds.), *The Oxford Handbook of Linguistic Analysis*, pp. 65–78. Oxford: Oxford University Press.
- Clark, R. (1990). *Thematic Theory in Syntax and Interpretation*. London: Routledge.
- Comrie, B. (1978). Ergativity. In W. P. Lehmann (Ed.), *Syntactic Typology: Studies in the phenomenology of language*, pp. 329–94. Austin: University of Texas Press.
- Comrie, B. (2013). Alignment of case marking of full noun phrases. In M. S. Dryer and M. Haspelmath (Eds.), *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology.
- Conrad, R. J. (1991). *An Outline of Bukiyip Grammar*. Canberra: Australian National University.

- Coon, J. (2010). *Complementation in Chol (Mayan): A theory of split ergativity*. Ph. D. thesis, Massachusetts Institute of Technology.
- Coon, J. (2013). *Aspects of Split Ergativity*. Oxford: Oxford University Press.
- Coon, J. (2016). Little v agreement: Evidence from Mayan. In *CLS 50: Proceedings of the 50th Meeting of the Chicago Linguistics Society*.
- Coon, J. (2017). Little v⁰ agreement and templatic morphology in Chol. *Syntax* 20(2), 101–37.
- Coon, J. and O. Preminger (2017). Split ergativity is not about ergativity. In J. Coon, D. Massam, and L. Travis (Eds.), *The Oxford Handbook of Ergativity*, pp. 226–252. Oxford: Oxford University Press.
- Corbett, G. (2006). *Agreement*. Cambridge: Cambridge University Press.
- Cowan, M. M. (1969). *Tzotzil Grammar*. Norman, Oklahoma: Summer Institute of Linguistics.
- Creissels, D. (2008). Remarks on split intransitivity and fluid intransitivity. In O. Bonami and P. Cabredo Hofherr (Eds.), *Empirical Issues in Syntax and Semantics* 7, pp. 139–68.
- Dahlstrom, A. (1983). Agent-patient languages and split case marking systems. In *Proceedings of the Ninth Annual Meeting of the Berkeley Linguistics Society*, pp. 37–46.
- Danielsen, S. and T. Granadillo (2008). Agreement in two Arawak languages: Baure and Kuripako. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 396–411. Oxford: Oxford University Press.
- Davison, A. (2014). Non-finite complements and modality in *de-na* ‘allow’ in Hindi-Urdu. *Natural Language and Linguistic Theory* 32(1), 137–54.
- de Rijk, R. P. G. (1996). On the origin of the partitive determiner. *Anuario del Seminario de Filología Vasca* 30(1), 145–58.
- de Rijk, R. P. G. (2008). *Standard Basque: A progressive grammar*. Cambridge, Mass.: MIT Press.
- Deal, A. R. and C. O’Connor (2010). The perspectival basis of fluid-S case-marking in Northern Pomo. In S. Lima (Ed.), *Proceedings of the Fifth Conference on the Semantics of Underrepresented Languages in the Americas*, Amherst, pp. 173–188. GLSA.
- Denwood, P. (1999). *Tibetan*. Amsterdam: John Benjamins.
- Dixon, R. M. W. (1972). *The Dyirbal language of North Queensland*. Cambridge: Cambridge University Press.
- Dixon, R. M. W. (1979). Ergativity. *Language* 55(1), 59–138.
- Dixon, R. M. W. (1994). *Ergativity*. Cambridge: Cambridge University Press.

- Donohue, M. (2001). Split intransitivity and Saweru. *Oceanic Linguistics* 40(2), 291–306.
- Donohue, M. (2008). Semantic alignment systems: what’s what, and what’s not. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 24–75. Oxford: Oxford University Press.
- Donohue, M. and S. Wichmann (2008). *The Typology of Semantic Alignment*. Oxford: Oxford University Press.
- Doron, E. and G. Khan (2012). The typology of morphological ergativity in Neo-Aramaic. *Lingua* 122(3), 225–40.
- Dowty, D. (1979). *Word Meaning and Montague Grammar*. Dordrecht: Reidel.
- Dowty, D. (1991). Thematic proto-roles and argument selection. *Language* 67(3), 547–619.
- Dryer, M. S. and M. Haspelmath (Eds.) (2013). *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology.
- Durie, M. (1985). *A Grammar of Acehnese on the Basis of a Dialect of North Aceh*. Dordrecht: Foris Publications.
- Embick, D. and R. Noyer (2007). Distributed Morphology and the syntax-morphology interface. In G. Ramchand and C. Reiss (Eds.), *The Oxford Handbook of Linguistic Interfaces*, pp. 289–324. Oxford: Oxford University Press.
- Etxepare, R. (2003). Valency and argument structure in the Basque verb. In J. I. Hualde and J. Ortiz de Urbina (Eds.), *A Grammar of Basque*, pp. 363–465. Berlin: Mouton de Gruyter.
- Fernández, B. (1997). *Egiturazko Kasuaren Erkaketa Euskaraz*. Bilbao: UPV/EHU.
- Fillmore, C. J. (1968). The case for case. In E. Emmon Bach and R. Harms (Eds.), *Universals in Linguistic Theory*, pp. 1–89. Berlin: Holt, Rinehart, and Winston.
- Folli, R. and H. Harley (2004). Flavors of v: Consuming results in Italian and English. In R. Slabakova and P. Kempchinsky (Eds.), *Aspectual Inquiries*, pp. 95–120. Dordrecht: Kluwer.
- Frank, P. (1990). *Ika Syntax*. Arlington: Summer Institute of Linguistics and The University of Texas at Arlington.
- Franklin, K. J. (1971). *A Grammar of Kewa, New Guinea*. Canberra: Australian National University.
- Giorgi, A. and F. Pianesi (1997). *Tense and Aspect: From semantics to morphosyntax*. Oxford: Oxford University Press.
- Gregores, E. and J. A. Suárez (1967). *A Description of Colloquial Guaraní*. The Hague: Mouton and Co.

- Grimshaw, J. (1990). *Argument Structure*. Cambridge, Mass.: MIT Press.
- Gutiérrez Sánchez, P. (2004). Las clases de verbos intransitivos y el alineamiento agentivo en el Chol de Tila, Chiapas. Master's thesis, CIESAS.
- Hale, K. and S. J. Keyser (1993). On argument structure and the lexical expression of syntactic relations. In K. Hale and S. J. Keyser (Eds.), *The View from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, pp. 53–109. Cambridge, Mass.: MIT Press.
- Hale, K. and S. J. Keyser (2002). *Prolegomenon to a Theory of Argument Structure*. Cambridge, Mass.: MIT Press.
- Harris, A. C. (1981). *Georgian Syntax*. Cambridge: Cambridge University Press.
- Harris, A. C. (1982). Georgian and the Unaccusative Hypothesis. *Language* 58(2), 290–306.
- Harris, A. C. (1985). *Diachronic Syntax: The Kartvelian case*. Orlando: Academic Press.
- Harris, A. C. (2002). *Endoclititics and the Origins of Udi Morphosyntax*. Oxford: Oxford University Press.
- Harris, A. C. and L. Campbell (1995). *Historical Syntax in Cross-linguistic Perspective*. Cambridge: Cambridge University Press.
- Haspelmath, M. (1993). *A Grammar of Lezgian*. Berlin: Mouton de Gruyter.
- Hendrick, R. (2004). Syntactic labels and their derivations. Unpublished ms.
- Hewitt, B. G. (1995). *Georgian: A structural reference grammar*. Amsterdam: John Benjamins.
- Hoekstra, T. (1988). Small clause results. *Lingua* 74(1), 101–39.
- Holisky, D. A. (1979). On lexical aspect and verb classes in Georgian. In *Chicago Linguistic Society Parasession on the Elements/Non-Slavic Languages of the USSR*, Chicago, pp. 390–401. Chicago Linguistic Society.
- Holisky, D. A. (1981). *Aspect and Georgian Medial Verbs*. Delmar: Caravan Books.
- Holisky, D. A. (1987). The case of the intransitive subject in Tsova-Tush (Batsbi). *Lingua* 71(1–4), 103–32.
- Holmer, A. (1999). An active analysis of Basque ergativity. *Fontes Linguae Vasconum* 31(81), 189–226.
- Holton, G. (2008). The emergence of stative-active systems in North Halmahera, Indonesia. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 252–76. Oxford: Oxford University Press.
- Hornstein, N. (1999). Movement and control. *Linguistic Inquiry* 30(1), 69–96.

- Hualde, J. I., B. Oyharçabal, and J. Ortiz de Urbina (2003). Verbs. In J. I. Hualde and J. Ortiz de Urbina (Eds.), *A grammar of Basque*, pp. 155–98. Berlin: Mouton de Gruyter.
- Hurd, C. and P. Hurd (1970). Nasioi verbs. *Oceanic Linguistics* 9(1), 37–78.
- Irube, K. (1984). Argument structure and the *out*-prefixation. *English Linguistics* 1(1), 105–22.
- Jackendoff, R. (1972). *Semantic Interpretation in Generative Grammar*. Cambridge, Mass.: MIT Press.
- Johns, A. (1992). Deriving ergativity. *Linguistic Inquiry* 23(1), 57–87.
- Jones, L. K. (1986). The question of ergativity in Yawa, a Papuan language. *Australian Journal of Linguistics* 6(1), 37–56.
- Kaschube, D. V. (1967). *Structural Elements of the Language of the Crow Indians of Montana*. Boulder: University of Colorado Press.
- Kayne, R. S. (1993). Toward a modular theory of auxiliary selection. *Studia Linguistica* 47(1), 3–31.
- Kayne, R. S. (1994). *The Antisymmetry of Syntax*. Cambridge, Mass.: MIT Press.
- Keller, F. and A. Sorace (2003). Gradient auxiliary selection and impersonal passivization in German: An experimental investigation. *Journal of Linguistics* 39(1), 57–108.
- Kennard, E. (1936). Mandan grammar. *International Journal of American Linguistics* 9(1), 1–43.
- Keyser, S. J. and T. Roeper (1984). On the middle and ergative constructions in English. *Linguistic Inquiry* 15(3), 381–416.
- Khanina, O. (2008). Intransitive split in Tundra Nenets, or how much semantics can hide behind syntactic alignment. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 162–96. Oxford: Oxford University Press.
- Kibrik, A. E. (1985). Towards a typology of ergativity. In J. Nichols and A. C. Woodbury (Eds.), *Grammar Inside and Outside the Clause*, pp. 268–324. Cambridge: Cambridge University Press.
- Kibrik, A. E. (1997). Beyond subject and object: Toward a comprehensive relational typology. *Linguistic Typology* 1(3), 279–346.
- Kimball, G. D. (1991). *Koasati Grammar*. Lincoln, Nebraska: University of Nebraska Press.
- Kiparsky, P. (1998). Partitive case and aspect. In M. Butt and W. Geuder (Eds.), *The Projection of Arguments*, pp. 265–308. Stanford: CSLI Publications.
- Klaiman, M. (1991). *Grammatical Voice*. Cambridge: Cambridge University Press.

- Klamer, M. (2008). The semantics of semantic alignment in eastern Indonesia. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 221–51. Oxford: Oxford University Press.
- Koopman, H. (2012). Samoan ergativity as double passivization. In L. Bruge, A. Cardinaletti, G. Giusti, N. Monera, and C. Poletto (Eds.), *Functional Heads*, Volume 7 of *The Cartography of Syntactic Structures*, pp. 168–80. Oxford: Oxford University Press.
- Kratzer, A. (1996). Severing the external argument from its verb. In J. Rooryck and L. Zaring (Eds.), *Phrase Structure and the Lexicon*, pp. 109–37. Dordrecht: Kluwer.
- Laidig, W. D. (1993). Insights from Lariké possessive constructions. *Oceanic Linguistics* 32(1), 312–51.
- Laka, I. (1993). Unergatives that assign ergative, unaccusatives that assign accusative. In J. Bobaljik and C. Phillips (Eds.), *Papers on Case and Agreement I*, Number 18 in MIT Working Papers in Linguistics, pp. 149–72.
- Laka, I. (2006a). Deriving split ergativity in the progressive: The case of Basque. In A. Johns, D. Massam, and J. Ndayiragije (Eds.), *Ergativity: Emerging issues*, pp. 173–95. Dordrecht: Springer.
- Laka, I. (2006b). On the nature of case in Basque: Structural or inherent? In H. Broekhuis, N. Corver, J. Koster, R. Huybregts, and U. Kleinhenz (Eds.), *Organizing Grammar*, pp. 374–82. Berlin: Mouton de Gruyter.
- Laka, I. (2017). Ergative *need* not split: An exploration into the *TotalErg* hypothesis. In J. Coon, D. Massam, and L. Travis (Eds.), *The Oxford Handbook of Ergativity*, pp. 159–74. Oxford: Oxford University Press.
- Ledgeway, A. (2012). *From Latin to Romance: Morphosyntactic typology and change*. Oxford: Oxford University Press.
- Legate, J. A. (2002). *Warlpiri: Theoretical implications*. Ph. D. thesis, Massachusetts Institute of Technology.
- Legate, J. A. (2005). The absence of absolutive case. In J. Alderete, C. Han, and A. Kochetov (Eds.), *Proceedings of the 24th West Coast Conference on Formal Linguistics (WCCFL 21)*, pp. 236–44. Somerville, Mass.: Cascadia Press.
- Legate, J. A. (2008). Morphological and abstract case. *Linguistic Inquiry* 39(1), 55–101.
- Legendre, G. (2007). Optimizing auxiliary selection in Romance. In R. Aronovich (Ed.), *Split Auxiliary Systems: A cross-linguistic perspective*, pp. 145–80. Amsterdam: John Benjamins.

- Legendre, G. and D. S. Rood (1992). The interaction of grammar components in Lakhóta: Evidence from split intransitivity. In *Proceedings of the Eighteenth Annual Meeting of the Berkeley Linguistics Society: General session and parasession on the place of morphology in a grammar*, pp. 380–94.
- Levin, B. (1993). *English Verb Classes and Alternations: A preliminary investigation*. Chicago: University of Chicago Press.
- Levin, B. and M. Rappaport (1986). The formation of adjectival passives. *Linguistic Inquiry* 17(4), 623–61.
- Levin, B. and M. Rappaport Hovav (1995). *Unaccusativity: At the syntax-lexical semantics interface*. Cambridge, Mass.: MIT Press.
- Levin, B. C. (1983). *On the Nature of Ergativity*. Ph. D. thesis, Massachusetts Institute of Technology.
- Lewis, M. P., G. F. Simons, and C. D. Fennig (2016). *Ethnologue: Languages of the world* (19th ed.). Dallas, Texas: SIL International.
- Li, C. (2007). Split ergativity and split intransitivity in Nepali. *Lingua* 117(8), 462–82.
- Li, C. N. and S. A. Thompson (1981). *Mandarin Chinese: A functional reference grammar*. Berkeley: University of California Press.
- Liu, F.-h. (2007). Auxiliary selection in Chinese. In R. Aranovich (Ed.), *Split Auxiliary Systems: A cross-linguistic perspective*, pp. 181–205. Amsterdam: John Benjamins.
- Lounsbury, F. (1953). *Oneida Verb Morphology*. New Haven: Yale University.
- Malchukov, A. (2008). Split intransitives, experiencer objects, and 'transimpersonal' constructions: (re-)establishing the connection. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 76–100. Oxford: Oxford University Press.
- Manning, C. (1996). *Ergativity: Argument structure and grammatical relations*. Stanford: CSLI Publications.
- Marantz, A. (1984). *On the Nature of Grammatical Relations*. Cambridge, Mass.: MIT Press.
- Marantz, A. (1991). Case and licensing. In G. Westphal, B. Ae, and H.-R. Chae (Eds.), *Proceedings of ESCOL '91*, pp. 11–30. Ithaca, N.Y.: Cornell Linguistics Club.
- Marantz, A. (1992). The way-construction and the semantics of direct arguments in English: A reply to Jackendoff. In T. Stowell and E. Wehrli (Eds.), *Syntax and Semantics*, Volume 26, pp. 179–88. New York: Academic Press.
- Marantz, A. (2013). Verbal argument structure: Events and participants. *Lingua* 130, 152–168.

- Massam, D. (1990). Cognate objects as thematic objects. *Canadian Journal of Linguistics* 35(2), 161–90.
- McCawley, J. D. (1968). Lexical insertion in a transformational grammar without deep structure. In B. J. Darden (Ed.), *Papers from the Fourth Regional Meeting of the Chicago Linguistic Society*, Chicago, pp. 71–80. University of Chicago.
- McFadden, T. (2007). Auxiliary selection. *Language and Linguistics Compass* 1(6), 674–708.
- McFadden, T. and A. Alexiadou (2010). Perfects, resultatives, and auxiliaries in Earlier English. *Linguistic Inquiry* 41(3), 389–425.
- McLendon, S. (1978). Ergativity, case and transitivity in Eastern Pomo. *International Journal of American Linguistics* 44(1), 1–9.
- Merlan, F. (1985). Split intransitivity: Functional oppositions in intransitive inflection. In J. Nichols and A. C. Woodbury (Eds.), *Grammar Inside and Outside the Clause*, pp. 324–62. Cambridge: Cambridge University Press.
- Miller, W. R. (1965). *Acoma Grammar and Texts*, Volume 40. Berkeley: University of California Press.
- Mithun, M. (1991). Active/agentive case marking and its motivations. *Language* 67(3), 510–46.
- Mithun, M. (1999). *The Languages of Native North America*. Cambridge: Cambridge University Press.
- Mithun, M. (2008). The emergence of agentive systems in core argument marking. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 297–334. Oxford: Oxford University Press.
- Müller, G. (2009). Ergativity, accusativity and the order of Merge and Agree. In K. K. Grohmann (Ed.), *Explorations of Phase Theory: Features and arguments*, pp. 269–308. Berlin: Mouton de Gruyter.
- Montrul, S. (2005). On knowledge and development of unaccusativity in Spanish L2 acquisition. *Linguistics* 43(6), 1153–90.
- Nash, L. (1995). *Portée argumentale et marquage casuel dans les langues SOV et dans les langues ergatives: L'exemple du géorgien*. Ph. D. thesis, University of Paris VIII.
- Nash, L. (2017). The structural source of split ergativity and ergative case in Georgian. In J. Coon, D. Massam, and L. Travis (Eds.), *The Oxford Handbook of Ergativity*, pp. 175–204. Oxford: Oxford University Press.
- Nichols, J. (1992). *Linguistic Diversity in Space and Time*. Chicago: University of Chicago Press.

- Nichols, J. (2008). Why are stative-active languages rare in Eurasia? A typological perspective on split-subject marking. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 121–39. Oxford: Oxford University Press.
- Ortiz de Urbina, J. (1989). *Parameters in the Grammar of Basque: A GB approach to Basque syntax*. Dordrecht: Foris Publications.
- Ortiz de Urbina, J. (2003). Impersonal clauses. In J. I. Hualde and J. Ortiz de Urbina (Eds.), *A Grammar of Basque*, pp. 572–91. Berlin: Mouton de Gruyter.
- Oyharçabal, B. (2003). Lexical causatives and causative split-subject marking. In B. Oyharçabal (Ed.), *Inquiries into the Syntax-Lexicon Relations in Basque*, pp. 223–52. Bilbao: University of the Basque Country.
- Oyharçabal, B. n. (1992). Structural case and inherent case marking: Ergaccusativity in Basque. In J. A. Lakarra and J. Ortiz de Urbina (Eds.), *Syntactic Theory and Basque Syntax*, pp. 309–42. Donostia: Gipuzkoako Diputazioa.
- Palancar, E. L. (2008). The emergence of the active/stative alignment in Otomi. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 357–379. Oxford: Oxford University Press.
- Palmer, F. R. (1994). *Grammatical Roles and Relations*. Cambridge: Cambridge University Press.
- Payne, D. L. (1990). *The Pragmatics of Word Order: Typological dimensions of verb initial languages*. Berlin: Mouton de Gruyter.
- Payne, T. E. (1997). *Describing Morphosyntax: A guide for field linguists*. Cambridge: Cambridge University Press.
- Perlmutter, D. M. (1978). Impersonal passives and the Unaccusative Hypothesis. In *Proceedings of the 4th Annual Meeting of the Berkeley Linguistics Society*, pp. 157–90.
- Perlmutter, D. M. (1989). Multiattachment and the Unaccusative Hypothesis: Auxiliary selection in Italian. *Probus* 1(1), 63–120.
- Pesetsky, D. (2011). Dependent case as binding theory. Paper presented at the 42nd Annual Meeting of the North Eastern Linguistics Society.
- Postal, P. M. (1970). On the surface verb ‘remind’. *Linguistic Inquiry* 1(1), 37–120.
- Potashnik, J. (2012). Emission verbs. In M. Everaert, M. Marelj, and T. Siloni (Eds.), *The Theta System: Argument structure at the interface*, pp. 251–78. Oxford: Oxford University Press.
- Preminger, O. (2012). The absence of an implicit object in unergatives: New and old evidence from basque. *Lingua* 122(3), 278–88.

- Primus, B. (1999). *Cases and Thematic Roles: Ergative, accusative and active*. Tübingen: Max Niemeyer Verlag.
- Pustejovsky, J. (1991). The syntax of event structure. *Cognition* 41(1), 47–81.
- Pustet, R. (2002). Split intransitivity revisited: Comparing Lakota and Osage. *International Journal of American Linguistics* 68(4), 381–427.
- Radkevich, N. (2016). Deverbal nominalizations in Lak and case licensing. Paper presented at Cambridge Comparative Syntax (CamCoS) 5, 6 May 2016.
- Ramchand, G. (2008). *Verb Meaning and the Lexicon: A first phase syntax*. Cambridge: Cambridge University Press.
- Ramchand, G. (2018). Alternating adjectives. *The Linguistic Review* 35(2), 283–306.
- Rappaport Hovav, M. (2008). Lexicalized meaning and the internal temporal structure of events. In S. Rothstein (Ed.), *Crosslinguistic and Theoretical Approaches to the Semantics of Aspect*, pp. 13–42. Amsterdam: John Benjamins.
- Rayfield, D., S. Apridonze, A. Chanturia, R. Amirejibi, L. Broers, L. Chkhaidze, and T. Margalitadze (2006). *A Comprehensive Georgian-English Dictionary*. London: Garnett Press.
- Rebuschi, G. (2004). Basque from a typological, dialectological and diachronic point of view. In T. Roelcke (Ed.), *Variation Typology*, pp. 837–65. Berlin: Walter de Gruyter.
- Reinhart, T. (2002). The theta system—an overview. *Theoretical Linguistics* 28(3), 229–90.
- Rezac, M., P. Albizu, and R. Etxepare (2014). The structural ergative of Basque and the theory of Case. *Natural Language and Linguistic Theory* 32(4), 1273–1330.
- Rice, K. (1991). Intransitives in Slave (Northern Athapaskan): Arguments for unaccusatives. *International Journal of American Linguistics* 57(1), 51–69.
- Rizzi, L. (1990). *Relativized Minimality*. Cambridge, Mass.: MIT Press.
- Rizzi, L. (1997). The fine structure of the left periphery. In L. Haegeman (Ed.), *Elements of Grammar*, pp. 281–337. Dordrecht: Kluwer.
- Roberts, I. (2007). *Diachronic Syntax*. Cambridge: Cambridge University Press.
- Roberts, I. (2010a). *Agreement and Head Movement: Clitics, incorporation, and defective goals*. Cambridge, Mass.: MIT Press.
- Roberts, I. (2010b). The Final-over-Final Constraint and the realisation of argument structure. Unpublished ms.

- Roberts, I. and A. Holmberg (2010). Introduction: Parameters in minimalist theory. In T. Biberauer, A. Holmberg, I. Roberts, and M. Sheehan (Eds.), *Parametric Variation: Null subjects in minimalist theory*, pp. 1–57. Cambridge: Cambridge University Press.
- Robinett, F. M. (1955). Hidatsa 2: affixes. *International Journal of American Linguistics* 21(2), 160–77.
- Rood, D. S. (1976). *Wichita Grammar*. New York: Garland.
- Rosen, C. G. (1984). The interface between semantic roles and initial grammatical relations. In D. M. Perlmutter and C. G. Rosen (Eds.), *Studies in Relational Grammar* 2, pp. 38–77. Chicago: University of Chicago Press.
- Rothstein, S. (2004). *Structuring Events: A study in the semantics of aspect*. Oxford: Blackwell.
- Salaburu, P. (1992). Euskara, hizkuntza ergatiboa ote da? In J. H. Duhalde (Ed.), *Luis Villasanteri omenaldia*, pp. 417–33. Bilbao: Euskaltzaindia.
- Saltarelli, M. (1988). *Basque*. London: Croom Helm.
- Samely, U. (1991). *Kedang (Eastern Indonesia): Some aspects of its grammar*. Hamburg: Buske.
- Schäfer, F. (2009). The causative alternation. *Languages and Linguistics Compass* 3(2), 641–81.
- Schoorlemmer, M. (2004). Syntactic unaccusativity in Russian. In A. Alexiadou, E. Anagnostopoulou, and M. Everaert (Eds.), *The Unaccusativity Puzzle: Explorations of the syntax-lexicon interface*, pp. 207–42. Oxford: Oxford University Press.
- Seiler, W. (1985). *Imonda, a Papuan Language*. Canberra: Australian National University.
- Sheehan, M. (2014). Towards a parameter hierarchy for alignment. In R. E. Santana-LaBarge (Ed.), *Proceedings of the 31st West Coast Conference on Formal Linguistics (WCCFL 31)*, pp. 399–408. Somerville, Mass.: Cascadia Press.
- Sheehan, M. (2015). Case. Ergative languages. In A. Fábregas, J. Mateu, and M. T. Putnam (Eds.), *Contemporary Linguistic Parameters*, pp. 47–52. London: Bloomsbury.
- Sheehan, M. (2017). Parameterising ergativity: An inherent case approach. In J. Coon, D. Massam, and L. Travis (Eds.), *The Oxford Handbook of Ergativity*, pp. 59–85. Oxford: Oxford University Press.
- Siewierska, A. (2013a). Alignment of verbal person marking. In M. S. Dryer and M. Haspelmath (Eds.), *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology.
- Siewierska, A. (2013b). Verbal person marking. In M. S. Dryer and M. Haspelmath (Eds.), *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology.

- Skopeteas, S., G. Fanselow, and R. Asatiani (2012). Case inversion in Georgian: Syntactic properties and sentence processing. In M. Lamers and H. de Swart (Eds.), *Case, Word Order and Prominence*, pp. 145–71. Dordrecht: Springer.
- Smith, C. S. (1991). *The Parameter of Aspect*. Dordrecht: Kluwer.
- Sorace, A. (2000). Gradients in auxiliary selection with intransitive verbs. *Language* 76(4), 859–90.
- Sorace, A. (2004). Gradience at the lexicon-syntax interface: Evidence from auxiliary selection and implications for unaccusativity. In A. Alexiadou, E. Anagnostopoulou, and M. Everaert (Eds.), *The Unaccusativity Puzzle: Explorations of the syntax-lexicon interface.*, pp. 243–68. Oxford: Oxford University Press.
- Tenny, C. L. (1987). *Grammaticalizing Aspect and Affectedness*. Ph. D. thesis, Massachusetts Institute of Technology.
- Trask, R. L. (1979). On the origins of ergativity. In F. Plank (Ed.), *Ergativity: Towards a theory of grammatical relations*, pp. 385–404. New York: Academic Press.
- Trask, R. L. (1997). *The History of Basque*. Abingdon: Routledge.
- Tsudika, N. (2008). Verb classification in Amis. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 277–296. Oxford: Oxford University Press.
- Uribe-Etxebarria, M. (1989). Some notes on the structure of IP in Basque. Unpublished ms.
- Vajda, A. (2008). Losing semantic alignment: From Proto-Yeniseic to modern Ket. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 140–61. Oxford: Oxford University Press.
- van Craenenbroeck, J. (2009). Alternatives to cartography: an introduction. In J. van Craenenbroeck (Ed.), *Alternatives to Cartography*, pp. 1–14. Berlin: Mouton de Gruyter.
- Van Valin, R. D. (1990). Parameters of split intransitivity. *Language* 66(2), 221–60.
- Velázquez-Castillo, M. (2002). Transitivity and grammatical relations in active systems: The case of Guaraní. *Functions of Language* 9(2), 133–67.
- Vendler, Z. (1957). Verbs and times. *The Philosophical Review* 66(2), 143–60.
- Vidal, A. (2008). Semantic motivations of Pilagá subject-marking. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 412–30. Oxford: Oxford University Press.
- Wali, K. and N. Koul (1997). *Kashmiri*. London: Routledge.

- Wichmann, S. (2008). The study of semantic alignment: Retrospect and state of the art. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*, pp. 3–23. Oxford: Oxford University Press.
- Wiltschko, M. (2014). *The Universal Structure of Categories: Towards a formal typology*. Cambridge: Cambridge University Press.
- Woolford, E. (2000). Ergative agreement systems. *University of Maryland Working Papers in Linguistics* 10, 157–91.
- Woolford, E. (2006a). Case-agreement mismatches. In C. Boeckx (Ed.), *Agreement Systems*, pp. 317–39. Amsterdam: John Benjamins.
- Woolford, E. (2006b). Lexical case, inherent case and argument structure. *Linguistic Inquiry* 37(1), 111–30.
- Woolford, E. (2010). Active-stative agreement in Choctaw and Lakota. *ReVel* 8(1), 6–46.
- Woolford, E. (2015). Ergativity and transitivity. *Linguistic Inquiry* 46(3), 489–531.
- Yang, C. (2016). *The Price of Linguistic Productivity: How children learn to break the rules of language*. Cambridge, Mass.: MIT Press.
- Zaenen, A. (1988). Unaccusative verbs in Dutch and the syntax-semantics interface. *CSLI Reports* 123, 88–123.
- Zhang, J. (2009). A review on the analyses of resultative constructions in English and Chinese. *HKBU Papers in Applied Language Studies* 13, 120–52.
- Zwart, J.-W. (2002). Issues relating to a derivational theory of binding. In S. D. Epstein and T. D. Seely (Eds.), *Derivation and Explanation in the Minimalist Program*, pp. 269–304. Oxford: Blackwell.

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