

THE SEMANTICS OF GRAMMATICAL ASPECT:
EVIDENCE FROM SCOTTISH GAELIC

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Sylvia L. Reed

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As members of the Dissertation Committee, we certify that we have read the dissertation prepared by Sylvia L. Reed entitled The Semantics of Grammatical Aspect: Evidence from Scottish Gaelic and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy

Andrew Carnie Date: 11/10/11

Heidi Harley Date: 11/10/11

Andrew Barss Date: 11/10/11

Bridget Copley Date: 11/10/11

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.
I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Dissertation Director: Andrew Carnie Date: 11/10/11

Dissertation Director: Heidi Harley Date: 11/10/11

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The author of an atrocious undertaking ought to imagine that he has already accomplished it, ought to impose upon himself a future as irrevocable as the past.

–Jorge Luis Borges, “The Garden of Forking Paths”
Translated by Donald A. Yates

An atrocious undertaking like a dissertation does not happen without the help of numerous individuals, many of whom may well end up more pleased to see it completed than even the author herself. I am extremely fortunate to have had at my side throughout this process a truly inimitable collection of family members, friends, and colleagues. This short mention is not nearly enough to demonstrate the debt of gratitude I owe them. I know I will manage to miss important individuals in this list, so please forgive me should you happen to be one of those people.

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DEDICATION

To Mom and Ja, who led by example

and

Do Mhuriel—tapadh leat

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LIST OF SYMBOLS AND ABBREVIATIONS

?	marginal
??	strongly marginal
*	ungrammatical
#	anomalous/unavailable reading
✓	grammatical/acceptable (to show contrast with an ungrammatical or marginal sentence)
()	sequence is optional
(*)	sequence is not possible (must be excluded)
*()	sequence is not optional (cannot be excluded)
<	fully precedes
⋖	fully precedes or reaches
>	fully succeeds/is fully subsequent to
⋗	fully succeeds or reaches
⊂	is contained in (proper subset)
⊆	is contained in or is identical to (subset)
⊃	is contained by (proper superset)
⊇	is contained by or is identical to (superset)
⊨	entails
⊭	does not entail
[[]]	the valuation function
∈	is an element of
<	is less than
>	is greater than
∃	the existential quantifier
∀	the universal quantifier
τ _e	the runtime function
t _i	a time <i>t</i> , type <i>i</i>
x _e	an individual <i>x</i> , type <i>e</i>
e _v	an eventuality <i>e</i> , type <i>v</i>
(1, 0)	truth values ([true], [false])
<i>	the type of times
<e>	the type of individuals
<v>	the type of eventualities
<t>	the type of truth values
ε _c	a contextually-determined small number
1, 2, 3	first, second, third persons
A'	imperfective aspect marker
A' DOL DO	regular prospective aspect marker <i>a' dol do</i> ('going to')
ADV	adverbializer
AIR	regular perfect aspect marker <i>air</i> ('on')

LIST OF SYMBOLS AND ABBREVIATIONS – *Continued*

AS DÈIDH	restricted perfect aspect marker <i>as dèidh</i> ('after')
COMPAR	comparative
COND	conditional
COP	copula
DAT	dative
DECL_COMP	declarative complementizer
DEP	"dependent" verb form
DIST	distal (<i>far</i>)
EMPH	emphatic
F	feminine gender
FUT	future verb
GEN	genitive
GU	restricted prospective aspect marker <i>gu</i> ('about to')
IMPFV	imperfective aspect
M	masculine gender
MED	medial marker (<i>middle</i>)
NEG_COMP	negative complementizer
P	plural number
PART	particle
PASS	passive voice
PAST	past tense
PFV	perfective aspect
POSS	possessive
PRES	present tense
PROX	proximal marker (<i>close</i>)
Q	question particle
REL_FUT	relative future verb form
S	singular number
SG	Scottish Gaelic
VN	verbal noun form
WH_COMP	wh- complementizer

ABSTRACT

This dissertation presents a theory of grammatical aspect in which perfects and prospectives form a sub-group separate from perfectives and imperfectives. I claim that aspects in this sub-group display a number of similar semantic and syntactic behaviors because of the way in which they relate event and reference times. While perfectives and imperfectives situate these times in inclusion relations, perfects and prospectives separate event time from reference time. This effectively creates an interval, homogeneous with respect to the eventuality, that can be interpreted as a state. The separation of the times in these aspects also means that modification of the interval between these times is possible, as is modification by adverbials like *since* that cannot occur with other aspects.

These claims are supported by the morphosyntax and semantics of aspect particles in Scottish Gaelic, with additional data from English. I investigate six particles in Scottish Gaelic, focusing on four I claim to mark various aspects and one I claim to be simply a preposition. I argue that in addition to two *inclusion* aspects, perfective and imperfective (expressed via a synthetic form and by *a'*, respectively), Scottish Gaelic shows four distinctions of *precedence* aspect—two retrospective (*air*, *as dèidh*) and two prospective (*gu*, *a' dol do*). I provide a neo-Reichenbachian analysis of these particles within event semantics. In each case, the particle is an instantiation of an Aspect head that existentially quantifies over an event and places its runtime in a relation to reference time. I also argue that the particle *ann*, which seems to appear with both verbal and nominal material, is not an aspect particle but a preposition. Its appearance in the same linear position as the aspect particles belies its distinct syntactic structure.

Overall, the data indicate the benefit of a view of grammatical aspect in which the basic time relations of reference time *within*, *before*, and *after* event time delineate groups of aspects rather than individual distinctions. This view of aspect is a more cohesive alternative to one in which aspects that may actually be very similar are taken to exist in separate categories.

CHAPTER 1

INTRODUCTION

‘But,’ said the Medical Man, staring hard at a coal in the fire, ‘if Time is really only a fourth dimension of Space, why is it, and why has it always been, regarded as something different? And why cannot we move in Time as we move about in the other dimensions of Space?’

–H.G. Wells, *The Time Machine* (1898)

1.1 When is a preposition more than just a preposition?

Grammatical aspect appears in many ways across languages. Some languages make many distinctions of aspect; others conflate it with tense; and still others have very few if any grammatical markers for it. Tense can be (pre-theoretically) thought of as marking out on a timeline the time at which an event described by a predicate took place (or is taking place, or will take place). Lexical aspect (or *Aktionsart*) is generally a property of verbs and verb phrases, and involves notions of natural endpoints (telicity) and whether an event is seen as drawn out in time or not (duration). Grammatical aspect, on the other hand, is the name given to distinctions that say something about the configuration of the time the event took place—whether it happened before, during, or after the time you’re discussing; whether it happened over and over again or at regular intervals, etc. In this dissertation, I discuss perfect, prospective, imperfective, perfective, and progressive aspects. I will define what I mean by these aspects in section 1.4, but roughly, these aspects are exemplified by the following English sentences (all in the past tense):

(1) I had eaten a sandwich. (perfect)

(2) I was going to/about to eat a sandwich (prospective)

(3) I ate a sandwich. (perfective)

(4) I was eating a sandwich. (progressive)

Progressive is a type of imperfective aspect that is only used for eventive verbs. So, for instance, (5) is not acceptable as a way to express the proposition “I knew French”:

(5) *I was knowing French.

However, imperfectives usually allow such constructions.

I will claim that Scottish Gaelic (hereafter *SG*), the primary language of inquiry in this dissertation, makes at least six morphosyntactic distinctions of grammatical aspect.¹ Analytic verb forms generally carry perfective aspect, while the other five distinctions are marked with particles that are for the most part homophonous and homographic with prepositions in the language (although they no longer function as such):

(6) *Tha Calum air litir a sgrìobhadh.*
 be.PRES Calum ON/PERFECT litir AGRO write.VN
 ‘Calum has written a letter.’

This phenomenon was analyzed for three of the particles (one very briefly) by Ramchand (1993). I analyze these three and two more particles as instantiations of an Aspect head in Scottish Gaelic, with aspectual semantics (often differing from the meanings argued for by Ramchand 1993). A sixth particle that appears in a slightly different pattern I argue is actually still syntactically a preposition.

In analyzing these distinctions, I argue for a picture of grammatical aspect in which perfect and prospective aspects are a separate sub-group of aspects, and participate in a number of the same semantic and syntactic phenomena because of the way in which they

¹ As discussed in chapter 4 and elsewhere, habitual aspect is realized morphosyntactically via one of several other strategies.

relate the time being talked about with the time the event occurs. The morphosyntactic distinctions in SG challenge some previous assumptions about grammatical aspect; e.g., a claim by Iatridou, et al. (2001) that the interval of time between the event and the time referenced by the speaker does not have “a distinguished status” in the meaning of the perfect. The SG data also help to support other hypotheses about the syntax and semantics of aspect; for instance, SG’s use of particles that are etymologically prepositions to mark aspect lends support to Demirdache & Uribe-Etxebarria’s claims (from 1997 forward) that tense and aspect are spatiotemporal predicates.

The overall aim of this work is to present a time-relational semantics of grammatical aspect that fully integrates perfect and prospective aspects and their possible variants, and to do so with evidence based on a thorough documentation of these phenomena in SG.

1.2 Organization

The organization of this dissertation is as follows. The rest of chapter 1 gives some background on SG; and then introduces some theoretical concepts, tools, and assumptions that will be needed to investigate the syntax and semantics of aspect and tense in the language. In chapter 2, I first present ways that perfect aspects have been characterized in English and other languages. Then I provide an analysis of the particles *air* and *as dèidh*, which I argue convey two types of perfect aspect (roughly like *I have eaten* and *I have just eaten* in English). I also discuss several important theoretical issues surrounding the perfect, and what my analysis has to say about them. In chapter 3, I discuss ‘prospective’ aspect, which I define as being any aspect that relates event and

reference times in the opposite direction that the perfect does. I analyze *a' dol do* and *gu* in SG as prospective aspect particles (roughly, *going to* and *about to*) that differ from each other along the same dimension that *air* and *as dèidh* differ from each other. I then review some important perspectives in the literature on distinctions like *going to* and *about to* in English. Finally, in chapter 4, I discuss predicates with the particle *ann* in SG. This particle appears with only a few verbs, alternating with the imperfective particle *a'* (which I give a brief analysis of). Unlike any of the aspect particles, it is also used for nominal predication, and appears with a subject-agreeing possessive pronoun. I analyze *ann* syntactically as a preposition, but one that is serving to “rescue” nominals (whether in the form of a noun or a “verbal noun”), which cannot become predicates in SG for independent reasons. I first introduce some theoretical tools for dealing with non-verbal predication, and then give my analysis of the particle. Chapter 5 is the conclusion.

1.3 Scottish Gaelic and data collection

The primary language of inquiry in this study of aspect is Scottish Gaelic (*Gàidhlig*), a Celtic language of the Goidelic branch (along with Irish and Manx). SG is spoken primarily in the Highlands and Islands region of Scotland. It is typical for a Celtic language in showing VSO word order:

- (7) *Chunnaic mi i dà thuras.*
 see.PAST 1S 3SF two time.S
 ‘I saw her two times.’

The language is highly endangered, with no monolingual speakers remaining. The

2001 census² (the most recent for which data has been published) reports a population of 5,062,011 in 2001. Of those individuals, 92,400 (1.9%) reported having “some Gaelic language ability,” including being able to speak, read, write, or understand spoken SG. Of those, 58,700 people reported being able to speak SG (1.2% of the total population). This represents an 11% drop from the numbers reported in the 1991 census. Some education is available in SG; and from 1991-2001 there was a nearly 2% increase in the proportion of individuals age 3-15 who could speak, read, or write SG, but all other age groups showed a decrease. In addition, the ability to speak SG does not correlate with usage; the number of individuals actually using the language in daily life is even smaller than the number of speakers.

Except where otherwise indicated, the data in this work were gathered by me via elicitation as part of the Arizona Scottish Gaelic Syntax Project³ or as part of ongoing related research. The goals of my data collection throughout this dissertation project have been to thoroughly document phenomena relating to grammatical aspect in the language, as well as phenomena of tense, mood, modality, negation, voice, etc. I worked with one consultant, a native speaker of SG from the Isle of Skye for whom SG was her first language (she began speaking English at age six). Data points that my consultant did not feel sure of, she or I checked with other SG speaker(s). However, as with any undertaking that relies mainly on the input of one individual, caution must be taken when generalizing the results to the language/population of speakers as a whole, especially in a situation of

² Main page <http://www.gro-scotland.gov.uk/census/censushm/index.html>; Gaelic report available at <http://www.gro-scotland.gov.uk/census/censushm/scotcen2/reports-and-data/scotcen-gaelic/index.html>.

³ Funded by NSF grant #BCS0602768A, Andrew Carnie and Muriel Fisher, co-PIs.

language attrition such as this one. SG is also an interesting case of language contact, as English and SG have been spoken together in Scotland for hundreds of years (along with Scots, a Germanic language). The influence has not gone in only one direction; even with the data discussed in this dissertation we can see influence both from and into English. In addition to a number of lexical borrowings in either direction, SG *a' dol do* 'going to' as an aspect (or possibly modal) is very likely a calque from the English usage, while the Highland English 'after perfect' is clearly borrowed from SG (or perhaps an older Celtic relative, as both Irish and Irish English share this pattern with the languages in Scotland). For example:

- (8) *I am after going down to the shop.*
 'I have just gone down to the shop.'

This parallels the SG construction with *as dèidh* 'after/restricted perfect' discussed in the second half of chapter 3. This is influence at the level of the language as a whole; there is also conceivably influence of English on the SG of a bilingual speaker like my consultant. However, as all current SG speakers are also fluent in at least English, I believe any regular⁴ influence of English on my consultant's SG to be fairly representative of the situation with speakers of the language in general.

Data collection from other speakers is surely an important step to be taken; however, given the state of the language, the opportunity to thoroughly document a set of phenomena with one speaker is a rare and valuable one. I am confident that any differences of my consultant's SG from that of other native speakers (at least those who

⁴ I say 'regular' because on occasion, a word or phrase or construction would pop up that my consultant would identify as being English in nature rather than a borrowing from English into SG—e.g., she would say something like "I think we would just use the English for that." None of those instances came up in data that are key to the analysis presented here.

acquired it at approximately the same time) would affect the analyses presented here only minimally. It is interesting to note that some of my data (on the perfect particle *air* and the imperfective particle *a'*) do conflict with those presented in Ramchand (1993). However, the differences are rather subtle, and may represent inter-dialectal, inter-generational, or inter-speaker variation (or some combination of the three). Many of the key data points in this dissertation I have discussed with my consultant at length over the past few years, yielding interesting further discoveries about the language, and high confidence in their grammaticality or ungrammaticality.

A brief note about the data collection itself is in order. Data were collected in sessions of approximately an hour in length, in a quiet office. Sessions were recorded on compact flash cards using a Marantz PMD660 solid state recorder. During the session, I either wrote down data or typed it out as we went; my consultant would write down some of the sentences for me, as well. Data were sometimes checked informally outside of recorded sessions, either in person or via phone or email.

In the next section I present several key theories and concepts that we will need in order to pursue the analyses of both verbal and non-verbal predication in this dissertation.

1.4 Theoretical tools and concepts

Here I briefly introduce some important concepts and assumptions we will need to analyze aspect in SG, as well as define key terms as they will be used in this dissertation. The first section details my syntactic and semantic assumptions.

1.4.1 Syntactic and semantic assumptions

In this dissertation I generally work within event semantics (where events are entities, following Davidson (1967) and much work forward), though I also borrow tools from tense logic (using points of time and intervals; see e.g., Bennett & Partee (1978), Taylor (1977), Dowty (1979), and much work forward). I find Davidson's (1967a) arguments for the reification of events convincing, and the introduction of event variables figures prominently in the accounts of SG non-verbal predication that I draw on in chapter 4. However, for most of the argumentation in chapters 2 and 3, a tense logical or interval semantics with only times would work in essentially the same way; I include events in the semantics because I think their presence is otherwise justified. I am also working in a formal framework that takes the relations originally proposed by Reichenbach (and those following him, e.g. Hornstein 1990), and instantiates them with the denotations of heads. When I refer to 'events', I generally mean all eventualities, including stative ones (and I specify if I do not mean this). I assume that all eventualities, including stative ones, have some sort of eventuality argument (in the neo-Davidsonian sense); this is an argument at the very least for temporal location, and likely for spatial location as well (at least for non-statives). If I refer to something being 'eventive', however, I mean having some kind of properties of dynamicity, spatial locatability, etc.—properties typically ascribed to events rather than states.

I do not provide an intensional semantics for the aspectual markers discussed in this dissertation because my focus here is on the time relations involved in the aspects and what work those relations (can) do. Especially for propositions about the future, possible

worlds are most likely needed to have a complete picture of the semantics involved (see e.g. Condoravdi 2002, Werner 2006, Copley 2009), in English at the very least, and this is a useful future direction for research on future-referring propositions in SG. However, relativization of the semantics I propose with respect to worlds would not change what I claim about the time relations involved and the role they play, and so I exclude possible worlds from the discussion here. In each denotation of aspectual semantics, there could just as easily be a world variable involved, as well. The reader can take such variables to be present as necessary.

I assume a generally Minimalist syntax, although (at least) two of the functional projections I employ are no longer standard. I use both AgrS and AgrO phrases in my structures for the reasons outlined in Adger (1994), and in the work on Irish by Carnie (1995), McCloskey (1984 and ff.), and others. Essentially, there is a good amount of evidence from the placement of auxiliaries and adverbials that subjects and objects (as well as object agreement) must reside in these phrases. I follow the basic syntax of Carnie (1995 and ff.) (which is for Irish; I make appropriate adjustments); my syntax here is also in the spirit of Ramchand (1993 and ff.) and Adger (1994 and ff.), although I do not, for instance, argue for a Predicate Phrase. I also generally assume the principles of the Distributed Morphology framework (Halle & Marantz 1993, 1994, and ff.; Harley 1995 and ff.; etc.), especially late insertion of phonological material (i.e., morphemes are formally not sound-meaning correspondences but bundles of morphosyntactic features, which are realized during Spell Out by phonological material). I also assume the *v*P-internal subject hypothesis (Koopman & Sportiche 1991); the subject in SG then moves

into [Spec, AgrSP] (see e.g. Ramchand 1993; Carnie 1995 for Irish). I also take (following Carnie 1995 for Irish) the tense-carrying verb to raise from v^0 through functional heads to rest in the highest T^0 . I follow Ramchand (1993) in locating an Aspect Phrase in the syntax (here, between AgrSP and vP). In the sentences with ‘verbal noun’ (participial) forms, I follow Ramchand (1993), Carnie (1995), and others in locating the tensed verb ‘be’ in T^0 and the verbal noun in V^0 . In addition, I follow much (though not all) work in SG and Celtic syntax (including those works mentioned here) and take there to be two distinct verbs ‘be’ in SG: *bi* ‘be’ and *is*, the copula, and I gloss them as such.

I base my compositional semantics on Heim & Kratzer’s (1998) extensional system, in the tradition of Montague (1974). In the semantics, individuals are of type e (variable x), events are of type v (variable e), times are type i (variable t), and truth values are type t (values (1,0), which I will sometimes refer to as “true” and “false”, respectively). Predicates of event(ualities) are of type $\langle v, t \rangle$, predicates of individuals of type $\langle e, t \rangle$, and predicates of times of type $\langle i, t \rangle$. As usual, the valuation function “ $\llbracket \cdot \rrbracket$ ” takes a piece of morphosyntax and returns a denotation. I take the Aspect head to be a function that takes predicates of events and returns predicates of times (i.e., type $\langle \langle v, t \rangle, \langle i, t \rangle \rangle$ ⁵), while Tense both takes and returns predicates of times (i.e., type $\langle \langle i, t \rangle, \langle i, t \rangle \rangle$). With some exceptions (see, e.g., the discussion on *since* in section 2.5.2), adverbials can type shift as necessary to participate in predicate modification with different phrases. I will use the terms ‘predicate’ and ‘property’ interchangeably (so that saying *P is a predicate of events* is the same as saying *P is a property of events*), and both of these are just another way of

⁵For higher types, I sometimes abbreviate by omitting the comma within the lower types (e.g., $\langle \langle vt \rangle, \langle it \rangle \rangle$).

saying *P* is a function that takes an event as an argument (and returns a truth value).

Finally, a word about composition. Semantic composition will proceed via functional application, as usual, but there are two very noticable hiccups for this in the syntax: the intervening AgrS and AgrO nodes. I adopt the position (see e.g. Koizumi 1993) that these projections do not contribute to the semantics and therefore are not involved in the composition (i.e., they could be available at PF for the purposes of linearization but be deleted by Spell Out, allowing compositionality to apply normally at LF).

The next section focuses on the use of time relations to describe and define distinctions of aspect and tense.

1.4.2 Time relations in aspect and tense

The line of argument pursued in this dissertation is that the fundamental meaning of grammatical aspect is to relate the time during which the eventuality takes place, or *event time*, to the time being referenced/talked about, or *reference time*. This view of aspect had its start in Reichenbach (1947), who analyzed the “tenses” of English (including the perfect) as relating the “point of the event” (E), a “point of reference” (R), and the “point of speech” (S). The past perfect in English, for example, was analyzed as “E-R-S”—that is, with the event happening prior to the point of reference, which is in turn prior to the point of speech. Overall, this system both over- and under-generates—it yields distinctions of tense that are not made (at least in English), but cannot account for aspects like the progressive. Later work in the “neo-Reichenbachian” paradigm (see e.g. Binnick 1991, Smith 1997 for discussion; see also Hornstein 1990, and Higginbotham 2009 and the work leading up to it) splits up the contributions of tense and aspect (as I do here);

namely, tense relates reference time to the speech time, while aspect relates event time to reference time. In his work, Klein (e.g., 1992, 1994) uses similar notions—‘Time of Situation’, ‘Topic Time’, and ‘Time of Utterance’ (parallel to E, R, and S, respectively). These times can precede, follow, or equal/be coextensive with each other to give past, present, and future tenses, as well as perfect aspect (and sometimes prospective aspect). Authors like Demirdache & Uribe-Etxebarria (1997 and ff.) go a step further and add inclusion relations between the times to yield perfective and imperfective aspects.

We will be concerned in this dissertation with three times: the time during which the eventuality takes place, the time about which an assertion is being made, and the time the sentence is spoken aloud. In this work, I refer to these as ‘event(uality) time’, ‘reference time’, and ‘utterance time’ (sometimes ‘speech time’ or ‘time of speech’), respectively. The event(uality) time is the runtime of the event(uality), automatically calculable for any event by virtue of its taking time. It is represented semantically by the output of Krifka’s runtime function τ_e (or simply τ), which provides a mapping from the set of event(uality)s to the set of times; namely, it is a function that maps an eventuality to the interval the eventuality goes on for. This interval can also be called $I_e = [t_1, t_n]$, where t_1 is the initial moment of the eventuality and t_n is the final moment. Utterance time is the time the sentence is spoken aloud. This is the time that tense usually relates to reference time, although situations like indirect discourse can provide other “context” times. I assume that any time left free will be automatically identified with a context time (and thus usually utterance time). I use the term ‘reference time’ to mean the time about which a statement is being made; in this way I intend it to mean (at least roughly) the same thing

as Klein’s Topic Time, and Demirdache & Uribe-Etxebarria’s Assertion Time. Often (for instance, in Demirdache & Uribe-Etxebarria’s work and the accounts it builds off of (Stowell 1993 and Zagana 1990), the term ‘reference time’ is used to refer to any time that is linked with another one, including Assertion/Topic Time and event time. However, I use it to mean specifically the time “referred to” by the proposition.

So then the composition with the times proceeds in this way: an event(uality) argument is introduced by a predicate. The Asp head then existentially binds this argument and sets its runtime in a relation to another time. *That* time (the reference time) is bound by tense, and set in relation to another time. This final time will be the utterance time (which is presumed to be always available) or some other contextually bound time.

In discussing these time intervals, I am assuming a dense timeline—that is, every interval of time is actually divisible into smaller intervals. However, I will also adopt the convention of talking about “moments” of time. By a moment I mean the smallest reasonably perceptible subinterval for a given predicate. We can also talk about the initial and final “moments” of an interval (notated t_{init} and t_{final}), with the understanding that technically these, too, are intervals. (See more discussion of these topics in chapter 4.)

I will be using the following terms for the time relations shown:

(9) Name	Relation	SG particles; rough English example
(retrospective) perfect	[ET] [RT]	<i>air</i> ‘on’ <i>I have eaten</i>
restricted (retro.) perfect		<i>as dèidh</i> ‘after’ <i>I have just eaten</i>
prospective	[RT] [ET]	<i>a’ dol do</i> ‘going to’ <i>I am going to eat</i>
restricted prospective		<i>gu</i> ‘to/until’ <i>I am about to eat</i>
imperfective ⁶	[ET [RT]	<i>a’</i> ‘at’ <i>I am eating</i>
perfective	[RT [ET]	[analytic form] <i>I ate</i>

⁶ I assume for present purposes that imperfective and progressive employ the same time relation, but this may not be true.

I also use the term ‘restricted’ (as in ‘restricted perfect’) to mean that there is a restriction placed on a time relation (namely, on the interval between event and reference times). What I will term the ‘restricted retrospective perfect’ translates (very) roughly to ‘I have just X’d’ in English, while the ‘restricted prospective’ translates (very) roughly to ‘I am about to X’. This general schema very much in the spirit of Demirdache & Uribe-Etxebarria’s work, which models tense and aspect as spatiotemporal predicates—for aspect, ordering reference time *WITHIN* event time (progressive/imperfective), *AFTER* event time (perfect), or *BEFORE* event time (prospective). It is then very interesting to note the choice of prepositions SG uses to mark its aspects, which I discuss in the next section.

The broad line of argumentation I pursue in this dissertation is that the various types of grammatical aspect can be divided into kinds or types based on the general sort of relation shared by event and reference times. I claim that since the perfect, like the imperfective and perfective, sets up a relationship between event time and reference time, it is therefore best considered to be a type of grammatical aspect (rather than tense). However, where (im)perfectives set up an inclusion or containment relationship between the two times, perfects set up a precedence relation. I claim that the difference in semantics between perfect-like aspects (retrospective perfects, and prospectives) and (im)perfective-like aspects (imperfectives, progressives, and perfectives) is attributable to this difference in the *sort* of relationship between event and reference time, and that we should therefore see more similarities among the kinds of phenomena that occur within precedence relations or within containment relations than we should between categories. I focus on this in chapters 2 and 3 in looking for “tests” for perfecthood that can then be

adjusted and used to look for qualities of prospective (perfect)s. Note too that in SG, the syntactic patterns of the two perfect aspects and the restricted prospective parallel each other, while that of the imperfective differs (see Ramchand 1993 for an account of this from a different perspective).

1.4.3 Aspect in Scottish Gaelic

Now that we have the theoretical basics laid out, I will summarize the phenomena we will be looking at in SG. The overall pattern is that SG borrows prepositions to mark its aspectual distinctions. In current usage, the aspectual particles described here no longer act syntactically as prepositions (though I would argue they still carry their relational/location semantics—see the final paragraph of this section).

Five particles are investigated in depth in chapters 2-4: *air* ('on', perfect), *as dèidh* ('after', restricted perfect), *a' dol do* ('going to', prospective), *gu* ('to/until', restricted prospective), and *ann* ('in'). I also briefly analyze *a' ag* ('at', imperfective), though I spend much less time on it than on the other particles, as I largely follow Ramchand's (1993) analysis of it. Ramchand (1993) also has some analysis of *air* and mentions *gu*, but the conclusions she comes to about the meaning of the former are not the same as my own. I also largely exclude from analysis the analytic past and future verb forms (though I do briefly discuss the future forms in section 3.2.3). For the most part, the analytic past can be analyzed as conveying perfective aspect:

(10) Perfective

Sgrìobh mi na litrichean.
 write.PAST 1S the.P letter.P
 'I wrote the letters.'

However, as with the English past, the past in SG can have other interpretations (e.g.,

habitual). I focus in this dissertation on the aspects marked with particles, and leave proper analyses of the analytic forms to future work. I also generally leave aside the habitual—both the interpretations that are possible with the imperfective and the analytic forms of the verb, and the phrasal habitual in the past (roughly, ‘it was custom to x’). The rest of the aspects (the ones examined in this work) are marked via particles, with tense marked on the verb ‘be’; the main verb is in participial form (traditionally called a ‘verbal noun’). After these examples, I will be glossing the particles with their own names rather than with their prepositional meanings to avoid confusion. Here, then, are the particles I will be discussing:

(11) Imperfective

Bha/tha/bithidh *mi a’* *sgriobhadh* *na litrichean.*
 be.PAST/be.PRES/be.FUT 1S A’/at write.VERBAL_NOUN the.P letter.P
 ‘I was/am/will be writing the letters.’

(12) Perfect

Bha/tha/bithidh *mi air* *na litrichean a* *sgriobhadh.*
 be.PAST/be.PRES/be.FUT 1S AIR/on the.P letter.P AGRO write.VN
 ‘I had/have/will have written the letters.’

(13) Restricted Perfect

Bha/tha/bithidh *mi as dèidh* *na litrichean a* *sgriobhadh.*
 be.PAST/be.PRES/be.FUT 1S AS DÈIDH/after the.P letter.P AGRO write.VN
 ‘I had/have/will have just written the letters.’

(14) Prospective

Bha/tha/bithidh *mi a’ dol a* *sgriobhadh na litrichean.*
 be.PAST/be.PRES/be.FUT 1S A’ DOL DO/going to write.VN the.P letter.P
 ‘I was/am/will be going to write the letters.’

(15) Restricted Prospective

Bha/tha/bithidh *mi gu* *na litrichean a* *sgriobhadh.*
 be.PAST/be.PRES/be.FUT 1S GU/to the.P letter.P AGRO write.VN
 ‘I was/am/will be about to write the letters.’

- (16) *Ann*
Bha/tha/bithidh *mi* *'nam* *shuidhe.*
 be.PAST/be.PRES/be.FUT 1S ANN.PRO.1S sit.VN
 'I was/am/will be sitting down/seated.'

I assume following Ramchand (1993) that there is an Asp projection (at least) in the aspectually marked sentences in (11-15) (more discussion of the phenomena in (10) and (16) in chapter 4), and that the particles are instantiations of the Aspect head. Each is a function that existentially quantifies over an event, and takes a predicate of events as its argument and returns a predicate of times. That predicate takes a time as its argument and returns 1 iff that time is in the specified relation with the event time.

Finally, recall from the previous section that Demirdache & Uribe-Etxebarria propose that tense and aspect are spatiotemporal ordering predicates, so that perfect aspect, for instance, is the predicate AFTER—and it says that reference time is *after* event time. Note that the prepositions that these aspect particles come from etymologically match the predicates that Demirdache & Uribe-Etxebarria predict quite well—the perfect aspects are ‘on’ and ‘after’; the prospective is ‘to/until’; the imperfective is ‘at’; and the particle used for nominal predication is ‘in’ (I speculate a bit about this one in chapter 4). I will not pursue an analysis in this dissertation of the exact semantics of the prepositions in SG, but it is an area that would be fruitful for future research. What seems to be happening is that SG overtly marks the relationship between reference time and event time with prepositions that carry ordering meanings.

We are now ready to investigate these phenomena in depth. Chapter 2 begins with retrospective perfects (SG *air* and *as dèidh*); chapter 3 moves on to prospectives (SG *a’ dol do* and *gu*), and chapter 4 looks at nominal predication with *ann*.

CHAPTER 2

RETROSPECTIVE PERFECT ASPECT

Well, doesn't the 'was' and the 'has come to be' and the 'was coming to be' seem to signify participation in time which has come to pass sometime? –Of course.

–Plato, *Parmenides* 141d
Translation by Herman and Chrysakopolou

2.1 Introduction

In this chapter, I argue for a unified view of perfect meaning as a type of grammatical aspect that (a) introduces a *precedence* relation between event time and reference time; and (b) can further specify information about the interval between these two times. I argue that reference to this precedence relation and the interval that the relation creates are all that are needed to understand perfect semantics in SG and English.

Here I am investigating *retrospective*, or backward-looking (i.e., typical), perfects. As discussed in chapter 1, verbs in SG can appear with one of several aspectual particles before the verbal noun form of the lexical verb; two of these, *air* and *as dèidh*, generally follow the patterns established for the perfect in English and other languages (to a greater degree the perfect constructions found in, e.g., Mandarin (Smith 1997) or Ancient Greek; and to a lesser extent those found in, e.g., German (Pancheva & von Stechow 2004, Musan 2001), Modern Greek (Comrie 1976) and French). I present SG data with these particles and show that they both convey retrospective perfect aspect, but with slightly different meanings. Both establish an event time that precedes reference time; however, while *air* conveys unrestricted perfect semantics, *as dèidh* places a restriction on the

distance between the event time and the reference time. This distinction can be seen in (1) and (2), where the restriction with *as dèidh* is conveyed adverbially in the English gloss (tense is marked on the verb *bi* ‘be’):

- (1) *Bha/tha/bithidh mi air litir a sgrìobhadh.*
 be.PAST/be.PRES/be.FUT 1S AIR letter AGRO write.VN
 ‘I had/have/will have written a letter.’
- (2) *Bha/tha/bithidh mi as dèidh litir a sgrìobhadh.*
 be.PAST/be.PRES/be.FUT 1S AS DÈIDH letter AGRO write.VN
 ‘I had/have/will have (just/recently) written a letter.’

The existence of such a grammatical distinction suggests that a wider view of the meaning of ‘perfect’ is warranted, at least in SG, and that it might benefit us to keep an eye out for such meanings cross-linguistically.

I analyze *air* as the primary retrospective perfect particle in SG. For instance, sentences with *air* pass tests for ‘Current Relevance’ (McCoard 1978) or the ‘Felicity condition’ (Smith 1997): (3) below, but not the perfective equivalent in (4), is consistent with John’s still living in Glasgow.

- (3) *Tha Iain air fuireach ann an¹ Glaschu airson trì bliadhna a-nisde.*
 be.PRES Iain AIR live.VN in Glasgow for three year.S now
 ‘Iain has lived in Glasgow for three years now.’
- (4) **Dh’fhuirich Iain ann an Glaschu airson trì bliadhna a-nisde.*
 live.PAST Iain in Glasgow for three year.S now
 *‘Iain lived in Glasgow for three years now.’

These sentences are also incompatible with past “positional” adverbials (see e.g., McCoard 1978, Comrie 1985, Klein 1992), as their English equivalents are:

¹ *An* is phonological reduplication that appears with *ann* when there is no definite article, and does not represent a morphosyntactic difference.

- (5) *Tha Iain air ithe an-diugh.*
 be.PRES Iain AIR eat.VN today
 ‘Iain has eaten today.’

- (6) **Tha Iain air ithe an-dè.*
 be.PRES Iain AIR eat.VN yesterday
 *‘Iain has eaten yesterday.’

In addition, and contra the data in Ramchand (1993),² the data I present indicate a perfect that has universal ((3) above), experiential (7), and resultative (8) readings.

- (7) *Chan eil mi ach air caoraich a rùsgadh aon turas*
 not be.PRES.DEP 1S but AIR sheep.P AGRO shear.VN one time
bho dà mhìle.
 from two thousand
 ‘I have only shorn sheep once since 2000.’ (experiential reading)

- (8) *Tha mi air mo chofaidh a dhòrtadh.*
 be.PRES 1S AIR POSS.1s coffee AGRO spill.VN
 ‘I’ve spilled my coffee.’ (resultative reading)

Sentences with *as dèidh*³, traditionally called ‘after-perfect’ (Ó Sé 2004), have a similar but crucially non-identical distribution to those with *air*. I analyze *as dèidh* as conveying restricted retrospective perfect aspect. These sentences follow adverbial patterns similar to sentences with *air*:

- (9) *Tha Iain as dèidh ithe an-diugh.*
 be.PRES Iain AS DÈIDH eat.VN today
 ‘Iain has (recently-)eaten today.’
- (10) **Tha Iain as dèidh ithe an-dè.*
 be.PRES Iain AS DÈIDH eat.VN yesterday
 *‘Iain has (recently-)eaten yesterday.’

With *as dèidh*, the event time must be close to the reference time; what constitutes

² Ramchand (1993) states that the equivalent of English “I have never drunk sake before”, i.e., an experiential reading, can only be expressed with the simple past in SG (p. 101). I discuss differences between her account and mine at more length in section 2.3.1.3 below, but I suspect these differences in data to be attributable to dialectal differences.

³ In some dialects *as dèidh* is *an dèidh*; it is cognate with the Irish “after perfect” *i ndiaidh* or *tar eis*.

“close” depends on the verb phrase in question.

In addition to demonstrating the behavior of *air* and *as dèidh*, in this chapter I make and seek to support a set of theoretical claims about (retrospective) perfects in SG and English.⁴ I claimed in chapter 1 that the perfect (at least in its primary uses in English) should be squarely counted among the grammatical aspects. Here, I further claim that, in general, perfect aspect establishes an event time and says that that event time precedes the reference time established by tense and/or a sentence-level adverbial (specifically, that the final moment of event time precedes or, in universal readings, is coextensive with, the initial moment of reference time). “Perfect-level” adverbials like *since* in English can establish yet another time.

Because event time precedes reference time, an interval exists between the end of the event time and the reference time (which I term the event-reference interval or *ERI*) during which the event has already taken place. The *ERI* stretches from the final point in *ET* up to and including the initial point of *RT*. This might make it sound a bit like there is a time within *RT* that we can talk about, after the initial point, when the *ERI* no longer holds or is no longer applicable. In fact, the *RT* as I’ve defined it is any time we are talking about or making an assertion about, so the length of the *ERI* is relative. For any given time after the *ET* that we make an assertion about using a perfect, the *ERI* extends

⁴ I propose but do not want to go so far as to claim that this is the basic meaning of aspects with perfect meaning cross-linguistically. However, it is not yet clear, or at least not obvious, whether something like “the perfect cross-linguistically” exists. Dahl & Velupillai (2011, WALS online) give the results of a survey of 222 languages (SG not included); of those, 114 are said to have no perfect, 7 are said to have a ‘have’-type perfect, 21 a perfect derived from ‘finish’ or ‘already’, and 80 are said to have some other type of perfect. They note that the largest concentration of perfects is found in Western Europe, South and Southeast Asia; there are also areas of perfects throughout Africa and in northwestern South America. Australia and the rest of South America show very few perfects.

up to that time, and the ERI's final point is coextensive with the initial point of the RT. This interval, then, is homogeneous with respect to the event—that is, nothing changes about the event during the interval. This can be expressed by saying that within the ERI, for any subinterval of it you choose, the predicate held at a time prior to that subinterval:

- (11) Given an event e , for all t such that $\tau(e) < t$:

$$[\exists t' [\tau(e) < t' < t [\forall t'' \in t' [\tau(e) < t'']]]]$$

That is, for any reference time you pick after the event time, there is a time between that time and the runtime of the event such that for any subinterval within that interval, the runtime of the event precedes that subinterval. The ERI is the interval between $\tau(e)$ and t . Homogeneity is discussed at length in chapter 4, but in general I define a predicate as being homogeneous over an interval I iff $\forall t \in I, P(t) = 1$; an interval is homogeneous with respect to an event having taken place iff $\forall t \in I, \tau(e) < t$.

This effectively gives us an interval *before* the reference time in which the event has already taken place. A homogeneous interval is interpreted as a state (see e.g. Bennett & Partee 1972/1978), so when something is asserted about a reference time using a perfect, it is asserted that (the beginning of) that reference time is part of the state (i.e., homogeneous interval) that followed the ET. Given the nature of the interval, this is a 'result' state in that the property that it is homogeneous with respect to is the prior occurrence of the event. Thus we have a construction that passes certain tests for statives, and has the feeling of having a 'result state' that continues indefinitely into the future (see e.g., Parsons 1990, Kamp & Reyle 1993, Giorgi & Pianesi 1998). In universal readings of the perfect, the ERI is a point, since the final point of the event time is coextensive with the initial point of the reference time. Thus we do not get the same kind of result state.

With a perfective past (like *I ate* in English), the event time is located within reference time, and these both precede the utterance time. So then it is not the case that at a given reference time, the eventuality has already taken place. A time being talked about (RT) with a perfect follows/is the end of the homogeneous interval, and as such can be interpreted as the “result” of the event in a way a perfective or imperfective cannot.

The perfect, then, does not need to introduce/existentially bind a separate state eventuality; instead, the relationship predicated between event and reference time creates the state. In developing this view, I investigate the claim in Iatridou, et al. (2001) that the interval between event time and reference time does not have “a distinguished status” in the perfect.⁵ Not only do languages (including English) pay attention to this interval, but some languages, including SG, grammaticalize this information in their aspectual morphology. This interval (the ERI) can be restricted with an adverb (like *recently* in English) or via a separate instantiation of the aspect head (as with *as dèidh* in SG).

The analysis here is in the same spirit as the analyses of Iatridou, et al. (2001) and Pancheva & von Stechow (2004) in that I am taking the perfect to be a different kind of aspect than the perfective and imperfective. However, instead of proposing a separate PerfectP as those accounts do, in this analysis perfect/prospective meanings, like perfective/imperfective meanings, are contributed by the Aspect head. The differences between the perfect/prospective and imperfective/perfective aspects is due to the kind of relationship the specific Aspect head predicates between event time and reference time—

⁵ To be clear, I am not challenging the claim that this interval does not have a distinguished status *in the perfect construction* in English or Greek, etc., as the distinction grammaticalized in SG is conveyable only via adverbials in these languages. I am only challenging the notion that this interval does not have a “distinguished status” in *perfect semantics*.

one of precedence (in which the two possible orderings of ET and RT give us perfect or prospective) or one of containment (in which the orderings give us imperfective or perfective). This difference can then be attended to by adverbials (like *since*). The ‘Perfect Time Span’ (PTS), proposed by Iatridou, et al. (2001) and adapted in Pancheva & von Stechow (2004), is an interval beginning at an adverbially-delineated time prior to reference time and ending at reference time, and is introduced in their analyses by the Perfect head; adverbials like *since* modify the PTS. In the current analysis, a given instantiation of the Aspect head introduces the appropriate relation between ET and RT, as usual, and possibly places a restriction on the interval between them; adverbials like *since* introduce a second reference time (separate from a sentential reference time, as discussed in section 2.5.2 below) and relate it to the event time bound by aspect.

Support for this kind of analysis, in which the time intervals and the relationship between them are doing the semantic work, is lent by the similarities between the semantics of perfects and prospectives on the one hand (both precedence aspects; discussed at length in chapter 3), and between perfective and imperfective aspects on the other hand (both containment aspects). As noted in chapter 1, this difference is also seen in SG in the syntactic realization of the aspects.

Over the course of this investigation, I consider the traditional characterizations of perfects in English, as well as problems that have arisen in the study of these perfects. My goal here is to present a picture of perfect semantics that accounts for the traditional characterizations and problems of the English perfect, but that also takes into account the data from SG that challenge these characterizations.

A few notes on terminology. I use the term ‘(retrospective) perfect (aspect)’ to refer to aspectual semantics like those found in sentences like English ‘I have eaten’, and the morphosyntactic distinctions which represent these semantics. I will not be saying much about this aspect in languages other than English or SG. In general, though, this aspect, if not fully grammaticalized, is often marked (at least in Indo-European languages) with an auxiliary like ‘have’, or with a word like ‘finish’ or ‘already’. Constructions with this type of meaning are often conflated with tense (as in German, French); because of this, constructions termed ‘perfect’ can often behave quite differently between languages (e.g., the lack of the ‘Present Perfect Puzzle’ in German—see e.g. Pancheva & von Stechow 2004). In addition, the readings (e.g., experiential, universal, etc.) that this type of construction can have vary by language, and different authors group these readings differently (cf. Declerck 1991 and Depraetere 1998, for example). By ‘retrospective’ I mean simply ‘backwards-looking’; this terminology is used in the same way in Demirdache & Uribe-Etxebarria’s work (and in Depraetere 1998) but not in van Baar (1994), who uses ‘retrospective’ to mean backward perspectivity (i.e., simple past sentences with *already*). Depending on the language, the present perfect may have several readings, including universal (eventuality is seen as continuing into reference time, as in *I have lived here (ever) since 2001*), experiential (subject is seen as having had an experience, as in *I have met Cher once*), and resultative (with telic predicates, only for as long as the “result” of the eventuality holds, as in *I’ve spilled my coffee*, before you clean it up). (See, e.g., McCawley 1971, McCoard 1978, Dowty 1979, Mittwoch 1988, Iatridou, et al. 2001.)

The rest of the chapter is analyzed as follows: The next subsection summarizes the different intervals that will be discussed in the chapter. Section 2.2 presents several typical characteristics of the perfect that have been shown to hold in English and other languages. In section 2.3 I consider whether these characteristics hold of SG *air* and compare data with the particle to English data found in Iatridou, et al. (2001) and SG data in Ramchand (1993); I then present a formal semantic and syntactic analysis of *air*. In section 2.4 I perform a similar comparison with *as dèidh* and pin down the difference in meaning between *as dèidh* and *air*, then provide a formal analysis of the particle. Section 2.5 reviews several important issues surrounding the semantics of perfects and relates these issues to the analysis I present in the rest of the chapter. Section 2.6 is the conclusion.

2.1.1 Intervals and the perfect

As discussed in chapter 1, Reichenbach (1947) conceived of the past, present, and future perfects as part of the “tenses” of English. In his system, the past perfect is notated as E-R-S (in the current notation, $ET < RT < UT$); the present perfect as E-S,R; and the future perfect as S-E-R. Here, of course, I am taking ET, RT, and UT to be intervals of the sort explained in chapter 1: each can be thought of as having an initial and a final point, and as being “dense” in the sense of being divisible into increasingly smaller intervals of time. When talking about perfect semantics, though, these are not the only intervals that have been said to play important roles. Here I point out and clarify a few of the time spans and intervals that will be referenced in this chapter.

First, as mentioned in the previous section, reference has often been made to a “result

state” or “resultant state” being present in the interval of time extending from the (end of the) event time indefinitely into the future. This is “the state of having done X,” where X is the eventuality taking place at the event time. In the current analysis, this “result state” is the consequence of having an interval (namely, the ERI) between ET and RT that is homogeneous with respect to the event having already taken place (as in (11) above). However, the ERI itself does not stretch indefinitely and indefinitely into the future; rather, it stretches to any (defined) RT in the future about which a statement is being made.

The Perfect Time Span (PTS), introduced by Iatridou, et al. (2001) and pursued by Pancheva & von Stechow (2004), is the time in which the events described by a perfect sentence must take place, and extends from a left bound to a right bound.⁶ The left bound is a time prior to the event time determined by any overt “perfect-level” adverbial (such as *since 1994*), or, if there is no overt adverbial, by an understood one. The right bound is the reference time. The PTS, then, is the time span in which any events X must take place for the sentence ‘I have X’d’ to be true at RT. In the current analysis, adverbials like *since* introduce a second reference time (see section 2.5.2 for further explanation).

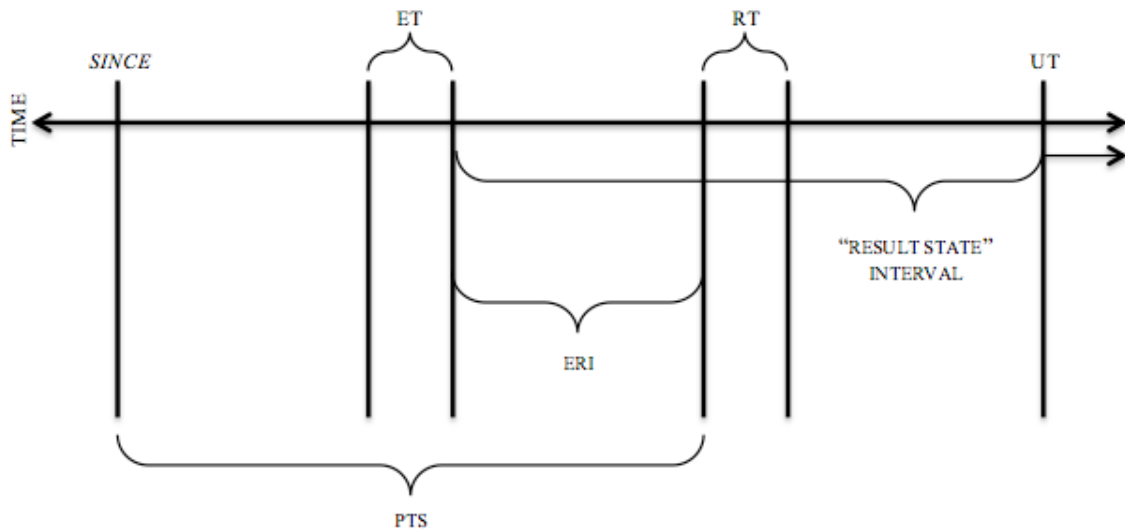
Finally, there is an interval that will end up being very important to our purposes in this chapter and the next one. This is the interval between event time and reference time, which I term the event-reference interval or ERI. The initial moment of the ERI is the moment after the final moment of ET,⁷ and the final moment of the ERI is coextensive

⁶ Left and right are an epiphenomenon of our cultural conception of the past being behind combined with a left-to-right writing system; there is no other significance (as far as I know) to these directions.

⁷ Given a truly dense timeline, there is always another interval of time between two intervals, but as discussed in chapter 1, I will assume that we can have a semi-informal concept of moments as the smallest

with the initial moment of RT. This interval has been generally ignored and even specifically dismissed—Iatridou, et al. (2001) claim that “the E_R interval does not have a distinguished status in the perfect” (p. 158). However, I argue in this chapter that not only is information about this interval expressible in languages with a perfect, but that this interval is grammaticalized in SG via a secondary perfect aspect particle (*as dèidh*). I represent these intervals graphically in (12). (This represents a past perfect sentence, where $RT < UT$; I represent UT and the *since* interval as points for simplicity. Endpoints are not represented.)

(12) Intervals involved in the perfect



This diagram shows that the PTS begins at a time specified by a *since* (or similar) adverbial and extends to the beginning of RT, while the ERI lies between the end of ET and the beginning of RT. The “result state” that has been discussed would extend from the end

perceptible subinterval for a given predicate. I intend this definition of ERI to mean that, for a telic predicate like *build a house*, the first moment of the ERI is the moment just after (say) the last nail is hammered in, such that at any point starting with that moment an RT can be discussed in which *x has built a house* is true.

of ET to any time in the future. The ERI also has indeterminacy in that it can end at any RT, but that RT will always be specified (by Tense) in a given sentence.

2.2 Characterizing the perfect

In sections 2.4 and 2.5, I present data from SG to demonstrate that the language has two morphosyntactic and semantic distinctions of perfect aspect. In order to demonstrate this, a standard of comparison to established perfects in other languages is needed. There are several characteristics that are typically used to distinguish perfects from other aspects. The perfect in English is arguably the best-studied (by, e.g., Bauer 1970, Klein 1992, Katz 2003b, Pancheva & von Stechow 2004, and others), but perfects in a number of other languages have been shown to have similar characteristics.⁸ Here I lay out several major diagnostics for perfect aspect that I will use to examine the SG data. I base the particular formulation of these tests on the behavior of the perfect in English, given its extensive existing coverage. This is not to say that the SG data would not be indicative of any sort of perfect if they did not pass such tests, but given that they do to a large extent, we can at least be confident that SG has a perfect that bears some likeness to the one in English (and the languages like it). Here I explain and give examples (in English) for three “tests” for the perfect, so that we might compare sentences with *air* in SG to perfect sentences in English (I will also use these tests on *as dèidh* in section 2.4). I save further analysis of these phenomena for section 2.5.

⁸ See, e.g., Anderson (1982) and the references therein for a survey of universal and non-universal qualities of perfects in a number of languages, including English.

2.2.1 The ‘Present Perfect Puzzle’

Perhaps the most famous issue surrounding the present perfect in English is its incompatibility with past positional (time-specific) adverbials, in contrast with the simple past (past perfective), as seen in (13):

- (13) a. I hugged Penny *yesterday*.
 b. I hugged Penny *at noon on May 5, 2011*.
 c. *I have hugged Penny *yesterday*.
 d. *I have hugged Penny *at noon on May 5, 2011*. (When UT is after this date)

This is Klein’s (1992) ‘Present Perfect Puzzle’ (see also Dowty 1979, Giorgi & Pianesi 1998, and Pancheva & von Stechow 2004, among others). It is not a puzzle that a present tense proposition (such as a present perfect) cannot be modified by a past adverbial; other present tense propositions (such as progressives) also preclude modification by past adverbials. However, as Hornstein (1977, p. 525) notes, sentences in which the past adverbial is non-specific are fine with the present perfect (14a-b); I note that present tense propositions with other aspects are not, however (14c-e):

- (14) a. Pangur has eaten cake *in the past*.
 b. I have hugged Penny *at noon on [some] May 5*.
 c. *I am hugging Penny *in the past*.
 d. *I hug Penny *in the past*.
 e. *I am going to hug Penny *in the past*.

It seems that the question is not why past positional adverbials are infelicitous with present perfects, but why past non-positional adverbials are *not* infelicitous. Clearly, with

a present perfect it is not contradictory to make a statement about the present (RT) that involves an event in the past (ET); that is precisely what the present perfect does (as opposed to the other aspects, which do not allow a division of this sort).⁹ And, it is not impossible to specify that this event is in the past, as shown in (14a-b). However, it seems that it is not possible to specify that the event occurred at a particular time in the past.

A number of accounts have been put forward about this puzzle; Klein (1992) introduces a pragmatic constraint (the “position-definiteness constraint”). Note that perfects in languages like German do *not* follow this pattern; instead, the present perfect is compatible with adverbials like ‘yesterday’. Pancheva & von Stechow (2004) argue that the locus of the difference between the English and German perfect is to be found in the languages’ present tense semantics. For Pancheva & von Stechow, the reason that languages like English disallow past positional adverbials with the present perfect is because the semantics of the present make the past a “stronger scalar alternative”; thus the meaning of the present perfect is strengthened to meaning “non-past”, which requires inclusion of the speech time; this precludes past positional adverbials. I present a different analysis in section 2.5.1.4. The pattern, though, will serve as a diagnostic for an English-like perfect (or perhaps relationship between perfect and present tense). As I show, SG follows the English rather than the German pattern.

2.2.2 *Two positions for adverbials*

In English, past perfects can take time-locating adverbials either preverbally or

⁹ With present imperfectives and perfectives, it is not possible to locate ET separately from RT because they are in containment relations with each other; with a present prospective it is impossible to locate ET in the past because ET follows RT, and RT is already in the present.

postverbally (see, e.g., Hornstein 1990, McCoard 1978, Comrie 1985, Klein 1992; see also Michaelis 1994). In English, at least, the position of the adverbials determines whether the adverb locates the ET or the RT. When the adverb is postverbal (15a-c), either of two readings of is possible—either the event of John leaving happens at noon, so the event time is noon; or the event of John leaving is before noon, so the reference time is noon. I give modified sentences with the desired readings for clarification. When the adverbial is preverbal, however, only the reference-time reading is possible, as in (15d).

- (15) a. Jeff had left the store at 12:01 p.m.
- b. Vee's Deli was robbed at 12:05 p.m., but Jeff had left the store at 12:01, so he didn't witness the crime.
- ✓event time reading [ET 12:01] [RT 12:05]
- c. Jeff had already left the store at 12:01, so he didn't get one of the raffle tickets that were given out at 12:01 on the dot.
- ✓reference time reading [ET before 12:01] [RT 12:01]
- d. At 12:01, Jeff had (already) left the store.¹⁰

This is different than the behavior of adverbials with the past perfective/simple past, where both adverbial positions give an event time reading.:

- (16) John left the store at 12:01...
- a. [ET reading] ✓so he didn't witness the 12:05 robbery.
- b. [RT reading] #so he didn't get one of the raffle tickets given out at 12:01.

¹⁰ An event time reading may be possible under topicalization—"(No), at 12:01 John had left the store", though I have trouble getting the reading even in this case. It's certainly possible with a cleft, however: "It was at 12:01 that John had left the store."

(17) At 12:01, John left the store...

- a. [ET reading] ✓ so he didn't witness the 12:05 robbery.
- b. [RT reading] #so he didn't get one of the raffle tickets given out at 12:01.

I assume that the difference between the past perfect and the simple past is not that the adverbials cannot syntactically modify the RT in simple pasts, but that even if they do, the interpretation is the same because of the time relations involved. Namely, with the simple past (which I will assume to be a perfective for our purposes), the RT contains the ET, so that if the adverbial modifies the RT, it also modifies the ET.

Note that the future perfect in English shows this distinction as well:

- (18) a. She will have bought three cars at noon. (ambiguous)
- b. She always buys cars right at noon. As of today's purchase, she will have bought three cars at noon. (ET reading)
 - c. She's been buying new cars for the company all morning. She will have bought three cars at noon. (RT reading)

(19) At noon, she will have bought three cars. (RT only)

SG will again follow the same pattern as English.

2.2.3 Universal, experiential, and resultative readings

Finally, as noted in chapter 1, perfects in English have at least three rather different readings. Possibly the most basic (see, e.g., Iatridou et al. 2001) is the experiential reading. This reading says something like "I have had the experience of X-ing (but I am not now X-ing)":

(20) I have met Cher (once/before).

A variation on the experiential reading is the resultative reading. This reading says

something like “I X’d in the pragmatically-relevant recent past, and the effect of my X-ing is still somehow very relevant (but I am not now X-ing)”.¹¹ So in (22a), the coffee has not yet been wiped up; in (b), the glasses are still lost.

- (21) a. I’ve spilled my coffee.
b. I’ve lost my glasses.

The third major reading, the universal reading, is different from the first two in that both “I X’d” and “I am X-ing” is true at RT. Consider (22):

- (22) I have lived in Arizona (ever) since 2005.

It seems in this case that while ‘I lived in Arizona’ is trivially true for any time since 2005, the real gist of the sentence is an expression about the entire time span, not one event. Note that an ‘ever since’ adverbial is included here; Iatridou, et al. (2001) argue that the universal reading is only available in the presence of certain adverbials. (Note that even if ‘since 2005’ is included, an experiential reading is still available; it is only with ‘ever since’ that the universal reading becomes the *only* available one.) I demonstrate in sections 2.3 and 2.4 that SG allows all three of these readings.

These three characteristics (incompatibility of the present perfect with past positional adverbials, event time vs. reference time readings based on different adverbial positions, and different interpretations such as “universal” and “experiential”), then, at least give us a sense of what perfects act like in English. I apply these tests in sections 2.3 and 2.4 to compare SG perfects to English perfects.

In the next section, I show that sentences with *air* have perfect semantics by

¹¹ In many dialects of English, the simple past is also used for this function; see Kratzer (1998), Mittwoch (2008).

considering their behavior in the circumstances described in this section, and I argue that the particle is one instantiation of the Asp head in SG.

2.3 The regular retrospective perfect in Scottish Gaelic

Now that I have established what perfect meaning might be and how it appears in English, I turn to SG to investigate similar phenomena. I show that SG has a morphologically instantiated perfect that is semantically quite similar to that of English, and which follows the same types of patterns as the English perfect. In 2.3.1, I present data with *air*, following the “tests” established in section 2.2 for English-like perfects. In 2.3.2, I present a formal analysis of this particle in terms of its semantics and its syntactic patterning.

2.3.1 *A perfect particle in Scottish Gaelic?*

The particle *air* in SG¹² is analyzed as a perfect particle by Ramchand (1993) (although one with a more limited range of meanings than we see here), and the particle appears in sentences that are translated using the perfect in English. Here I present further data that support an analysis of *air* as a particle that contributes perfect semantics. In the first subsection, I go through SG data that bear on the three tests established in section 2.2 above for English-like perfects. In the second, I present more data that bear on some other characteristics of perfects in English and other languages, as discussed in Iatridou, et al. (2001). In the third, I compare my data to those found in Ramchand (1993) and

¹² It’s worth noting that the perfect use of *air* has no cognate in Modern Irish, where perfect readings are constructed using a passive-like construction involving possessive “at” and verbal adjectives. See Noonan (1994) for discussion.

investigate the claim found therein that *air* in SG conveys only one particular type of perfect meaning.

2.3.1.1 Basic tests

First I present data to show that sentences with the particle *air* in SG follow the same general patterns as those with the perfect in English. Recall that we established three basic characteristics of perfects in English: incompatibility with past positional adverbs; two positions for adverbials (yielding particular readings); and three basic potential readings, experiential, resultative, and universal. To begin, though, note that sentences with *air* can be marked for present, past, or future tense (which appears on the verb *bi* ‘be’):

- (23) *Bha/Tha/Bithidh* *Calum air dannsadh.*
 be.PAST/be.PRES/be.FUT Calum AIR dance.VN
 ‘Calum had/has/will have danced.’

PAST ADVERBIAL INFELICITY

As mentioned in section 2.2.1, present perfect sentences in English are generally felicitous with present adverbials but not with past “positional” adverbials (Comrie 1976, McCoard 1978), which locate the event time at a specific point prior to speech time. This infelicity is not seen in perfect sentences in German, however (see Pancheva & von Stechow 2004, Musan 2001). SG sentences with *air* follow the English pattern. Modification by a present positional adverbial like *an-dràsda* ‘now’, which fixes the event time at the moment of speech, yields a felicitous sentence:

- (24) *Tha* *Calum air falbh* *an-dràsda.*
 be.PRES Calum AIR leave.VN now
 ‘Calum has left now.’

A past positional adverbial like *an-dè* ‘yesterday’, however, yields infelicity:

- (25) **Tha mi air ithe an-dè.*
 be.PRES 1S AIR eat.VN yesterday
 ‘I have eaten yesterday.’
- (26) **Tha mi air Iain fhaicinn an-dè.*
 be.PRES 1S AIR Iain see.VN yesterday
 *‘I’ve seen Iain yesterday.’

Note that a past positional adverbial is infelicitous even if it indicates a very recent time:

- (27) **Tha mi air Iain fhaicinn o chionn còig mionaidean.*
 be.PRES 1S AIR Iain see.VN ago five minute.P
 *‘I’ve seen Iain five minutes ago.’

However, if the adverb *dìreach* ‘directly’ is included, felicity results (a gloss with ‘just’ in English yields marginal felicity, at least for me):

- (28) ✓*Tha mi dìreach air Iain fhaicinn o chionn còig mionaidean.*
 be.PRES 1S directly AIR Iain see.VN ago five minute.P
 ?‘I’ve just seen Iain five minutes ago.’

ADVERBIAL POSITIONS

In English, when a past experiential perfect is modified by an adverbial like ‘at noon’, the available readings of the perfect depend on whether the adverbial is preverbal or postverbal (as discussed in section 2.2.2). When the adverb occurs after the verb, the adverbial can modify either the time of the event or the reference time. SG shows the same pattern; (30) has both readings available (either Calum has already left the store by noon, or Calum’s leaving was at noon):

- (29) *Bha Calum air a’ bhùth fhàgail aig meadhan-latha.*
 be.PAST Calum AIR the.SF shop leave.VN at mid-day
 ‘Calum had left the store at noon.’

These two readings are made clear by the following two examples:

REFERENCE-TIME READING

- (30) *Bha Calum air a' bhùth fhàgail mar tha aig meadhan-latha.*
 be.PAST Calum AIR the.SF shop leave.VN already at mid-day
 'Calum had left the store already at noon.'

EVENT-TIME READING

- (31) *Bha Calum air a' bhùth fhàgail dìreach aig meadhan-latha,*
 be.PAST Calum AIR the.SF shop leave.VN directly at mid-day
agus bha Iain air a' bhùth fhàgail aig uair.
 and be.PAST Iain AIR the.SF shop leave.VN at one
 'Calum had left the store precisely at noon, and Iain had left at 1.'

However, as in English, a sentence with a preverbal adverbial does not yield an event time reading—(32) cannot mean that Calum left at noon.

- (32) *Aig meadhan-latha, bha Calum air a' bhùth fhàgail (mar tha).*
 at mid-day be.PAST Calum AIR the.SF shop leave.VN (already)
 'At noon, Calum had left the store (already).'

EXPERIENTIAL, RESULTATIVE, UNIVERSAL READINGS

Next I will show that SG allows experiential, resultative, and universal readings of its perfects. I also present data that show that experiential perfect meaning can be expressed using the perfective in some circumstances.

The sentence in (33) allows either an experiential or a universal reading. Note that in the equivalent English sentence(s), the choice of preposition would usually indicate which reading was intended—while *she has been to Paris* yields only an experiential (or resultative) reading, 'She has been in Paris' only yields a universal reading (e.g., as an answer to the question *Where has she been lately?*). In SG, however, the preposition *ann an* 'in' is used for both meanings.

- (33) *Tha Alexandra air a bhith ann am Paris.*
 be.PRES Alexandra AIR AGRO be.VN in Paris
 ‘Alexandra has been in/to Paris.’

The example in (34) shows a sentence with *air* with additional material to make it clear that the experiential reading is the intended one, while (35) gives a clearly universal reading.

- (34) *Chaneil mi ach air caoraich a rùsgadh aon turas*
 not be.PRES.DEP 1S but AIR sheep.P AGRO shear.VN one time
bho dà mhìle.
 from two thousand
 ‘I have only shorn sheep once since 2000.’
- (35) *Tha mi air fuireach ann an Glaschu airson ùine mhòr a-nisde.*
 be.PRES 1S AIR live.VN in Glasgow for time big now
 ‘I have lived in Glasgow for a long time now.’

A sentence like that in (36) might be more naturally interpreted as having a universal reading, but as shown by the extensions in (37) and (38), an experiential reading is also available for the basic sentence.

- (36) *Tha Iain air a bhith ann an Alba airson dà*
 be.PRES Iain AIR AGRO be.VN in Scotland for two
sheachdain (mar tha).
 week.S (already)
 ‘Iain has been in Scotland for two weeks (already).’

Person A:

- (37) *Chaneil Iain air a bhith ann an Alba (riamh)*
 not be.PRES.DEP Iain AIR AGRO be.VN in Scotland (ever)
airson barrachd na sheachdain (riamh).
 for more than week (ever)
 ‘Iain has never been in Scotland for more than a week.’
 Note: The adverbial ‘riamh’ (‘ever’) can occur in either place (but not both).

Person B:

- (38) *Tha Iain air a bhith ann an Alba airson dà sheachdain,*
 be.PRES Iain AIR AGRO be.VN in Scotland for two week.S
bha e ann an Alba airson dà sheachdain ann ann an dà
 be.PAST 3SM in Scotland for two week.S in.3SM in two
mhìle.
 thousand
 ‘Iain has (too) been in Scotland for two weeks—he was in Scotland for two
 weeks in 2000.’

Finally, sentences with *air* allow resultative readings; in (39) Alexandra is clearly still in Scotland.

- (39) *Tha Alexandra air Alba a ruigsinn mu dheireadh!*
 be.PRES Alexandra AIR Scotland AGRO arrive.VNADV end
 ‘Alexandra has finally arrived in Scotland!’

The following sentence is consistent with the glasses still being lost (resultative), or not (experiential):

- (40) *Tha mi air mo ghlainneachan a chall.*
 be.PRES 1S AIR POSS.1S glasses AGRO lose.VN
 ‘I have lost my glasses.’

And the unmodified sentence in (41) is most felicitous when the coffee hasn’t yet been cleaned up.

- (41) *Tha mi air mo chofaidh a dhòrtadh.*
 be.PRES 1S AIR POSS.1S coffee AGRO spill.VN
 ‘I have spilled my coffee.’

Notice that on occasion, SG allows a past perfective where English would require a perfect, as seen in the second half of the sentence in (42a); the perfect is also possible, as in (42b):

- (42) a. *Airson dà sheachdain a-nis tha Iain air a bhith ann an*
 for two week.S now be.PRES Iain AIR AGRO be.VN in
Alba agus cha chuala mi facal bhuaithe.
 Scotland and not hear.PAST 1S word from.3SM
 ‘For two weeks now Iain has been in Scotland and I haven’t (lit: didn’t)
 heard a word from him.’
- b. *...agus chan eil mi air facal a chluinntinn bhuaithe.*
 ...and not be.PRES.DEP 1S AIR word AGRO hear.VN from.3SM
 ‘...and I have not heard a word from him.’

As is clear from these data, although the perfect in SG may not be identical to the perfect in English, the two at least share many characteristics. In the next section, I present more SG data, modeled on the facts from Greek, Bulgarian, and English presented and argued from in Iatridou, et al. (2001).

2.3.1.2 Iatridou, et al. (2001)

Iatridou, Anagnostopolou, & Izvorski (2001) (IAI) investigate the behavior of the perfect in English, with additional data from Greek and Bulgarian. Their goal is to “establish how certain aspects of the meaning of the perfect are composed from the elements present in its morphosyntactic representation” (p. 153). In so doing, they introduce a number of (possibly) distinct uses of the perfect. As I present the SG data that correspond with examples in IAI, I will make a note about each use. They first discuss the universal and experiential perfects, and the resultative or “perfect of result”, as exemplified in (34-42) above. There is also the “perfect of recent past,” expressing information about something that happened recently. English tends to express this meaning with *have just X’d*; SG uses the adverb *direach* ‘directly’.

(43) a. He has just graduated from college. (IAI ex. 5)

- b. *Tha e dìreach air ceum a ghabhail.*
 be.PRES 3SM directly AIR step AGRO take.VN
 ‘He has just graduated (e.g., from college).’
 Lit.: He has just taken a step.

Note that this meaning can also be expressed using the restricted perfect particle *as dèidh*, discussed in section 2.4.2.

Next, IAI argue that the universal perfect is only available in English with certain adverbials. They look at three types of predicates that could yield the “U(niversal)-perfect”: individual-level predicates, stage-level predicates, and progressives. They show that true individual-level predicates are incompatible in an unmodified perfect; they take this to indicate that a U-perfect is not available with such predicates. The same effect is seen in SG:

(44) a. He has had brown eyes *(since he was born). (IAI ex. 8)

- b. *Chanail, tha sùilean gorm air a bhith aige*
 not be.PRES.DEP, be.PRES eye.P blue/green AIR AGRO be.VN at.3SM
 *(*bhona rugadh e*).
 from be-born.PAST 3SM
 ‘No, he has had blue eyes *(since he was born).’

Next they consider stage-level predicates like ‘be sick’. As shown in their examples (10-12), such predicates unmodified do not lead to a U-reading; *she has been sick* in (45) can be followed by *but she’s better now*, but can equally be followed with *and she’s still not feeling well* or some similar thing. That is, unlike a U-perfect, these perfects do not tell us whether the predicate is true of its subject now or not. Indeed, a sentence like (48a-b) (the second part of their (10)) is ungrammatical in Bulgarian. However, SG

seems to follow the same pattern as English.

- (45) a. A: I haven't seen Mary in a while. Where is she?
B: She has been sick. (IAI ex. 10)
- b. She has been very sick lately. I don't know how she is now. (IAI ex. 12)
- c. *Chaneil mi air Màiri fhaicinn airson greis.*
not be.PRES.DEP 1S AIR Màiri see.VN for while
'I haven't seen Màiri for a while.'
- d. *Càite bheil i?*
where be.PRES.DEP 3SF
'Where is she?'
- e. *Tha i air a bhith tinn.*
be.PRES 3SF AIR AGRO be.VN sick
'She has been sick.'
- f. *Tha i air a bhith tinn o chionn ghoirid, (ach tha i nas fhearr a-nisde).*
be.PRES 3SF AIR AGRO be.VN sick since short but be.PRES 3SF
COMPAR good.COMPAR now
'She has been sick lately, (but she's better now).'

Next they consider the perfect of the progressive. Vlach (1993) claims that such constructions only have universal readings; however, IAI point out that an English sentence like *I have been cooking* can be followed with *but I'm done now* unproblematically, indicating that 'I have been cooking' says nothing about the time of speech. They conclude that this type of perfect, unmodified, will be an experiential perfect or perfect of recent past. This seems to be the case in SG, as well, as seen in (46):

- (46) a. I have been cooking (but I'm done now). (IAI ex. 15)
- b. *Tha mi air a bhith a' fuineadh ach tha mi deiseil a-nis.*
be.PRES 1S AIR AGRO be.VN A' bake.VN but be.PRES 1S ready now
'I have been baking, but I'm ready now.'

They then move on to a discussion of adverbials, assuming with Dowty (1979) and Vlach (1993) that there are (at least) adverbials that scope at the level of the perfect and those that scope at the level of the eventuality. Some, like *since*, are perfect-level adverbials. They demonstrate this by showing that *since* requires perfect morphology. As the data below show, *bho(n)* ‘from’ in SG also generally requires perfect morphology:

- (47) a. *I have been sick since yesterday.*
 b. **I am sick since yesterday.*
 c. **I was sick since 1990.* (IAI 17)
 d. *Tha mi air a bhith tinn bhon an dè.*
 be.PRES 1S AIR AGRO be.VN sick from yesterday
 ‘I have been sick since yesterday.’
 e. **Tha mi tinn bhon an dè.*
 be.PRES 1S sick from yesterday
 *‘I am sick since yesterday.’
 f. **Bha mi tinn bho dà mhìle.*
 be.PAST 1S sick from two thousand
 *‘I was sick from 2000.’

Note that there is a difference between SG and English that is attributable to the difference in meaning between *since* and *bho* ‘from’; (50f) becomes acceptable in the case that it is followed by an end-point adverbial such as ‘to 2005’—that is, in the case where *bho* can truly be interpreted as ‘from’, as in the English gloss:

- (48) ✓ *Bha mi tinn bho dà mhìle gu dà mhìle ’s a còig.*
 be.PAST 1S sick from two thousand to/until two thousand and five
 ‘I was sick from 2000 to 2005.’

IAI argue that in order to get a U-reading with *since*, which has both durative and inclusive properties, the predicate in question must be homogeneous, that is, able to

“satisfy the sub-interval requirements of *since*” (p. 165) (see the extensive discussion of homogeneity in chapter 4). While *be sick* satisfies this requirement, *read [a book] n times* does not, leading to an E-reading only, as seen in (49):

- (49) a. Since 1990, I have read “The Book of Sand” five times. (IAI ex. 19)
- b. *Bho dà mhile, tha mi air “Good Night Moon” a*
 since two thousand be.PRES 1S AIR “Good Night Moon” AGRO
leughadh dà fhichead turas.
 read.VN two twenty time.S
 ‘Since 2000, I have read “Good Night Moon” forty times.’

They note that *always* can occur only in the perfect with individual-level predicates like *be tall*:

- (50) a. Emma has always been tall. (IAI ex. 25a)
- b. *Tha Kevin air a bhith ard gu sìorraidh.*
 be.PRES Kevin AIR AGRO be.VN tall ADV eternal
 ‘Kevin has always been tall.’
- (51) a. *Emma is/was always tall. (IAI ex. 25b)
- b. **Tha Kevin ard gu sìorraidh.*
 be.PRES Kevin tall ADV eternal
 *‘Kevin is always tall.’¹³

They go on to discuss Greek, in which the perfective and also the perfect (based on the perfective stem) either assert goal achievement (for telic predicates) or, for statives, give an inchoative reading (52a). The present perfect of a stative in Greek only has an experiential reading (52b). Neither the analytic past nor the perfect in SG yields such readings with statives; in order to get an inchoative reading for *gràdhaich* ‘loved’, for

¹³ This is likely grammatical as a response to something like *Kevin is/seems so tall today!* (e.g., if the speaker of that sentence thinks Kevin only seems tall because he’s wearing tall boots). It is not grammatical for the meaning ‘Kevin is a tall kind of guy’ (as the perfect in (50) is).

instance, the predicate *thuit ann an gràidh* ‘fell in love’ (most common; or something like ‘started loving’ or ‘began to love’) is required (53). In (54a), a universal reading is optional (as shown with the optional adverbial phrase, so that Eardsaidh continues to be in love with the other man), and (54b) can have an experiential or a resultative reading.

- (52) a. *O yannis ayapise tin Maria to 1981.* (IAI ex. 33)
 the Jannis love.PAST.PFV.3S the Mary in 1981
 ‘John started loving/fell in love with Mary in 1981.’
- b. *O yanni exi ayapisi tin Maria.* (IAI ex. 34)
 the Jannis has.3S loved the Mary
 ‘John has started loving/fallen in love with Mary.’
- Greek**
- (53) a. *Gràdhaich Eardsaidh Ùisdean ann an dà mhìle.*
 love.PAST Eardsaidh Ùisdean in two thousand
 ‘Eardsaidh loved/*fell in love with Ùisdean in 2000.’
- b. *Thuit Eardsaidh ann an gràidh le Ùisdean ann an dà mhìle.*
 fall.PAST Eardsaidh in love with Ùisdean in two thousand
 ‘Eardsaidh fell in love with Ùisdean in 2000.’
- (54) a. *Tha Eardsaidh air Ùisdean a gràdhachadh (bho dà mhìle).*
 be.PRES Eardsaidh AIR Ùisdean AGRO love.VN from two thousand
 ‘Eardsaidh has loved Ùisdean (since 2000).’
- b. *Tha Eardsaidh air tuiteam ann an gaol le Ùisdean.*
 be.PRES Eardsaidh AIR fall.VN in love with Ùisdean.
 ‘Eardsaidh has fallen in love with Ùisdean.’

In SG, as in English and Greek, the perfect asserts a right bound for a telic predicate like *drink the wine*, while the progressive (English) or imperfective (SG) does not:

- (55) *Tha Ùisdean air am fion òl (#ach chan eil*
 be.PRES Ùisdean AIR the.SM wine drink.VN but not be.PRES.DEP
fios agam an do chuir e crìoch air).
 knowledge at.1S Q PAST put.PAST 3SM end on.3SM
 ‘Ùisdean has drunk the wine (#but I don’t know if he finished it).’

- (56) ✓ *Bha Ùisdean ag òl am fion, ach chan eil*
 be.PAST Ùisdean A' drink.VN the.SM wine but not be.PRES.DEP
fios agam an do chuir e crìoch air.
 knowledge.at.1S Q PAST put.PAST 3SM end on.3SM
 ✓‘Ùisdean was drinking the wine but I don’t know if he finished it.’

Like English, SG disallows a universal reading of telic and activity predicates (while an experiential, or in this case probably resultative, reading is fine, as in (58a); compare (58b)).

- (57) **Tha e air dannsadh bho mhadainn an-diugh.*
 be.PRES 3SM AIR dance.VN from morning today
 *‘He has danced [ever] since this morning.’¹⁴ (English: IAI ex. 41a)
- (58) a. *Tha e air cearcall a tharraing.*
 be.PRES 3SM AIR circle AGRO draw.VN
 ‘He has drawn a circle.’
- b. **Tha e air cearcall a tharraing bho mhadainn an-diugh.*
 be.PRES 3SM AIR circle AGRO draw.VN from morning today
 *‘He has drawn a circle [ever] since this morning.’ (English: IAI ex. 41b)

So far we have seen that *air* in SG allows experiential, universal, resultative, and “recent past” readings; that it patterns with English in its behavior with statives and the perfect with the progressive; that it does not pattern with Greek with respect to perfects and perfectives of statives; and patterns with English in its behavior with telic predicates. These data demonstrate that (my consultant’s) SG has a perfect much like that of English. Before I proceed to my analysis of *air*, I consider the analysis of the particle in Ramchand (1993).

2.3.1.3 Ramchand (1993)

Any discussion of aspect in SG must surely take into account the analyses of aspect

¹⁴ This is grammatical on a reading where *dance* means something like ‘know how to dance/be a dancer/dance habitually’; as IAI note (footnote 43), habituals and generics pattern with statives.

and argument structure in Ramchand's (1993) dissertation. Here I briefly discuss her analysis of *air* and show that my consultant's use of the particle is quite different from the use presented in Ramchand (1993).

Ramchand first assumes that *air* spells out aspectual boundedness/telicity, in opposition to *a'/ag*, which spells out unboundedness/atelicity. Here I am concerned with her assertion that "the SGaelic [perfect] form is used to report that the person involved has *just* completed the action. The equivalent of ['I have never drunk sake before'] could not be expressed in the perfect periphrastic in SGaelic, but would have to be expressed in the simple tense" (p. 101). Ramchand's data on *air* leads her to analyze it as conveying a resultative reading only. As can be seen from the data in (59-61) and (62), this characterization of sentences with *air* is not correct for my consultant.

(59) *Chan eil mi air mo ghlainneachan a chall riamh.*
 not be.PRES.DEP 1S AIR POSS.1S glasses AGRO lose.VN ever
 'I have never lost my glasses.'

(60) *Am bheil thu riamh air an doras sin a dhùnadh?*
 Q be.PRES.DEP you ever AIR the.SM door PROX AGRO close.VN
 'Have you ever closed that door?'

(61) *Chan eil Iain air a bhith ann an Alba (riamh)*
 not be.PRES.DEP Iain AIR AGRO be.VN in Scotland (ever)
airson barrachd na seachdain.
 for more than week.S
 'Iain has never been in Scotland for more than a week.'

My consultant does allow use of the past perfective (Ramchand's "simple tense") where English would use the perfect, as noted in (42) above. However, as shown throughout section 2.3.1, my consultant also has many uses of the perfect wherein the action is not just completed, including universal readings, and readings in which the Perfect Time

Span (the time span beginning at the time marked by a perfect adverbial, and ending at the reference time, as discussed in 2.1) is long:

- (62) *Tha mi air Cher fhaicinn trì tursan na mo bheatha.*
 be.PRES 1S AIR Cher see.VN three time.P in POSS.1S life
 ‘I have seen Cher three times in my life.’

Ramchand, then, analyzes *air* as “carrying the information that the speech time is to be identified with the *final* moment of I_R ” (p. 102) (where I is the “time interval occupied by the event as a whole” and I_R is “the realisation of I in real time” (p. 85)). This is one possible analysis of resultative perfects. However, the analysis does not seem to fit the data I have presented. I suspect a dialectal difference may be at work here.

In the next subsection, I present my semantic and syntactic analysis of the particle *air*.

2.3.2 Formal analysis of *air*

Based on the data I presented above, I argue that the contribution of *air* in SG to the sentential semantics is one of a perfect meaning much like that found in English. That is, it marks “regular” or unrestricted retrospective (backwards-looking, i.e., with event time preceding reference time) aspect. As discussed in chapter 1, I take the Aspect head to be an operator that existentially quantifies over the event and introduces a relationship between the time of the event and another time; this time will be existentially bound by tense.

I claim that in the perfect in English and in the perfect marked by *air* in SG, the relationship between the event time and the reference time is one of precedence. Roughly following Ramchand (1993), I claim that in SG, *air* is one possible realization of the (viewpoint) Asp head. *Air* sets up a relationship of non-strict precedence between event

and reference time—that is, t_{final} of event time need not precede t_{init} of reference time but can be coextensive with it; this yields universal readings. Finally, I claim that the establishment of the event time fully prior to the reference time (in the case of experiential readings), or prior to and including the initial point of reference time (in the case of universal readings), along with considerations of tense, can account for the various characteristics of the perfect in English and SG. I discuss implications of my analysis for theories of perfects in section 2.5; here I simply present the formal analysis of the particle. The perfect with *as dèidh* in SG will provide evidence that Iatridou, et al. (2001) are incorrect in their claim about the ERI.

As mentioned in chapter 1, I assume aspect, in general, asserts a particular relationship between event time and reference time. Again, the formula I assume for Aspect is as follows:

$$(63) \text{ ASPECT} = \lambda P_{(vt)}. \lambda t_{(i)}. \exists e: [\tau(e) \mathcal{R} t \ \& \ P(e)]$$

P is a predicate of events, t is a time that will be existentially bound by tense, e is an eventuality, τ is Krifka's run-time function (which maps from an eventuality to the time it takes to happen), and \mathcal{R} is a relationship to be determined by the particular instantiation of the aspect head. Thus the Asp head is a function of type $\langle\langle v, t \rangle, \langle i, t \rangle\rangle$ —it composes with a property of events, and returns a property of times. The property of times returns 'true' iff the runtime of the event is in a particular relationship with the time that it takes as its argument (which will be provided by Tense). For reference, I give the general formula for tense again here:

$$(64) \text{ TENSE} = \lambda P_{(it)}. \lambda t_{(i)}. \exists t': [t' \mathcal{R} t \ \& \ P(t)]$$

Here, P is a predicate of times, and t is a time that will be saturated by the utterance time. The reference time t' is in a particular relationship with the utterance time.

Then, in SG, *air* is the morphosyntactic instantiation of an Asp head which composes with νP ; it returns a function which takes a time and returns a truth value of 1 if and only if the runtime of the event fully precedes or reaches (\leq) that time. By “fully precedes or reaches”, I mean that either (as with an experiential perfect) the final moment of ET precedes the initial moment of RT, as in (65a), or the final moment of ET is coextensive with the initial moment of RT, as in (65b).

(65) a. $_{ET}[\dots\dots\dots]_{RT}[\dots\dots\dots]$

b. $_{ET}[\dots\dots\dots[\cdot]\dots\dots\dots]_{RT}$

I take a universal perfect to be a proposition that says that the runtime of the event extends to and includes (“reaches”) at least the initial moment of reference time. However, I take it that a universal perfect requires only that the runtime of the event continue through the initial moment of RT. For example, *In 2010, Art had lived in that same house for 15 years* can be true in the case that Art had lived in the house as of January 1, 2010, but then moved out of the house in March of the same year. The reference time span is (perhaps arguably) all of 2010, but the runtime of the eventuality need only reach to the beginning of the RT in order for the sentence to be felicitous. A universal perfect is also consistent with the runtime of the event extending to the end of RT, but not with it extending past RT (as this would produce a perfective); this possible extension of ET past the initial moment of RT I take to be an implicature.

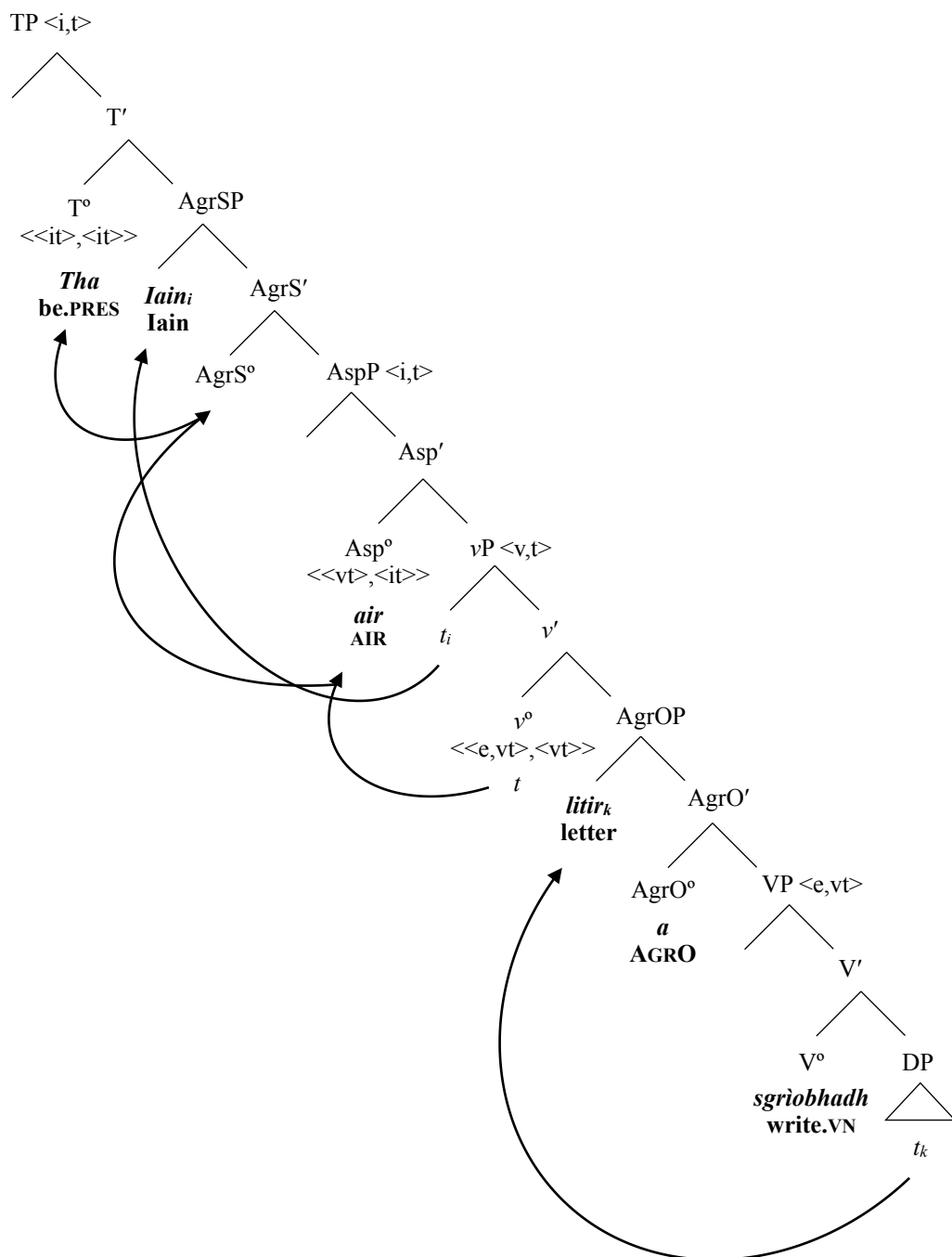
The denotation for *air* is in (66):

$$(66) \llbracket \text{AIR} \rrbracket = \lambda P_{(vt)}. \lambda t_{(i)}. \exists e: [\tau(e) \leq t \ \& \ P(e)] \\ (\tau(e) \leq t \text{ iff there is no } t' \subset \tau(e), \text{ s.t. } t' < \tau(e)_{\text{final}} \text{ and } t' = t_{\text{init}})$$

This says that *air* is a function that takes a property of events and returns a property of times; the property of times returns ‘true’ iff there is no time in the runtime of the event (which is a P-event) *prior to the final moment* that is coextensive with the initial moment of the time it takes as an argument (the reference time). That is, the final moment of event time can be coextensive with the initial moment of reference time, but it can not occur after the initial moment of reference time.

In the structure in (67), Tense composes with AspP, and Aspect with vP. As discussed in chapter 1, I assume that the intervening Agr heads do not contribute semantically; they are deleted by the Spell Out/transfer operation and are not visible at LF.

(67)



I give a partial sentence-level denotation (from Tense downwards) for (68a) in (68b). The Tense head is an operator of type $\langle\langle i, t \rangle, \langle i, t \rangle\rangle$, so it takes the output of the Asp operator as its input (that is, it composes with AspP), and provides the time (reference time) required by the predicate output by Asp.

- (68) a. *Bha Iain air litir a sgrìobhadh.*
 be.PAST Iain AIR letter AGRO write.VN
 ‘Iain had written a letter.’

b. $= \exists t': [t' < t_{\text{now}} \ \& \ \exists e: [\tau(e) < t' \ \& \ \llbracket \text{Iain write a letter} \rrbracket(e)]]$

That is, there is a time, which is prior to the time retrieved from context (utterance time, notated here as t_{now}), and there is an event, whose runtime fully precedes that time, and the event is a writing event of a letter by Iain.

With *air* thus analyzed, I now turn to another particle in SG that seems to convey similar semantics. I use facts about this particle to support my theory of the semantics of perfect, and the need to include the event-reference time interval in those semantics.

2.4 The restricted retrospective perfect in Scottish Gaelic

English has one morphosyntactic distinction of perfect aspect, tensed *have* + past participle. As we have seen, the meaning of the perfect can be varied slightly with adverbials, such as *just* or *recently* (*I have just X'd*), but the regular perfect is the only one grammaticalized. After having investigated the various intervals associated with the perfect in section 2.1.1, we might wonder if any language grammaticalizes information about any of these intervals. In this section I argue that SG has a morphosyntactic distinction which grammaticalizes information about the interval between event time and

reference time (ERI). In English, the only way to modify the ERI is with an adverb. However, in SG, a restriction of this time span can be expressed via a separate aspectual particle. Here I argue that the particle *as dèidh* (*an dèidh* in some dialects) is a marker of what I will call ‘restricted retrospective’ perfect aspect, conveying perfect semantics plus a restriction on the length of the ERI.

2.4.1 *A different kind of perfect meaning*

Before I present data supporting my claim that *as dèidh* marks restricted retrospective perfect aspect, I will briefly discuss what I think the nature of this meaning to be. The compound particle marks what is traditionally called the ‘after-perfect’ (at least in Irish (Hiberno-) English and Scottish English (Ó Sé 2004)). Ramchand (1993) does not discuss it. I claim that *as dèidh* is, like *air*, an instantiation of Asp that binds an event and says that the runtime of that event *precedes* another time (which will be the reference time, bound by tense). However, unlike *air*, *as dèidh* has an additional restriction that the event-reference time interval (ERI) be short. As mentioned above, this kind of meaning is approximated with English *have just X’d* or *have recently X’d*, but as we will see, neither gloss is quite right for *as dèidh*. In fact, the particle readily co-occurs with the adverb *dìreach* ‘directly’, which is used in many of the places *just* is used in English. Although *as dèidh* can be used in places where English would need to use *have just*, its meaning is wider than that of the English gloss, and correspondingly can be used in places that the English adverbials cannot. It can also be used with perfect adverbials like *since*, and with other adverbials that do not occur in English with adverbially-modified perfects. *As dèidh* is also not an adverbial morphosyntactically. We will also see that while situations with a

long Perfect Time Span and *as dèidh* are rather rare due to the combination of semantics involved, they are perfectly possible given the correct pragmatic and syntactic situation; and thus *as dèidh* does not restrict the PTS. However, *as dèidh* cannot occur when the ERI is long; more specifically, it can not occur when the interval between the final moment of ET and the initial moment of RT is long. In the end, I conclude that *as dèidh* is an aspectual marker which sets up a relationship of precedence between event time and reference time and specifies that the interval between those two time spans must be relatively short (more on how “relative shortness” is determined in section 2.4.3.2).

2.4.2 Tests for *as dèidh* as a restricted retrospective perfect marker

The distributions and meanings of sentences with *as dèidh* and *air* are similar but crucially non-identical. First, as with *air*, sentences with *as dèidh* appear in past, present, and future tenses (i.e., with the verb *bi* ‘be’ in all three tenses):

- (69) *Bha/tha/bithidh mi as dèidh a dhol dhachaidh.*
 be.PAST/be.PRES/be.FUT 1S AS DÈIDH AGRO go.VN home
 ‘I had/have/will have recently-gone home.’

Second, sentences with *as dèidh* are infelicitous with past positional adverbials, as sentences with *air* are (I repeat (10) and (11) here as (70) and (71)):

- (70) *Tha Iain as dèidh ithe an-diugh (mar tha).*
 be.PRES Iain AS DÈIDH eat.VN today already
 ‘Iain has recently-eaten today (already).’

- (71) **Tha Iain as dèidh ithe an-dè.*
 be.PRES Iain AS DÈIDH eat.VN yesterday
 *‘Iain has recently-eaten yesterday.’

- (72) **Tha Iain as dèidh ithe a-raoir.*
 be.PRES Iain AS DÈIDH eat.VN last.night
 *‘Iain has recently-eaten last night.’

As dèidh also participates in two readings depending on the position of adverbials:

EITHER READING

- (73) *Bha Calum as dèidh a' bhùth fhàgail aig meadhan-latha.*
 be.PAST Calum AS DÈIDH the.SF shop leave.VN at mid-day
 'Calum had (recently) left the store at noon.'

REFERENCE-TIME READING

- (74) *Aig meadhan-latha, bha Calum as dèidh a' bhùth fhàgail.*
 at mid-day be.PAST Calum AS DÈIDH the.DAT.SM shop leave.VN
 'At noon, Calum had (recently) left the store.'

EVENT-TIME READING

- (75) *Bha Calum as dèidh a' bhùth fhàgail dìreach aig meadhan-latha,*
 be.PAST Calum AS DÈIDH the.SF shop leave.VN directly at mid-day
agus bha Iain as dèidh a' bhùth fhàgail aig uair.
 and be.PAST Iain AS DÈIDH the.DAT.SF shop leave.VN at one
 'Calum had left the store precisely at noon, and Ian had left at 1.'

Sentences with *as dèidh* can also be interpreted as the “perfect of recent past” (Iatridou, et al. 2001) or the “hot news” perfect (McCawley 1971), as in (76) and (77):

- (76) *Tha e as dèidh ceum a ghabhail.*
 be.PRES 3SM AS DÈIDH step AGRO take.VN
 'He has just taken a step/graduated.'
- (77) *Tha Alexandra as dèidh Alba a ruigsinn.*
 be.PRES Alexandra AS DÈIDH Scotland AGRO reach/arrive.VN
 'Alexandra has just¹⁵ reached/arrived in Scotland.'

Recalling that experiential, resultative, and universal readings were found for *air*, we can now investigate the possible readings for *as dèidh*. The tests run on *air* will apply here as well. Starting with the experiential reading, note that the closeness of the event to the

¹⁵ I have glossed some of these sentences using the English word *just*. However, the reader should not confuse this gloss with a true ‘just’ adverbial, as in English. In fact, SG has a similar adverbial, *dìreach* ‘directly’ (seen in some examples). See section 2.4.5 for more discussion.

reference time is not absolute—in the following examples, there are several different ERIS (less than a week in (78), less than a year in (80)) and PTSS (a week in (78) and a year in (80)) allowed. However, a lifetime ERI seems to be disallowed ((79-80)).

- (78) *Tha mi as dèidh Cher fhaicinn trì tursan an t-seachdain*
 be.PRES 1S AS DÈIDH Cher see.VN three time.P the week
seo mar tha.
 PROX already
 ‘I have recently-seen Cher three times this week already.’
- (79) **Tha mi as dèidh Cher fhaicinn trì tursan na mo bheatha.*
 be.PRES 1S AS DÈIDH Cher see.VN three time.P in POSS.1S life
 *‘I have recently-seen Cher three times in my life.’
- (80) *Tha mi air/(*as dèidh) Cher fhaicinn trì tursan na mo*
 be.PRES 1S AIR/(*AS DÈIDH) Cher see.VN three time.P in POSS.1S
bheatha. Chunnaic mi i dà thuras ann an dà mhìle, agus
 life see.PAST 1S 3SF two time.S in two thousand and
tha mi as dèidh a faicinn aon turas am bliadhna.
 be.PRES 1S AS DÈIDH POSS.3SF see.VN one time.S the.SM year
 ‘I have seen Cher three times in my life. I saw her twice in 2000 and I have recently-seen her once this year.’ [UT: 2011]

Next, we see that a resultative reading is also possible:

- (81) *Tha mi as dèidh mo chofaidh a dhòrtadh.*
 be.PRES 1S AS DÈIDH POSS.1S coffee AGRO spill.VN
 ‘I’ve recently-spilled my coffee.’
- (82) *Tha mi as dèidh tuiteam.*
 be.PRES 1S AS DÈIDH fall.VN
 ‘I’ve fallen.’
- (83) *Tha e as dèidh tuiteam na chadal.*
 be.PRES 3SM AS DÈIDH fall.VN in.3SM sleep.VN
 ‘He has just fallen asleep.’
- (84) *Tha i as dèidh ruigsinn.*
 be.PRES 3SF AS DÈIDH arrive.VN
 ‘She has recently arrived.’

- (85) *Tha mi as dèidh mo ghlainneachan a chall.*
 be.PRES 1S AS DÈIDH POSS.1S glasses AGRO lose.VN
 ‘I have just lost my glasses.’

As dèidh also allows a universal perfect reading, as can be seen in (86):

- (86) *Tha mi as dèidh fuireach ann an Glaschu airson ùine mhòr a-nisde.*
 be.PRES 1S AS DÈIDH live.VN in Glasgow for time big now
 ‘I have lived in Glasgow for a long time now.’¹⁶

In (87), *as dèidh* can have an experiential or universal reading:

- (87) *Tha Alexandra as dèidh a bhith ann am Paris (airson dà sheachdain).*
 be.PRES Alexandra AS DÈIDH AGRO be.VN in Paris for two
 week.S
 ‘Alexandra has recently been to/in Paris (for two weeks).’

Sentences with *as dèidh* also allow typical ‘since’ (‘from’ in SG) adverbials:

- (88) *Tha mi as dèidh Cher fhaicinn trì tursan bho dà mhìle.*
 be.PRES 1S AS DÈIDH Cher see.VN three time.P from two thousand
 ‘I have seen Cher three times since 2000.’ [UT: 2011]
- (89) *Tha mi as dèidh Cher fhaicinn trì tursan bho latha na Sàbaid.*
 be.PRES 1S AS DÈIDH Cher see.VN three time.P from day the.GEN Sabbath
 ‘I have seen Cher three times since Sunday.’

It seems from these data as though *as dèidh* contributes a perfect-like meaning, but that its interpretation is that there is an event time that is relatively close to the reference time.

Below, we will investigate further what it is that determines this “relative closeness.”

2.4.3 Pinning down restricted retrospective meaning

Given the data I have presented, we can start to draw some conclusions about what

¹⁶ This may seem odd at first; my consultant also gave the Highland English gloss of “I am after living in Glasgow for a long time now”. The universal interpretation of *as dèidh* actually fits quite neatly into the analysis I present here; *as dèidh* says that the ERI is short; that is, that the interval between the final moment of the event time and the initial moment of the reference time not be longer than a certain amount. In a universal interpretation, the final moment of ET is coextensive with the initial moment of RT, so this requirement is met.

this “restricted retrospective” meaning might be. First I will lay out what I argue the basic meaning of the particle to be; then I will provide some details of the semantics before giving a formal analysis.

2.4.3.1 Basic meanings

Above I posited that *as dèidh* marks a perfect meaning and requires that ET be relatively close to RT. However, I have not yet shown that it is definitively a short ERI, rather than a short PTS, that *as dèidh* is looking for. If we can find a way to compose a sentence which involves an “in your life” type meaning (long PTS) with a short ERI, we can test this prediction. This is a difficult difference to tease apart, because often a long PTS leads to a long event-result time interval. So, in (90) (repeated from (79) above), the PTS is the life span of the speaker—a long PTS—and infelicity results:

- (90) **Tha mi as dèidh Cher fhaicinn trì tursan na mo bheatha.*
 be.PRES 1S AS DÈIDH Cher see.VN three time.P in POSS.1s life
 *‘I have recently-seen Cher three times in my life.’

What is needed is a situation where a small-ERI perfect would be natural. For instance, perhaps you have just shut your front door behind you when you realize that you don’t have your keys, and have locked yourself out. In English, if we put this in a declarative sentence, we end up with difficulty in parsing it as an experiential perfect:

- (91) ?I have just shut my door and realized that I didn’t have my keys before/several times (in my life).

With a normal perfect, we have something slightly easier to parse:

- (92) I have shut my door and realized that I didn’t have my keys before/several times (in my life).

In question form, though, both become easy to parse:

(93) Have you ever just shut your door and realized that you didn't have your keys?

(94) Have you ever shut your door and realized that you didn't have your keys?

This way we have a long Perfect Time Span (presumably the left bound would be the age that you were first entrusted with keys; the right bound would be the reference time), but a short ERI (the ET is the moment of door-shutting; the RT is the time of realizing). And, in fact, this sentence is perfectly acceptable with *as dèidh* in SG (as it is with *air*):

(95) *Am bheil thu riamh as dèidh an doras a dhùnadh agus*
 Q be.PRES.dep 2S ever AS DÈIDH the.SM door AGRO close.VN and
ghabh thu beachd nach robh na h-iuchraichean agad?
 take.PAST2S observation NEG_COMP be.PAST.DEP the.P key.P at.2S
 'Have you ever recently-closed the door and realized you didn't have your keys?'

If we reconstruct this question as a declarative, we still get felicity:

(96) *Bho dà mhìle, (trì tursan) tha mi as dèidh an doras a*
 from two thousand three time.P be.PRES 1S AS DÈIDH the.SM door AGRO
dhùnadh agus ghabh mi beachd nach robh na
 close.VN and take.PAST 1S observation NEG_COMP be.PAST.DEP the.P
h-iuchraichean agam (trì tursan).
 key.P at.1S three time.P
 'Since 2000, (three times) I have just closed the door and realized I didn't have my keys (three times).'
 Note: 'Three times' can only occur in one or the other of the two positions.

And, in fact, 'in my life' is a perfectly acceptable PTS, so long as the ERI is clearly short:

(97) *Trì tursan na mo bheatha tha mi as dèidh an doras a*
 three time.P in POSS.1S life be.PRES 1S AS DÈIDH the.SM door AGRO
dhùnadh agus ghabh mi beachd nach robh na
 close.VN and take.PAST 1S observation NEG_COMP be.PAST.DEP the.P
h-iuchraichean agam.
 key.P at.1S
 'Three times in my life I have just closed the door and realized I didn't have my keys.'

So, in fact, it seems that *as dèidh* does not care about the length of the PTS; rather, it specifies a short ERI.

Now that it is fairly clear that what *as dèidh* specifies is a short ERI, rather than a long PTS, we might ask what determines how long ERI can be.

2.4.3.2 *Deciding on the length of the ERI*

In SG, then, we have two options for retrospective perfects. The *air* perfect is an unrestricted perfect; that is, the length of the ERI can be as long as is ever allowed to be with perfects. The same rules apply to these perfects as to perfects in English: there is something that has been likened to “present relevance” that is required (i.e., you must be making a statement about the reference time and referring to an event before it), etc. But past those considerations, there is no limit on how far back the event can have taken place. In *as dèidh* perfects, on the other hand, we have a restricted perfect, where the value of the ERI must be relatively small. Given these choices, a speaker of SG can choose to specify that the event that caused the result state indicated by the perfect happened more recently, or they can not do so. That is, even if an event time was recent, a speaker is not obliged to use the *as dèidh* perfect, they may still use the *air* perfect. It is not yet clear whether it is pragmatically odd to do so.

Those things said, we still want an idea of how long, exactly, the ERI with *as dèidh* can be, and what determines this. I argue that the allowed value of the ERI is

pragmatically determined.¹⁷ Acceptability of sentences with *as dèidh* varies depending on real-world knowledge of the semantics of the event denoted by the verb phrase. For instance, with the verb ‘eat’, *as dèidh* is utilizable only within a few hours. We know that eating happens every few hours, so every few hours a new episode of eating is likely to happen. In the next examples, the speaker finishes eating at noon, and someone offers her something to eat at a particular time. The speaker responds with “no thank you,…”

At 12:01:

- (98) *Tha mi dìreach as dèidh ithe an-dràsda fhèin.*
 be.PRES 1S directly AS DÈIDH eat.VN now itself
 ‘I’ve *just* (recently-)eaten just now.’

At 1:

- (99) *Tha mi dìreach as dèidh ithe.*
 be.PRES 1S directly AS DÈIDH eat.VN
 ‘I’ve just eaten recently.’

By 3 o’clock, however, neither *air* nor *as dèidh* is acceptable in a sentence like those in (98) and (99); instead, another excuse must be made (otherwise, why wouldn’t you accept a bite to eat three hours after your last meal?):

At 3:

- (100) *Tha mi air cus ithe.*
 be.PRES 1S AIR too much eat.VN
 ‘I’ve eaten too much.’
- (101) *Tha mi as dèidh cus ithe.*
 be.PRES 1S AS DÈIDH too much eat.VN
 ‘I’ve (recently) eaten too much.’

¹⁷ My focus here is not on how this pragmatic computation can be represented formally, but rather to demonstrate that real-world knowledge plays a part in the felicitous use and interpretation of *as dèidh*. See section 2.4.5 for a bit more discussion on this topic.

However, with a verb phrase that describes an event that happens less often, *as dèidh* can be used for a longer period of time felicitously. For instance, for a speaker who goes into town for “the messages” (the mail and groceries) once a week on Mondays, *as dèidh* would be felicitous in relating that one had already done so when the question is asked on any day up to at least Friday:

Monday (after getting them):

- (102) *Tha mi dìreach as dèidh na “messages” fhaighinn.*
 be.PRES 1S directly AS DÈIDH the.P messages get.VN
 ‘I’ve just recently gotten the messages.’

Tuesday-Friday:

- (103) *Tha mi as dèidh na “messages” fhaighinn (mar tha).*
 be.PRES 1S AS DÈIDH the.P messages get.VN already
 ‘I’ve (recently-)gotten the messages (already).’

My consultant reports that by Saturday or Sunday, this would lose felicity, as you would need more groceries by then. However, if perhaps you only went into town once a month, a Sunday (or even later) utterance would be appropriate, since you wouldn’t be going again for a few weeks.

These data lead me to the conclusion that *as dèidh* doesn’t mean ‘to have just done X’ or ‘to have recently done X’, but ‘to have done X recently for the context’. Then, it is not just the semantics of *as dèidh* itself that determines when it is allowed, but real-world knowledge about the event denoted by the verb phrase. This parallels the use of the regular perfect—for instance, one must have eaten within a few hours to say “no thanks, I’ve eaten” to an offered morsel, but need not have seen a play within a few hours to respond “no thanks, I’ve seen it” to an invitation.

2.4.4 Formal analysis of *as dèidh*

Based on the data presented above, then, I argue that *as dèidh* is a morphosyntactic realization of the Asp head which, like *air*, specifies a precedence relation between ET and RT. The structure will be as in (67) above. Unlike *air*, however, *as dèidh* also places a restriction on the possible length of the ERI. I use ε to stand for a small quantity¹⁸; the value of ε is determined by the context. The terms t_{init} and t_{final} are the output of the functions ‘init’ and ‘final’, each of which takes an interval as its argument and returns that interval’s initial or final moment, respectively. So t_{init} gives the output of the ‘init’ function applied to t . Then, the value of the ERI must be less than ($<$) ε . I give the denotation for *as dèidh* in (104):

$$(104) \quad \llbracket \text{AS DÈIDH} \rrbracket = \lambda P_{(vt)}. \lambda t_{(i)}. \exists e: [\tau(e) \leq t \ \& \ P(e) \ \& \ \exists \varepsilon_c: [|t - \tau(e)| < \varepsilon_c]] \\ (\tau(e) \leq t \text{ iff there is no } t' \subset \tau(e), \text{ s.t. } t' < \tau(e)_{\text{final}} \text{ and } t' = t_{\text{init}})$$

That is, *as dèidh* is a function that takes a predicate of events; it returns a function that takes a time (provided by tense) and returns a truth value of 1 iff the runtime of the event precedes or reaches that time; and there is some amount determined by the context such that the value of the interval between that time and the runtime of the event is less than that amount.

I give a partial sentence-level denotation in (105b) for the sentence in (105a):

- (105) a. *Tha Iain as dèidh ithe.*
be.PRES Iain AS DÈIDH eat.VN
‘Iain has recently-eaten.’

$$b. = \exists t' [t' = t_{\text{now}} \ \& \ \exists e: [\tau(e) < t' \ \& \ \llbracket \text{Iain eat} \rrbracket(e) \ \& \ \exists \varepsilon_c: [|t - \tau(e)| < \varepsilon_c]]]$$

¹⁸ Epsilon is used to denote an arbitrarily small quantity in various branches of mathematics; for instance in the epsilon-delta definition of a limit in calculus.

That is, there is a time, which is coextensive with the time provided by tense, and there is an event, whose runtime fully precedes that time, and the event is an eating event by Iain, and the event precedes the time by an amount determined by the context.

In the conception of the perfect presented in this chapter, then, there are two intervals at work, but only one is grammaticalized within the aspect particle in SG. The Perfect Time Span, during which the ET must take place, is either the same length as that found in other unmodified aspects (namely, the lifetime), or else a left bound for it is introduced by an adverbial. The event-reference interval can be modified adverbially by something like *direach* ‘directly’, or it can be specified via the use of *as dèidh* rather than *air*.

2.4.5 Why *as dèidh* does not mean ‘just’ (or ‘recently’)

In a number of examples I (along with my consultant) have glossed sentences with *as dèidh* using *just* or *recently* in English. I want to take a moment here to make it clear that neither of these glosses is quite right for *as dèidh*, as neither English word has a semantics that matches the semantics of *as dèidh*.

First, *as dèidh* when used as a preposition clearly means ‘after’:

- (106) *A h-uile latha as dèidh mo bhath tha tachas orm.*
 every day after POSS.1S bath be.PRES itch on.1S
 ‘Every day after my bath I itch.’

It cannot be used as an adverbial syntactically:

- (107) *Tha e air ceum a ghabhail (*as dèidh).*
 be.PRES 3SM AIR step AGRO take.VN AS DÈIDH
 ‘He has graduated (*after).’
 [Intended: ‘He has graduated recently.’]

- (108) *Thubhairt (*as dèidh) mo bhràthair gu robh an*
 say.PAST AS DÈIDH POSS.1S brother DECL_COMP be.PAST.DEP the.SM
t-uisge fuar an dè.
 water cold yesterday.
 ‘My brother (*after) said that the water was cold yesterday.’
 [Intended: ‘My brother just said that the water was cold yesterday.’]

Furthermore, *as dèidh* does not have readings such as those of *just* in English that Aijmer (2005) terms ‘restrictive’, ‘emphatic or exclusive’, or ‘derogatory’.¹⁹ For example:

- (109) a. I have a bike just like that one. (restrictive: ‘exactly’)
 b. I’m just leaving for a few minutes, so the dog will have enough water.
 (emphatic/exclusive: ‘only’)
 c. You’re just a child, you don’t know anything. (derogatory: ‘merely’)

In non-prepositional uses of *as dèidh*, the particle must go in the same place as *air* in regular perfect sentences; (restricted) perfect meaning is always present; and these other meanings are not present.

- (110) *Tha na caoraich as dèidh a bhith air an*
 be.PRES the.P sheep.P AS DÈIDH AGRO be.VN PASS POSS.3P
rùsgadh le Iain.
 shear.VN with John
 ‘The sheep have just been shorn by John.’
 #‘The sheep have only been shorn by John (they haven’t also been tagged).’
 #‘The sheep have been shorn merely by John (so they probably need another shearing by someone more experienced).’

Instead, *as dèidh* only carries what Aijmer (2005) calls the *temporal* reading, or what Lee (1987, 1991) calls the *specificatory* meaning, of *just* (meaning something like ‘immediately prior to RT’), and even this meaning it only sometimes carries.

Finally, although English *have recently* often works well as a gloss for *as dèidh*, *as*

¹⁹ See also Kishner & Gibbs (1996); Lee (1987, 1991).

dèidh cannot just mean ‘recently’, as it cannot modify sentences that already have an aspectual specification (as seen in (107) and (108) above). Instead, the ‘recent’ meaning comes along with the perfect meaning. As is the case with *recently*, though, the ‘recent’ meaning in *as dèidh* is both deictic and relative. First of all, *recently* in English locates event time with respect to either utterance time (in the simple past) or reference time (in the perfect):

- (111) a. I recently switched brands.
 $UT=now; ET/RT<UT$
- b. I have recently decided not to run for president.
 $UT/RT=now; ET<UT/RT$
- c. He had recently discovered that his job was under threat from budget cuts,
 so it’s not surprising he quit while he was ahead.
 $UT=now; ET(discover)<RT<UT$

Since *as dèidh* is a perfect marker, the recency is always of the event time with respect to reference time (as we have seen). But then in both languages, the recency is not absolute (as in an adverbial like *five minutes ago* or *five minutes before*, say), but relative to the conversational context (as demonstrated in section 2.4.3.2). This kind of situation-dependent meaning is also seen in quantifiers like *few* and *many*, which have been famously troublesome for generalized quantifier theory (e.g., Barwise & Cooper 1981). Extensional accounts of these quantifiers like Barwise & Cooper (1981) tend to characterize the meaning of these words as involving the cardinality of the intersection of the set of Ns with the set of things that VP. Intensional accounts like that of Keenan & Stavi (1986) involve comparative norms in possible worlds. Lappin (2000) presents an intensional parametric account that also depends on the concept of normative situations.

The problems are similar for *recently* or *as dèidh*; but instead of needing to compare the cardinality of a set (that is the intersection of an N with a VP) to a norm, we need to compare the length of an interval of time (between an event and a reference or utterance time) to a normative interval of time for that VP. Although I leave a formal account for future work, I think that a definition of recency along the lines of the intensional definition of *many* in Lappin (2000) would provide us with what we need—namely, a semantics which involves a normative situation that depends upon the intensions of the predicate(s) involved.

Having analyzed these two perfect particles in SG, in the next section I consider in more depth a few important issues surrounding the perfect, noting what the SG data brings to the conversation and what my analysis has to say about these issues.

2.5 Issues surrounding the semantics of the perfect

Now that I have laid out my basic analysis of English-like perfect meaning in general as well as my analyses of the perfect distinctions in SG, I here pursue further a few theoretical issues that were introduced above. In section 2.5.1 I review several important characteristics of retrospective perfects (and issues for analyses thereof) that have come up repeatedly in the literature, and describe what the current analysis has to say about these “puzzles”.²⁰ Then in section 2.5.2 I discuss several issues of adverbial modification with respect to the perfect, including ‘since’ adverbials and the Perfect Time Span.

²⁰ These characteristics (stativity, continuing result, universal readings, and the Present Perfect Puzzle) will serve as “tests” for perfectness in chapter 3 when we look at prospectives.

2.5.1 Characteristics of the perfect revisited

2.5.1.1 Stativity

A number of authors have noted that perfects share some qualities with statives (e.g., Bennett & Partee 1978, Taylor 1977, ter Meulen 1995, Pancheva & von Stechow 2004). Some authors (e.g. Katz 2003b, Vlach 1993), going beyond merely noting the state-like qualities of perfects, have explicitly called for a state to be involved in the semantics of the perfect. There are (possibly) two issues here: whether perfect sentences act like (lexical) statives, and whether there is some kind of (result) state involved in the meaning of the perfect. At least in English, it does seem clear that perfects, while they convey information about an event, do have some properties of states.

For Vlach (1993), these properties include particular behavior with *when* adverbials, etc.; for him these tests also show that progressives are stative (whereas Smith 1997 argues for progressives and statives as separate entities). For instance, Vlach notes that perfects (and progressives) pattern with stative predicates like *be here* in modification with *when* adverbials—a typical reading of (112d) has Jennie leaving directly after Jeff’s arrival, while (a, b, c) have the present-tense proposition holding *during* Jeff’s arrival.

- (112)a. Jennie was here when Jeff arrived.
- b. Jennie was running when Jeff arrived.
- c. Jennie had eaten when Jeff arrived.
- d. Jennie left when Jeff arrived.

Bauer (1970) suggests that “the action is viewed, in the perfect, as PERFECTIC, as an ‘accomplished fact’, and thus as being in a STATE of completion at the point of reference,

whereas the ‘statally’ unmarked present does not characterize the action as perfectic, but simply as ‘verbal action’” (p. 197). Demirdache & Uribe-Etxebarria (2008b) agree with Bauer: “note that under both the resultative and continuative readings of the perfect, a state is presented as extending from a past time up to a present reference-time” (p. 1806). Stowell (1995) identifies a result state in the English perfect, which for him is denoted by the auxiliary verb *have*. Parsons (1990) and Giorgi & Pianesi (1998) also discuss a state in the perfect which follows from the eventuality.

Katz (2003b) thoroughly addresses the question of whether English perfect predicates are stative predicates. Katz shows that the English perfect passes a number of tests for stativity, and concludes that the perfect is best seen as being stative. He distinguishes state predicates from event predicates by saying that the former are properties of times, while the latter are properties of events. Then, “perfect predicates are here interpreted as predicates of times subsequent to a time at which another predicate of times holds. Note that the perfect operator is not a stativizing operator itself. It must apply to a predicate of times, but this might be a lexically stative predicate or a predicate of times formed by applying an aspectual operator to an event predicate” (p. 14). We will see more of Katz’s account in chapter 3 when the perfect-like characteristics of prospectives are discussed.

In her dynamic temporal logic, ter Meulen (1995) also discusses a “perfect state”; while an eventive can be a “causal source of change,” “perfect states themselves do not participate in the changing world of causal forces” (p. 5). In fact, for her, the main contribution of the perfect is a stative one: “The difference between the simple past and the perfect is hence aspectual in nature: the former describes events in a context-

dependent way, whereas the latter gives only stative information” (p. 6). While events are sorted into three aspectual classes (holes, filters, and plugs), states have no internal temporal structure. So while events can either “let new information through” (holes) or “block the flow and direct that further information must describe a later event” (plugs and to some extent filters), states do not move the (reference) time along at all.

For Pancheva (p.c.), this state-like property is attributable to the presence of the Perfect Time Span, which says that no change of state happens between two particular times. In the same vein, in the current analysis (as laid out in 2.1) I attribute this state-like quality of perfects to the existence of the homogeneous (with respect to the predicate) event-reference interval, which is a consequence of the relationship between ET and RT established by a perfect instantiation of the Asp head. A state is essentially a homogeneous²¹ interval, so it makes sense that such an interval acts the same way as stative predicates like *be here*. The ERI, however, is not a state in the sense of having a (neo-Davidsonian) eventuality argument (of whatever sort we might want for stative verbs); it is merely an interval during which nothing (pertinent) changes, and thus has many of the characteristics found with stative predicates and other states. We can also think of this in terms of Bennett & Partee’s (1978) *subinterval property*, which is true of a predicate iff a predicate holding at a time also holds of all subintervals of this time. The subinterval property is a characteristic of lexical statives like ‘be asleep’, but also of “derived statives,” such as progressives and adjectival predicates. Perfects also have the subinterval property, as do prospectives.

²¹ For more discussion of homogeneity, see chapter 4.

2.5.1.2 Continuing result

The state that perfects seem to carry has a particular quality. Perfect sentences seem to focus not on the event they mention, but on the result of that event. Specifically, experiential perfects convey a very particular meaning: that the subject of the event is in a state that is the result of the event mentioned. This result(ant) state is peculiar in that it is not the result of anything except the event having happened. (See e.g. Parsons 1990, Vlach 1993, Giorgi & Pianesi 1998 for related views.) Note that here I am referring to the “result state” that seems to obtain from experiential reading of a perfect, as in *I have visited Paris before*, and not the state that does result from a resultative perfect reading, as in *I have (just) lost my phone*. The “result state” in the former is the (somewhat circular) state of having visited Paris, while the state produced in the latter is the state of the phone (still) being lost. In addition to this “state” being the “result” of the event, this state seems to last indefinitely, at least for experiential readings. (That is, if *Tess has read ‘The Grapes of Wrath’* is true at any time t , then it will be true at time $t + 1$, assuming the normal laws of temporal progression, etc. are still in place.)

This phenomenon is not seen in other readings of perfects, however. It does not occur with the universal reading (Pancheva 2003), in which the eventuality still holds at reference time (e.g., on the reading of *Tess has lived in Canada since 1997* where *Tess lives in Canada* is also true at the time of speech). While in this case the sentence *Tess has lived in Canada since 1997* will continue to be true indefinitely on an experiential reading (i.e., Tess will always be able to answer affirmatively to the question *Have you lived in Canada at any point since 1997?*), it need only be true on the universal reading at

the moment of speech. In addition, with resultative readings (like with *I've just spilled my coffee*, where the coffee has yet to be mopped up) this kind of “state of having X'd” (experientially) does last indefinitely, but the resultative reading itself does not—after you mop up the coffee (or whatever you need to do to remedy the spill), you cannot utter *I've just spilled my coffee* to explain yourself while gathering an armful of paper towels, for instance.

In the current analysis, this set of phenomena falls out of the time relations involved in the perfect. An event's occurrence makes it true ever afterwards that *x happened*; whether that is expressed with a perfective or a perfect. A perfect, however, makes a statement about both a time (the RT) and about an event that occurred before that time. The RT is the time about which the proposition is being made. Thus, the fact that perfects seem to bring attention to a “result state” should not be surprising—in general, the RT is the time under discussion, and so gets the “attention” (in a very informal way); in the case of the perfect, the RT occurs after the event and is the result of the event in this way. Then, for any RT (indefinitely into the future), a perfect sentence involving that RT will be making a statement about an event that happened prior to the RT (that's what the perfect does). So essentially, when we make a statement with a perfect we are by doing so drawing attention to a time that does not itself include a (relevant) eventuality, but which follows one, and which follows an interval homogeneous with respect to that eventuality. This gives us a result (RT follows the event) state (and the ERI) that continues indefinitely (up to any RT). It also gives us the notion of “current relevance” with present perfects (discussed in section 2.5.2), in that a present perfect is making a statement *about* UT (in

fact, again about RT, but as it is in the present tense, UT and RT are coextensive), even though the eventuality that is referenced is in the past.

2.5.1.3 *Universal and other readings*

As discussed in section 2.2.3, some perfect sentences have a reading wherein the eventuality in question carries over to the reference time, so that in the present perfect (in English, for example), the “state” that perfects seem to carry holds at the moment of speech, as in (113):

(113) Suzie has lived in Tucson (ever) since 1997.

We saw that this was also true in SG. This reading does not carry the same kind of anteriority with it as the other perfect readings seem to, though it still locates the beginning of ET in the past. In addition, only certain predicates allow a universal reading (stative verbs, adjectives, and progressives). The question here is how this reading arises, and whether its appearance is due to semantic or pragmatic factors. Another question is whether this reading is a primary one in the family of perfect meanings, or if its meaning is merely one extension/use of one of the other meanings. Iatridou, et al. (2001) use the term *unboundedness* for the quality that universal reading-allowing predicates have. They claim that “truly unmodified perfects” never get universal readings; instead, an unmodified perfect like *Mary has been sick* means something like “Mary has been sick lately (I’m not sure whether she still is).” I generally agree with this claim, although I leave the specification of time relation in my denotations as \preceq (preceding or reaching) to

allow for universal readings.²² In the current analysis a universal reading is possible because of the relation introduced by the Asp head between ET and RT; more precisely (as I've defined the relation between the two in section 2.3.2) the final moment of ET can be coextensive with the initial moment of RT.

2.5.1.4 The Present Perfect Puzzle again

The “Present Perfect Puzzle” was introduced in section 2.2.1. Recall that the “puzzle” (as discussed by Klein 1992, Pancheva & von Stechow 2004, a.o.) is that the present perfect in English seems to express anteriority, as the simple past does; yet while the simple past can co-occur with past positional adverbials like *yesterday*, the present perfect cannot. We saw that the same was true in SG.

There have been a number of different solutions proposed to this puzzle. Spejewski (1996) has a discourse-based solution to the present perfect puzzle within Temporal Subordination Theory. Klein (1992) proposes a pragmatic constraint, the “position-definiteness constraint” (which he also proposes accounts for the oddness of sentences like ‘at ten, Chris had left at nine’). The constraint says that “in an utterance, the expression of TT (‘topic time’, essentially reference time) and the expression of TSit (‘situation time’, essentially event time) cannot both be independently p[osition]-definite” (p. 546). In a present perfect, topic/reference time is made position-definite by a positional adverbial like ‘yesterday’, while situation/event time is made position-definite

²² I would also note that the modification might be able to be drawn from the discourse as a whole; for instance, in the following exchange (between, perhaps, a parent and their teenage child):

i. Where have you been? I've been looking all over for you.

ii. I've been here!

Clearly (ii) is intended as a universal perfect; the modification (“during the time I've been looking for you”) is provided in the discourse if not the utterance.

by the fact (Klein claims) that the English present tense is itself position-definite. Klein does recognize that the present perfect has both a tense and an aspect component, and essentially attributes the Present Perfect Puzzle to a fact about tense (the p-definiteness of the present). Klein also mentions *be going to* as possibly being a prospective (which he defines as TT before TSit); interestingly, his pragmatic constraint would not work for *be going to*, as sentences like (114) are fine in English:²³

(114) Tomorrow I am going to eat five servings of vegetables.

Klein's account would also rule out sentences like #‘Yesterday I am running’, where the present tense still brings a separate p-definiteness specification from the adverbial. It is interesting to note that there has not been discussion of a “Present Progressive Puzzle”; I assume that this is because there is no expression of anteriority in the present progressive and so no one would expect a past adverbial to be licit with it.

As I mentioned in section 2.2.1, it is perhaps less of a puzzle why the present perfect cannot occur with past positional adverbials than why it *can* occur with past non-positional adverbials. Other present tense propositions are equally bad with past positional adverbials; after all, the present perfect is in the present tense. The present perfect itself (in English, at least) locates RT in the same place any present tense proposition in English does—namely, coincident with UT. Based purely on this, past adverbials of any sort should be just as bad with a present perfect as they are with a present progressive. However, the present perfect, unlike the present progressive, does locate event time prior to reference time, so the sense of anteriority found in the present

²³ I discuss this (lack of a) “Present Prospective Puzzle” in chapter 3.

perfect is unsurprising.

The real puzzle, then, is this constellation of data (from (14) above, repeated here as (115):

- (115) a. Pangur has eaten cake *in the past*.
 b. I have hugged Penny *at noon on [some] May 5*.
 c. *I am hugging Penny *in the past*.
 d. *I hug Penny *in the past*.

Why should (a) and (b) be fine when (c) and (d) are not? The clear difference between perfects and the other aspects is that perfects are able to make a statement about the present (setting RT as coextensive with UT) while also referencing an event prior to the present (in ET). With both progressives and perfectives (as I will assume (c) and (d) represent), ET and RT are in containment relations with each other, rendering it impossible to locate the event (time) at a time different from the reference time. Present progressives or perfectives cannot be modified with any past adverbials without contradiction because both event and reference time are already set in the present by tense. With present perfects, however, the opportunity arises to modify the ET separately from the RT. Now the question becomes the following: why are past non-positional adverbials able to modify ET in present perfects, while past positional adverbials are not?

First, I assume that the present tense (in English and SG) establishes that RT coincides with UT; thus, any adverbial that is going to be a restrictive modifier of RT must not say that the RT precedes UT. This rules out any past adverbials that modify a reference time. Not all specific past adverbials are really “positional” and illicit with present perfects; so,

for instance, adverbials like *at noon* are fine with the present perfect just in case their specification is not deictic with respect to UT. That is, if *at noon* is not specified to be on a particular day, then UT does not have to be involved in the computation, and the adverbial can be interpreted as modifying ET (116a); note that with specifying adverbials the position is restricted—(116b) is out because it only allows a RT reading (except possibly under a topicalized reading).

- (116) a. I have left work at noon (on a Thursday) (before/twice).
 b. *At noon (on a Thursday) I have left work.

The same is true for nonspecific adverbials like *in the past*, which have an interpretation that is not deictic with respect to UT. These adverbials, then, can be predicates of events, and participate in predicate modification with *v* instead of Asp. (I assume throughout that adverbials can undergo type-shifting as necessary.)

Adverbials like *yesterday*, however, necessarily modify RT, because they set a time in relation to UT. For instance, *yesterday* means²⁴ roughly ‘the day before utterance time’; *last Thursday* means roughly ‘the Thursday before utterance time’; and a specific date is only known to be in the past or future if we know when UT is. In order to be deictic with respect to UT, these adverbials must modify RT. We can assume with Abusch (1998), Condoravdi (2002), a.o. that (at least these) temporal adverbs are of type $\langle\langle v, t \rangle, \langle i, t \rangle\rangle$, the same type as Asp, so that when T composes with AspP it is taking as an argument a predicate of times that it can then relate to the UT. Adverbs modifying *v* (and thus event time) cannot relate the ET to UT; they can only relate it to RT (the next highest time). The

²⁴ I do not intend to tackle the large literature on what *yesterday* really means; see e.g. Nunberg (1983) for more on this.

meanings of adverbials like *yesterday* preclude them from modifying predicates of events; they can only modify predicates of times.

Note that there is no “present prospective puzzle” (example (114)); more on this in chapter 3. In the next section, I address some other issues involving adverbials.

2.5.2 *Adverbials and the perfect*

Finally, I turn to a brief discussion of the major roles adverbials play in perfect semantics. There are many ways this topic could be approached, as different adverbials interact in interesting ways with the perfect; however, I will focus here on so-called “perfect-level” adverbials like *since*, and I will once more discuss Iatridou, et al.’s (2001) and Pancheva & von Stechow’s (2004) “Perfect Time Span” (PTS). I sketch out a proposal of how I think *since* might be behaving to introduce the left bound of such a time span (rather than the Asp head itself, as argued in the PTS accounts). Note that SG does not have an adverbial quite like *since*; the translational equivalent is *bho*, ‘from’, which is able to set up a time span without a perfect, as well (as in English, one can say in SG the equivalent of ‘from t_1 to t_2 I X’d’). My purpose here, then, is to give a possible explanation under the current analysis for adverbials like *since* in English, even though it will not necessarily directly affect the analysis of SG.

The idea of there being a special time span involved in perfects is not just seen in the PTS work already mentioned. “Extended now” theories of the perfect (e.g., Bennett & Partee 1972, McCoard 1978, Dowty 1979) express “the view that the perfect serves to locate an event within a period of time that began in the past and extends up to the present moment” (Dowty 1979, p. 341). Klein (1992) also brings up the intuition that the

present perfect expresses some sort of “current relevance” (as mentioned by Comrie 1976); but as Klein points out, it is first not clear what it means to be “currently relevant,” and second, ‘relevance’ is not something that is limited to expressions in the present perfect. Depraetere (1998) has an explanation of this intuition based on the interaction between the present tense (“it follows from the semantics of the present perfect tense that some propositions relate to present time”, p. 611) and the telicity of the verb.

Iatridou, et al. (2001) introduce the concept of the Perfect Time Span, which is defined as the time span between the argument of an adverbial like *since* and the time set by tense (RT). If there is no overt adverbial, they claim, then the left bound of the PTS is set by a covert adverbial (interpreted from context). The semantic contribution of the perfect is to set up this time span, as follows: “there is an interval (the perfect time span) in/throughout which there is a bounded/unbounded eventuality” (p. 175) (where the choices between in/throughout and bounded/unbounded yield the different possible readings of the perfect). They do not specify exactly how this semantic contribution is made. They take there to be two “levels” of adverb (in terms of scope and attachment height)—perfect-level and eventuality-level—but they do not detail the workings of the syntactic or semantic composition of these adverbs with the rest of the sentence.

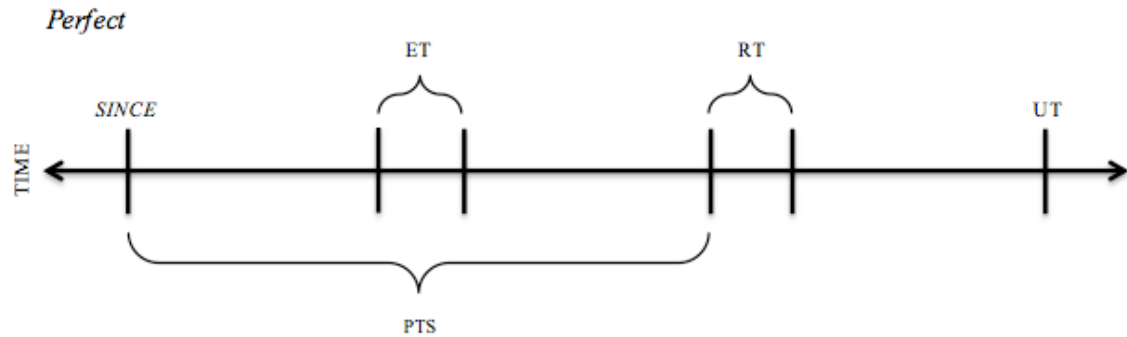
Pancheva & von Stechow (2004) establish a syntactically two-tiered aspectual system; they argue that while viewpoint aspect establishes an event time in a relation to the reference time, the perfect introduces the PTS (the time span during which the event(s) introduced by the verb phrase may take place) and sets it in a precedence relation with the reference time; the PTS is specified such that no part of it may be after the reference time.

They propose that the Present Perfect Puzzle arises due to the combination of a weak, interval-based semantics for the perfect, the interaction with present tense (the semantics of which differs in German, explaining the lack of the Puzzle in that language), and the idea of competition between grammatical features.

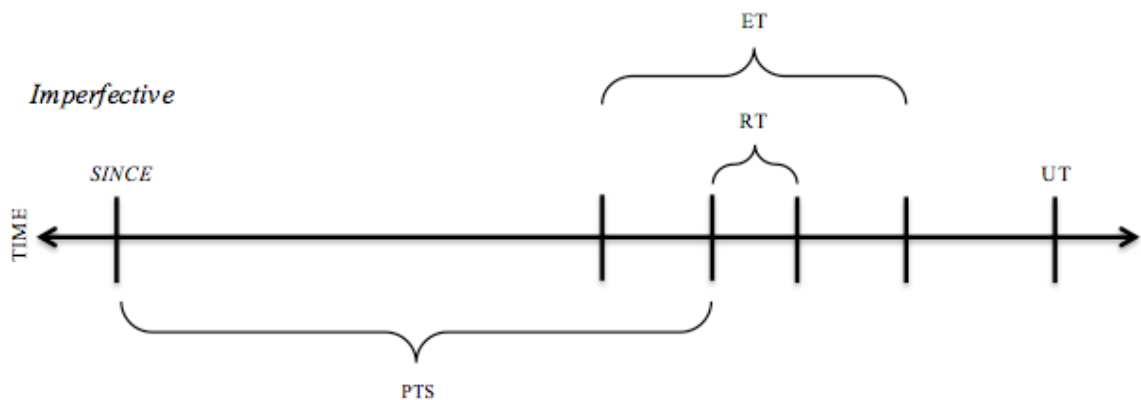
I propose that perfect aspect is no different from imperfective or perfective aspects in that they all existentially bind an event and place it(s runtime) in a relation with the reference time bound by tense; whether the relationship is a precedence relation or a containment relation is what leads to the differences between the aspects that we have been seeing. PTS, interpreted as the interval during which the events described by the predicate take place, is no different from the same interval in any aspect. Without an adverbial, an event occurring prior to UT is inferred to have occurred within the lifetime of the subject, or within another contextually defined timespan,²⁵ with a right bound at reference time. The difference between this time span in perfects vs. in perfectives and imperfectives is that the perfect (117a) locates ET *prior* to RT, so that the time span can include the event time fully before it reaches the right bound of reference time. In (117b), the equivalent interval (still labeled PTS for convenience) reaches the beginning of RT before it is able to encompass all of ET.

²⁵ For instance, beginning at the age you started using keys, for the examples involving locking yourself out of the house.

(117) a.



b.



I propose that *since X, P* means ‘in the time span from X to the beginning of RT, P occurred at ET’. Thus, *since* is compatible with an aspect that says that there is an event that occurs *prior* to RT (i.e., perfect aspect), but not one that says that an event occurs *within* RT (perfective) or one that says that RT is within the runtime of the event (imperfective). With these aspects, no event is asserted to take place prior to reference time. Pancheva & von Stechow (2004) claim that the PTS is introduced by the Perfect head. I claim that while in a perfect sentence with a *since* adverbial there is certainly a time span stretching between the *since* time and the reference time, this time span is not

introduced by the Aspect head (or the Perfect head), but instead by the adverb itself.

I follow the spirit of the syntactic analyses in Demirdache & Uribe-Etxebarria (2002, 2004, 2007) (who build off of Zagana 1990 and Stowell 1993), in which time-denoting adverbials (prepositional adverbials like *on Tuesday* or bare ones like *yesterday*) are phrases that essentially modify RT or ET (for them, they modify the temporal phrases (DPs and *Zeit*-Ps) that are projected as arguments of the T and Asp heads). Here I assume that syntactically, time-denoting adverbials are restrictive modifiers of either AspP or vP, thus modifying either the time bound by T (RT) or the runtime of the event bound by Asp (ET), respectively. Semantically, these adverbials combine via predicate modification (Heim & Kratzer 1998).

I assume that adverbs can be predicates of times or predicates of events (as mentioned in 2.5.1.4 above); that is, they can modify either the RT or the ET by participating in predicate modification with Asp or v, respectively. *SinceP*, however, is only ever a predicate of events. It establishes a time (I will label it ST for ‘since time’), and returns 1 iff the runtime of the event is after that time. The fact that the time set by *since* and the usual reference time are separate entities is made clear with examples like the following:

(118) As of now_{RT}, I have seen Cher four times_{ET} since 1987_{ST}.

Furthermore, *since* adverbials do not just occur in the present perfect in English, showing that the semantics of *since* do not involve the present tense *per se*; we can also get past perfects and future perfects with the adverbial:

(119) By May 1999_{RT} I had already been back to France three times_{ET} since my first visit_{ST}.

- (120) As of August 2013_{RT}, we will have seen Kiss in concert six times_{ET} since 1990_{ST}.

Since, then, modifies the νP , returning a property of events.

- (121) a. $\llbracket \text{SINCE} \rrbracket = \lambda t . \lambda e . \exists t' : [t' < \tau(e)]$
 b. $\llbracket \text{SINCE 2010} \rrbracket = \lambda e . \exists t' \text{ in 2010} : [t' < \tau(e)]$

The formula in (121) says that *since* takes an event and returns 1 iff the time it binds (the “since time”, which will be saturated by its argument) precedes the runtime of the event (which will be bound by Asp as usual). Then when (perfect) Asp composes with νP , it binds the event and says that its runtime precedes another time (RT, provided by tense). I assume perfective and imperfective Asp operators cannot compose with a predicate which has already set up a precedence relation between ET and another time, as they take a predicate of events and say that another time (the RT) contains or is contained by the runtime of the event. If the property of events already includes a relation with another time, the perfective or imperfective operator cannot compute the relation and the derivation crashes.

2.5 Conclusion

The SG data support, and I have argued for, a revised semantics of perfect aspect. I argue that in addition to imperfective and perfective, Aspect (in SG) can instantiate two perfect aspects. The difference between the imperfective/perfective and perfect aspects is that the imperfective/perfective aspects set up event and reference time in an inclusion relation, while the latter set them up in a precedence relation. I have claimed that it is this precedence relation itself that leads to many of the typical characteristics we see in

perfects, like the result state that seems to be involved. The separation of event time from reference time itself leads to an interval in which no (related) spatiotemporally delineated eventuality takes place (i.e., an interval homogeneous with respect to the eventuality having taken place); thus we have a state that exists by virtue of the existence of the perfect itself.

In time-relational analyses of the perfective and the imperfective, the two are seen as counterparts, in that they predicate “opposite” relations between event and reference times. Now that we have a conception of the perfect wherein there is a precedence relation between event time and reference time in one direction, we might wonder what would happen if the ordering were reversed. What is the “opposite” of perfect aspect? In the next chapter, I explore just this question. My answer will be that an aspect that establishes a precedence relation between event and reference times, but in the opposite order, is instantiated by constructions similar to *going to* and *about to* in English.

CHAPTER 3

PROSPECTIVE ASPECT

And, then, does the ‘will be’ and the ‘will come to be’ and the ‘will have come to be’ signify participation in time which will come to be hereafter? –Yes.

–Plato, *Parmenides* 141e
Translation by Herman and Chrysakopolou

3.1 Introduction

In the previous chapter I explored two types of retrospective perfect meaning and their instantiations in SG. Retrospective perfects, I argued, are aspects that establish an event time and place it in a precedence relationship with respect to a reference time. I argued that this precedence relationship itself can explain several puzzles that have been suggested to exist for the perfect. In addition, I showed that SG distinguishes two of these perfects morphosyntactically. Specifically, I showed that the particle *air* marks regular retrospective perfect, and that the particle *as dèidh* marks restricted retrospective perfect. While *air* places no restrictions on event and reference time except that the latter follow the former, *as dèidh* requires that the event time be “relatively close” to the reference time. What constitutes “relatively close,” I claim, is determined by a combination of the predicate and the context. I ended the chapter by speculating about what we would have if the event time followed, rather than preceded, the reference time. This situation is what I explore in the current chapter.

In this chapter, I further expand the conception of perfect aspect by examining what I will term *prospective perfects* or simply *prospectives*. It is important to establish before

we go any further that in using the term ‘prospective’ my intent is not to invoke any previous analyses; in particular, I do not wish to convey the idea that something I will call a prospective necessarily conveys Frawley’s (1992) “point *just prior* to the beginning of the event” (p. 322). Nor do I wish to say that *about to* and *going to* mean the same thing. I do not know of any accounts of ‘about to’ that do any more than label the construction a “prospective” one, or identify it in some way with *going to*. Instead, I adopt the term ‘prospective’ here to refer to any aspect which locates event time *after* reference time—that is, the “reverse” of the perfect—and not just for meanings like those *about to* carries. These aspects, then, are not ‘perfects’ in the sense of the retrospective perfects discussed in the previous chapter; rather, I use this to evoke the similarities between (retrospective) perfects and these prospectives. Like (retrospective) perfects, prospectives locate ET and RT separately from each other (as opposed to in containment relations, as found in imperfective and perfective aspects). While (retrospective) perfects locate ET prior to RT, however, prospectives locate ET after RT. I argue that in modern SG there are two ways of locating event time after reference time (i.e., in “the future”), regardless of tense. One is by using an aspectual particle, *gu* (similar to ‘about to’), as in (1), and the other is by using a seemingly phrasal aspect, *a’ dol do* (similar to ‘going to’), as in (2).

- (1) *Tha Iain gu litir a sgrìobhadh.*
 be.PRES Iain GU letter AGRO write.VN
 ‘Iain is about to write a letter.’

- (2) *Tha Iain a’ dol a sgrìobhadh litir.*
 be.PRES Iain A’ DOL DO write.VN letter
 ‘Iain is going to write a letter.’

I argue that while the semantic contribution of *a' dol do* is relatively close (though not identical) to that of *going to* in English, the contribution of *gu* is different.¹ In fact, I argue that *gu* is parallel to *as dèidh* in that it is a perfect-type aspect that restricts the length of the interval between event time and reference time (what I termed the ‘ERI’ in the previous chapter). As was the case with *as dèidh*, the exact limit on the length of the ERI with *gu* depends on contextual factors; but the general limitation is the same: the ERI must be “relatively short.”

If these prospectives (as I will call them from here on) can indeed be considered perfect-like, then in SG we have a four-way distinction of perfect aspects: two retrospective, two prospective; and in each direction one restricted and one unrestricted. This is quite a different conception of the perfect than the traditional one; but, in fact, none of its parts are so foreign. Instead, we have an expansion—in two directions—of the piece of semantics that is usually considered fundamental to the perfect: the linear ordering of event time and reference time in a precedence/subsequence relation (rather than a containment relation, as with perfective and imperfective). In the conception of perfect semantics presented here, that ordering is still the fundamental identifier of a perfect; however, it can be modified both in direction (ET before or after RT) and in distance (ET close to RT or not).

In this chapter, then, I argue for the existence of an aspectual distinction which is, as time relations go, the “opposite” of the perfect. This aspect (a) introduces a *subsequence* relation between event time and reference time, and (b) can place a restriction on the

¹ *A' dol do* is likely a calque from English *going to*, as no similar construction is found in related languages.

interval between those times. As I did for the perfect, I claim that various behaviors of prospectives (which often parallel behaviors of perfects) can be explained by appeal to this time relation. Here I investigate apparent *prospectives* in both SG and English. I show that SG *gu* and *a' dol do* follow patterns similar to *about to* and *going to* in English, but that the SG constructions appear to be clearer instantiations of prospective aspect than the constructions in English. I claim that *gu* and *a' dol do* are additional instantiations of the Asp head in SG, and I further show that the distinctions in SG, while both expressing prospective aspectual semantics, differ in their specification of this meaning. Namely, *gu*, like the perfect *as dèidh*, places a restriction on the event-reference interval (ERI), while *a' dol do* does not (as *air* did not).

I analyze *a' dol do* as the primary prospective particle in SG. I show that *a' dol do* is morphosyntactically a distinction of prospective aspect (as defined here)—it occurs across tenses (3), is incompatible with other aspects (4) (without an intervening second verb ‘be’), and locates ET after RT.

- (3) *Bha/tha/bithidh* *Calum a' dol a phòsadh Màiri.*
 be.PAST/be.PRES/be.FUT Calum A' DOL DO marry.VN Màiri
 ‘Calum was/is/will be going to marry Màiri.’

- (4) **Tha Iain a' dol a ag² ithe marag a-màireach.*
 be.PRES Iain A' DOL DO A' eat.VN pudding tomorrow
 *‘[Iain is going to eating pudding tomorrow.]’

Then I show to what extent *a' dol do* and *going to* pass “translated” diagnostics for the perfect, including having a continuing result meaning, interactions with adverbials, etc. I conclude that both constructions share many characteristics with perfects, but with the

² The form *ag* appears before vowels.

time relations in the opposite order. One phenomenon that is not seen in either SG or English with regular prospectives is a “Present Prospective Puzzle”; that is, future positional adverbials are not infelicitous with present prospectives:

- (5) *Tha Iain a’ dol a fhalbh a-màireach.*
 be.pres Iain A’ DOL DO leave.VN tomorrow
 ‘Iain going to leave tomorrow.’

I discuss possible reasons for this in section 3.2.

Next I analyze *gu* as a restricted prospective particle in SG, parallel to *as dèidh* in the perfect. *Gu*, like *a’ dol do*, is morphosyntactically a distinction of prospective aspect:

- (6) *Bha/tha/bithidh Calum gu Màiri a phòsadh.*
 be.PAST/be.PRES/be.FUT Calum GU Màiri AGRO marry.VN
 ‘Calum was/is/will be about to marry Màiri.’

- (7) **Tha Iain gu ag ithe marag a-màireach.*
 be.PRES Iain GU A’ eat.VN pudding tomorrow
 *‘[Iain is about to eating pudding tomorrow.]’

- (8) *Tha mi gu fàgail an ceann còig mionaid.*
 be.PRES 1S GU leave.VN the.SM head five minute.S³
 ‘I am about to leave in five minutes.’

However, unlike *a’ dol do*, *gu* places a restriction on the distance between ET and RT:

- (9) **Tha Iain gu taigh a thogail ann an còig bliadhna.*
 be.PRES Iain GU house AGRO build.VN in five year.S
 *‘Iain is about to build a house five years from now.’

Then I show to what extent *gu* and *about to* behave like perfects in terms of the diagnostics discussed with the regular prospectives. My overall conclusion is that *gu* and *a’ dol do* in SG act fully as prospective aspect particles, while *about to* and *going to* in English are not yet completely grammaticalized.

³ *Còig* ‘five’ often colloquially takes singular number (while *dà* ‘two’ always does).

With these data I also seek to further support my claims about the nature of perfect-like aspect. I claim that prospectives, in that they establish a relationship between the runtime of the event and the reference time provided by tense, should be considered to be distinctions of grammatical aspect along with perfects, perfectives, and imperfectives. In addition, I claim that prospectives should be put into a class with perfects rather than with perfectives or imperfectives. With prospectives as with perfects (and unlike the other aspects), an interval is established between RT and ET (in prospectives, the final moment of RT and the initial moment of ET) when a precedence relation is established (in one direction or the other) between the two times. This interval is homogeneous with respect to the eventuality. This effectively gives us an expression with the characteristics of a state, because the homogeneous interval is interpreted as a state. Just as with the perfect, the prospective does not bind a separate state eventuality; instead, the presence of the ERI (by virtue of the establishment of RT and ET in a precedence relation) is behind the state-like properties of prospectives.

The rest of the chapter is organized as follows: In the next section, I introduce the tools we will need to establish prospective semantics and the similarity of prospectives to perfects, including tests for prospectivity and “translated” tests for perfecthood. In section 3.3, I present data from *a’ dol do*, following the “tests” established in section 3.2, and analyze it as the regular prospective marker in SG (and compare it to *going to* in English). In section 3.4, I present parallel data with *gu* that support an analysis of it as a restricted prospective perfect particle, and consider just how parallel its semantics are to the semantics of *as dèidh*. In both sections 3.3 and 3.4, I will first demonstrate that the

construction in question is a prospective based on the tests I established in section 3.2. Then I will attempt to apply the diagnostics for perfect-hood that I've translated for prospectives to each construction, and demonstrate the extent to which they apply. With those steps completed in each case, I present a formal semantic and syntactic analysis of each particle. Then in section 3.5 I review several previous theories of prospectives, along with some theoretical issues that are important to any study of prospectives. Section 3.6 is the conclusion.

Before we begin, let me say a word about the approach I am taking to the semantics here. Copley (2009) makes a good case for English *be going to* requiring a modal semantics. It seems that *be going to* (and *be about to*) in English clearly have modal components to their semantics, and these components may even be the primary meanings of these constructions in English. It is not clear, at least from the data I have been able to collect, that the primary meanings of *a' dol do* and *gu* in SG are modal (although I suspect there are some uses that are). Modality may be necessary to arrive at a complete semantics for *a' dol do* and *gu* after all. However, my focus throughout this dissertation is on the time relations involved in various aspectual distinctions, and for this reason I would like to avoid a trip down the modal road for the moment, and leave such an analysis for future work. Here I provide an analysis of the semantic contribution of SG *a' dol do* and *gu* in terms of the time relations they contribute; although I introduce English data along the way and sometimes postulate about the meanings of the English constructions, this is not formally an analysis of *going to* or *about to*.

3.2 Tools for analyzing prospectives

In this section I present the tools we will need to establish in order to analyze prospectivity in SG (and English). First I consider prospectives themselves: I define what I mean by *prospective* semantics, briefly discuss other issues of future reference, and establish tests for prospectives. Second, I consider the relationship of prospectives to perfects: I again ask what ‘perfect’ means, and then provide adjusted tests for perfect-like semantics for the prospective.

3.2.1 Defining prospectivity

The term *prospective* has been used in several ways. I will be using it here to describe an aspectual distinction that locates an event time fully after reference time. We can notate this as $ET > RT$ or, ordering as on a timeline for clarity, $RT < ET$. The idea of “locate fully after” is illustrated in the following schema:

$$(10) [RT \quad] [ET \quad]$$

We can also describe this relationship in terms of the initial and final points of these intervals (where the initial moment (T_i) is equivalent to the left bracket in the diagram in (10), and the final moment (T_f) is equivalent to the right bracket).

$$(11) \text{ a. } R_i < E_i \text{ and } R_f < E_i$$

We need both specifications to establish that RT precedes ET and that there is not a containment relation involved. I show in section 3.3 that *a’ dol do* in SG (as well as *going to* in English) might have a universal reading; thus it seems that the relation between the two spans of time may not be one of strict subsequence, but might also allow for overlap between the two times. However, I do not take this to be a requirement for prospective

meaning, especially considering that it is not clear that a universal reading is available in SG or English. In the denotations I leave aside the possibility of the universal reading and simply represent the relation between the two times as one of strict precedence.

Others have used the term ‘prospective’ before to label things like ‘be going to’ (e.g., Comrie 1976, Wekker 1976, Dahl 1985, van Baar 1994, Coseriu 1976 (for Portuguese), a.o.) and ‘about to’ (Comrie 1976, Wekker 1976, Dahl 1985, Frawley 1992, a.o.) (and related constructions). Cinque (1999) notes that “in the literature, other terms for the same aspect are *proximatif*, *proximative* (Cloarec 1972, 110ff; Heine 1994), *impending* (Abbott 1991, 120), *unrealized* (Robinson and Armagost 1990, 318), and *immediate (future)* (Mithun, forthcoming). Heine (1992, 339) referred to it as the ALMOST-aspect” (p. 192).

Joos (1964), Binnick (1991), and others have characterized English *be going to* as the “reverse” of the perfect, the way that the future could be seen as the “reverse” of the past. For example: “The meaning of BE GOING TO...turns out to be the exact reversal, in every detail as far as I can see, of the meaning of perfect phase: it simply exchanges ‘previous’ and ‘subsequent’” (essentially, in the ordering of reference time and event time) (Joos 1964, p. 141). Demirdache & Uribe-Etxebarria also use the term ‘prospective’ throughout their work to mean the time relation I assume here.

It should be noted that Cram (1983) and Ramchand (1993) use ‘prospective’ to describe the particle *gu* in SG (which I focus on in section 3.4). Cinque (1999) takes issue with Cram’s usage, claiming that SG *gu* is not a prospective marker (like *na* in Gungbe, apparently):

However, it is dubious that Gungbe *na* and Scottish Gaelic *gu* refer to the same kind of aspect. First, Cram sometimes renders it as ‘is to’ (see *Tha Calum gu bhith faiceallach* ‘Calum is to be careful’), in what looks like a modal meaning. Second, *gu* precedes the progressive [i.e., imperfective] particle, whereas *na* follows the progressive [i.e., imperfective] particle. Its ability to either precede or follow the perfect particle (Ramchand 1995) in fact contrasts with the rigid order of the other aspectual particles and may indicate that it is a main predicate. (pp. 192-3)

I will address his worries specifically in section 3.4, but for now suffice it to say that I believe *gu* to be a prospective particle (albeit one with a restriction).

3.2.1.1 Referring to the future

There are many ways to refer to an eventuality in the future, both grammatically and theoretically. I will use three main terms to talk about future-referring morphosyntax and semantics here: *futures*, *futurates*, and *prospectives*. My use of these terms may differ from other authors’, so I will explicate my uses of these three terms here, although I focus on prospectives in this chapter.

By *future* semantics, I mean (at least) a time relation between the reference time bound by tense and utterance time (provided by context)—that is, a tense time relation—in which the reference time follows the utterance time. By *future* morphosyntax, I mean a piece of morphosyntax that realizes a relation in which reference time follows utterance time. By *futurate* semantics, I mean (at least) the same time relation as is found in the future, and, as detailed in Copley (2009), a ‘direction presupposition’ (“that is, a presupposition that an entity, the *director*, can see to it that the eventuality described by the proposition either takes place or does not take place”, p. 14). *Futurate* morphosyntax is somewhat of a contradiction—I follow Copley’s definition: “A *futurate* is a sentence with no obvious means of future reference, that nonetheless conveys that a future-

oriented eventuality is planned, scheduled, or otherwise determined” (p. 15). However, if I were to talk about “*futurate* morphosyntax,” I would be referring to whatever morphosyntax it was that instantiated futurate semantics in a given language. In English, for instance, progressive morphology is one way that futurate semantics are instantiated:

(12) I am teaching Kenne’s class tomorrow.

Finally, by *prospective* semantics, I mean (at least) a time relation between reference time and *event time*—that is, an aspectual time relation—in which event time fully follows reference time. I intend a prospective to be the “opposite” of a perfect, in that the ordering of reference and event time is reversed (as in Joos’ proposal above). By *prospective* morphosyntax, I mean a morphosyntactic configuration that realizes such a relation.

We may very well need a modal operator in all future-referring propositions, for which argument see e.g., Condoravdi (2002), Copley (2009); in fact, I find such arguments entirely convincing. However, in an effort to keep the exposition simple in this chapter, I will avoid introducing worlds into the denotations. I have no reason to believe that doing so would change the semantics conveyed by the constructions we are concerned with here in any way significant to the current analysis; I believe the time relations I deal with would remain the same with the introduction of branching futures. (Though for a view of the future, or at least *will* in English, without modals, see e.g. Kissine 2008.)

3.2.1.2 Tests for prospectives

I have said that I am interested in an aspect that is the “opposite” of a typical

(retrospective) perfect, and that I will call such an aspect a ‘prospective (perfect)’. Here I adopt a set of working diagnostics for a prospective. I take to be expressing prospective semantics a morphosyntactic distinction which: (1) is morphosyntactically a distinction of aspect; (2) orders ET fully after RT in its basic meaning; and (3) can co-occur with future positional⁴ time adverbials in at least one tense.⁵ I explain and expand upon these diagnostics in this section.

MORPHOSYNTACTICALLY ASPECTUAL

If we wish to concern ourselves with an aspect that is the “opposite” of the perfect, we first want to make reasonably sure that the distinction is one of aspect and not simply tense; one way to do this is to see if it patterns morphosyntactically with other distinctions of aspect (as opposed to distinctions of tense). An aspect that shares time-relation characteristics with the perfect should ideally co-occur with past, present, and future tenses, and not co-occur with retrospective perfect, imperfective, or perfective aspects (without the addition of another verb ‘be’). Of course, in any given language, such co-occurrence may vary; certain tenses may be preferred over others, for instance. In addition, we would not be surprised to see morphosyntax which marks prospective aspect patterning with other aspects in the language, especially retrospective perfect—but neither should we be surprised if it does not.

⁴ I adopt this terminology in order to be parallel to the discussion of “past positional adverbials” in chapter 2. By “future positional adverbial” I mean a time- or day- specifying adverbial like “tomorrow”, “next Thursday,” “at noon on Sunday,” etc. (and not non-positional or non-specific adverbials like *soon* or *in the future*).

⁵ I include this diagnostic in order to further distinguish between instances of prospectives and adverbials like ‘soon’, (a non-positional time adverbial), which may seem to pass other diagnostics for prospectivity.

FORWARD-REFERRING

The “opposite” of the perfect will be an aspect that orders ET after RT. I hypothesize (though have not yet given the reader any reason to believe me) that the basic meaning of this aspect will order ET fully after RT; that is, that its basic, unmodified meaning will not be a “universal” reading, wherein the event time is seen as overlapping with the reference time. I model this hypothesis after Iatridou, et al.’s (2001) argument that truly unmodified perfects are never universal. We shall see in sections 3.3 and 3.4 below whether this holds of what I will call prospectives in SG (and English). However, regardless of whether full subsequence of ET with respect to RT is the basic meaning of a prospective, ET must follow RT for the construction to be considered a prospective (so that a prospective does not entail the occurrence of an event prior to RT).

CO-OCCURRENCE WITH FUTURE ADVERBIALS

In the retrospective perfect, a by now familiar characteristic is the “present perfect puzzle” the present tense in English, SG, and other languages—namely, the fact that the present perfect is not licit with past positional adverbials. Recall my claim from chapter 2 that the real puzzle is not the infelicity of present perfects with past positional adverbials, since progressive and simple present tense propositions in English (and SG) are also infelicitous with a past reference time; rather, the puzzle is that present perfects *can* co-occur with past non-positional adverbials. Past adverbials need to modify a past time; this can either be a past RT (i.e., in a past tense), or a past ET. Since the present tense (in English and SG) establishes that the RT is coincident with the utterance time, an adverbial that locates RT prior to UT (like *yesterday*) will be infelicitous. I noted that non-positional

adverbials like *in the past* are licit with present perfects because they are modifying ET. In fact, as I mentioned, past adverbials that fix an event time but do not relate it to UT are also licit with the present perfect (e.g., *I have left at noon (on a Tuesday) (before)*). However, any adverbials that are deictic with respect to UT *and* refer to the past, like *yesterday*, *last Thursday*, or *(on) June 5th 1990*, can *only* modify RT because they must be able to access UT (the highest time). They thus cannot modify present tense propositions (including the present perfect) in English and SG, as they are excluded from modifying ET and are incompatible with the present RT provided by tense.

Should we expect to see such a co-occurrence restriction with prospectives? We expect that prospectives, being by definition perfect-like things, should in general act like retrospective perfects; however, because they are forward-looking rather than backwards-looking, co-occurrence questions will differ. If anything, then, we might expect to see a restriction on future adverbials with present tense prospectives (as well as past ones, of course)—this would be the equivalent to the present perfect puzzle for the present prospective. (We are looking for the adverbials in the direction that the event time is with respect to the reference time.) Clearly, past adverbials cannot occur with present tense *going to* in English, as they cannot modify the present RT nor the future ET:

- (13) *I am going to see John yesterday.

Future adverbials, on the other hand, do not seem to pose a problem for *be going to* in English in a way parallel to the problem posed by past positional adverbials for the perfect (nor, as we will see, for *a' dol do* in SG)—there is no ‘Present Prospective Puzzle’:

- (14) ✓I am going to see John tomorrow.

And, in fact, the data are quite different with future positional adverbials and the present tense than they were with past positionals—present tense expressions seem to be compatible with future adverbials in English as well as SG (although there is no simple present tense of any verb but ‘be’ in SG):

- (15) a. ✓I am going to run a marathon tomorrow.
 b. ✓I am running a marathon tomorrow.
 c. ✓I run a marathon tomorrow. (Or ‘I run marathons every day next week.’)
- (16) a. *Tha Iain a’ dol a fhalbh a-màireach.*
 be.PRES Iain A’ DOL DO leave.VN tomorrow
 ‘Iain is going to leave tomorrow.’
 b. *Tha Iain a’ falbh a-màireach.*
 be.PRES Iain A’ leave.VN tomorrow
 ‘Iain is leaving tomorrow.’

Perhaps the compatibility we see in (15) and (16) is because future adverbials are allowed to modify present tense propositions in English and SG. However, there is one important set of data points missing from the above—present perfect constructions in both languages, despite being present tense propositions, are incompatible with future positional adverbials:

- (17) *I have run a marathon tomorrow.
- (18) **Tha Iain air fhalbh a-màireach.*
 be.PRES Iain AIR leave.VN tomorrow
 ‘Iain has left tomorrow.’

So, not all present tense propositions are compatible with future adverbials. Intuitively, we wouldn’t expect a present perfect to be able to occur with a future adverbial, since the event is in the past. So what can account for this pattern of data? There may be two

phenomena at work here, one with prospectives and one with futurates.

In the futurates in (15b,c) and (16b), the adverbial is not modifying ET or RT.⁶ Instead, the adverbial is likely modifying a “plan” modal operator, as argued for in Copley (2009). This is also probably an option with *going to*, and maybe *a’ dol do*. However, with these there is another option—it seems that on some readings, at least, the future adverbial can be modifying the future event time. For instance:

(19) I am going to leave at noon on the dot.

This would make future positional adverbials different from past ones, since I said that past positional adverbials can only modify RT. I won’t try to resolve this here; in any case we are merely trying to use these patterns as a test for the phenomena in the first place.

In any case, if future adverbials are permitted with present prospectives, we might use constructions with such adverbials to our advantage. If we come across a construction that seems to locate an event in the future, there are several possible ways it might be doing so (I am assuming here that we understand almost nothing about the construction’s morphosyntax for the moment). The construction may be in the future tense; it may be a ‘furate’ (a future-referring present-tense construction); it may be in a prospective aspect; it may contain a forward- or future-referring adverbial; or there may be some other idiomatic device at work. If we narrow our field to sentences in which we already know where the tense marking is located, we can assume that our morphosyntactic piece

⁶ It seems that there is an atypical reading of at least (15b) wherein *tomorrow* modifies either the ET or the RT; namely, if the speaker is attempting to evoke an image (in proposing something), or is reporting a dream (or a vision):

- i. So picture this: She’s running the marathon tomorrow, and all of a sudden you start running beside her and then propose!
- ii. I had this weird dream—so there I am, I’m running the marathon tomorrow, and a hawk swoops down from the sky and picks me up in its talons.

(or pieces) is representative of either a prospective aspect or an adverbial. The type of adverbial I am thinking of here is something like ‘soon’. An adverbial like ‘tomorrow’ would presumably have an obvious enough lexical meaning to allow us to guess correctly at its meaning. One like ‘soon’, on the other hand, might in some cases be more difficult to tease apart from a prospective aspectual meaning. However, if we test such sentences for co-occurrence restrictions with other specifying future-referring adverbials, we should see felicity with a prospective and infelicity with an adverbial. That is, a prospective should be able to occur with a positional (*tomorrow*), specific but non-positional (*at noon*), or nonspecific (*soon*) future time adverbial, but a sentence-level⁷ time adverbial (with any aspect) cannot generally co-occur with another sentence-level time adverbial:

(20) ✓I’m going to leave in five minutes.

(21) ✓I’m going to leave soon.

(22) ✓I’m going to leave eventually.

(23) ✓I’m going to leave someday.

(24) #I’m going to leave soon in five minutes.

(25) #I’m going to leave eventually someday.

(26) #I’m leaving soon in five minutes.

(27) #I’m leaving eventually someday.

So although a present tense sentence with ‘soon’ in English has the event located after the RT, we can see from co-occurrence restrictions with adverbials that it is not a prospective marker itself, but a simple adverbial.

⁷ A second adverbial modifying the first is acceptable, such as in ‘I’m going to go next year on my birthday’.

I have defined a ‘prospective’ as an aspectual distinction that orders ET after RT, with the intent that this distinction would be the “opposite” of the retrospective perfect. I have also established a set of diagnostics that should help us determine when we’ve found one of these distinctions. If this aspect shares a type of time relation (that is, ordering before/after rather than containment within) with the retrospective perfect, it might be fruitful to see if prospectives share any of the other characteristics that have often been attributed to retrospective perfects. As Brisard (2001) notes, many authors have attempted to characterize the feature of *going to* that

is responsible for the majority, if not the totality, of its ‘connotations’. This feature has been formulated most clearly by Leech, who, on analogy with the present perfect’s calling upon the notion of CURRENT RELEVANCE, makes a stab at establishing a proto-schematic definition for the entire semantic spectrum associated with *be going to*: ‘if there is one general meaning that can be attached to this construction, it is FUTURE FULFILLMENT OF THE PRESENT’ (Leech 1971:54). Palmer (1979:121) acknowledges this description when he paraphrases it in terms of ‘current activity leading to a future event’. (p. 255)

Of course, there must also be some sort of ‘future fulfillment of the present’ involved in the meaning that, say, *will* in English brings; however, I think what is being noticed here is the characteristic of present tense *going to* that seems to place a “focus” on the present (in the same way that the present perfect did). I claim that these intuitions can be reconciled, just as the intuitions about the perfect were, by an aspectual semantics that orders ET separate from, and in this case after, RT. The present prospective locates RT as coincident with UT, just as the present perfect does, and the same result obtains: there is a “focus” on the present precisely because the RT is asserted to be the present.

3.2.2 What does ‘perfect’ mean? Redux

Before we can classify any morphosyntactic or semantic phenomenon as being “perfect-like,” we should agree on what it is to be a perfect-like thing in the first place. I argue here that prospectives are essentially a forward-oriented (meaning ET is located after RT) version of the same kind of aspect that perfect is. In the previous chapter, I argued for an expanded concept of the perfect, wherein the event-reference time interval was modifiable, and this modification was marked morphosyntactically. Both of the perfects in the last chapter were *retrospective*, or backward-looking, with ET located prior to RT. Here, I will argue, we have two aspectual distinctions which have something in common with retrospective perfects: in their basic meanings, they order ET and RT with respect to each other without containment of one on the part of the other. This separates retrospectives and prospectives from imperfectives and perfectives. If prospectives have the same *kind* of ordering of RT and ET as retrospectives, but in the opposite direction, we might expect to be able to see similar types of activity with respect to the semantics and syntax of the constructions, including the availability of different readings, interactions with adverbials, etc. In this section, I briefly review the characteristics that have been said to mark perfect semantics. In sections 3.3 and 3.4, we will see that these characteristics are often also true of prospectives.

In the previous chapter, I identified several ‘puzzles’ (sets of characteristics to be explained) about perfects. First, perfects seem to be stative in some way (Katz 2003b, Vlach 1993, ter Meulen 1995, Pancheva & von Stechow 2004). Next, perfect sentences focus on the result of an eventuality, and that result continues indefinitely (for non-

Universal readings, at least) (Parsons 1990, Vlach 1993, Giorgi & Pianesi 1998). Next, the regular perfect in some languages has a ‘Universal’ reading, wherein the eventuality carries over into the reference time. Finally, present perfect sentences express anteriority, but certain past adverbials render them infelicitous. I also identified several tests for (retrospective) perfects in English. First, incompatibility with past positional adverbials. Second, two slots for adverbials. And finally, universal, experiential, and resultative readings. I have already shown (in section 3.2.1.2) that present prospectives are not incompatible with future positional adverbials. If we consider the rest of these characteristics and tests together, we can pick out several diagnostics for being like a perfect: (1) stativity, (2) continuing result, (3) two slots for time adverbials in the past tense, and (4) different readings based on the interpretation of the ordering of ET and RT. It would be convenient if all of these diagnostics applied exactly as they are to prospectives, but since we are looking at the opposite ordering of RT and ET, we should expect to need a few adjustments. I make these adjustments in the next section.

3.2.2.1 Characteristics of “perfects” in the other direction

In this section I will lay out some ways to translate the puzzles and tests we had for retrospective perfects into tests for prospective ones. Once I get into the data, we will see that there are a few inconsistencies to be explained; for now, though, I will simply offer possibilities for how we might understand these diagnostics for retrospective perfects when the time relation between ET and RT is in the other direction. The descriptions below are claims, as I know of no treatment of prospectives from this perspective.

STATIVITY

The same tests should apply to prospectives as apply to retrospectives, although the state itself will be of a different nature in that it references an eventuality that has not yet occurred. Instead of being a state of having done something, we'll be looking for a state of anticipating doing something. Katz in his work on the stativity of the English perfect (2003b) utilizes several tests for statives, including agentivity (using adverbials like “intentionally” vs. “by accident”); present orientation (bare statives have a present orientation; bare eventives have a past orientation); temporal interpretation of discourse (eventive sentences progress narrative time; statives don't (after Dry 1983, ter Meulen 1995); and adverbial modification. I will subject our apparent prospectives to these kinds of tests in sections 3.3 and 3.4 below.

CONTINUING RESULT OF EVENTUALITY

Since the eventuality will not have occurred by reference time, the “result” of a prospective cannot be thought of in exactly the same way as that of a retrospective. However, there is still a way to approach this. With a retrospective, the “result” of, say, having met Cher is that you have met Cher. The statement *I have met Cher* will be true at all times following the event of Cher-meeting. That is, it is true at all times between ET and RT. With a prospective, the “result” is similar: if you are going to meet Cher, then *I am going to meet Cher* is true at all times between RT and ET—that is, until you meet Cher. The retrospective gives us a “result state” that continues indefinitely into the

future,⁸ and the prospective may at first glance seem different from this—instead, we are looking for a state that would continue indefinitely into the past. We don't always think about the past stretching out indefinitely the way the future seems to. However, the data tell us otherwise, at least in English:

- (28) ✓I'm going to meet Cher tomorrow. (*going to X* true for 1 day)
- (29) ✓I'm going to be a teacher when I grow up. (*going to X* true for many years)
- (30) ✓If you have a daughter, she's going to grow up to be president. (*going to X* true from before the birth of the subject)

So it seems that it is possible to talk about a “result state” even for prospectives, where event time follows reference time.

TWO SLOTS FOR ADVERBIALS

In retrospective perfects, one of the characteristics we see in English (and, as I showed in the previous chapter, in SG) is the existence of two locations for time adverbials in past tense sentences. In these sentences, having an adverbial in a sentence-initial position yields only a reading in which the reference time is modified by the adverbial, while having one after the verb can also yield a reading in which the event time is modified by the adverbial. This characteristic also holds true in the future perfect. With prospectives, then, we should likely look in both tenses. The type of sentences we will be looking for are like the following:

- (31) She was going to marry Carl at noon.
- (32) At noon, she was (still) going to marry Carl.

⁸ Or, in terms of the analysis in chapter 2, the perfect says that the ET is located prior to the time that will be provided by tense, and as such a homogeneous interval of the event having taken place will stretch until an RT is defined by a statement being made about it.

(33) ?She will be going to marry Carl at noon.

(34) ?At noon, she will be going to marry Carl.

For me, at least, these latter two examples are only marginally grammatical on a prospective reading; they lend themselves more easily to a reading of *going* as a main verb. We will explore this combination of future and prospective in more depth in SG, where it seems to be much more acceptable on a prospective reading.

DIFFERENT READINGS

Universal: A ‘Universal’ reading may have a slightly different meaning in a prospective. In a retrospective, a universal reading is one in which the eventuality is perceived as continuing up until and including the reference time, as in (35):

(35) Tess has lived in Athens (ever) since 2001.

In this reading, both *Tess has lived in Athens* and *Tess is living in Athens* are true at reference time. What we would be looking for in a ‘universal’ prospective would be a case where the eventuality was seen as extending back to and including the reference time; that is, where at reference time, both the eventuality and the prospective state are true. Consider (36):

(36) [while running] I’m going to run for ten more minutes.⁹

At first glance, at least, it seems that we do have a case here where, at the reference time (here time of speech), both *I am running* and *I am going to run* are true—that is, where the eventuality includes the reference time. I discuss this more in sections 3.3 and 3.4.

⁹ In English, *I’ll run for 10 more minutes* is also felicitous in this situation, but it means something different. Copley’s (2009) account of future-referring propositions in English may help us here; while *I’m going to run for 10 more minutes* is an assertion about a plan, *I’ll run for 10 more minutes* is something of an offer. A modal semantics is probably required, but I will not treat this difference here.

Experiential: An experiential reading in a retrospective perfect is perhaps the most prototypical; it is found in sentences like the following:

(37) I have visited Paris.

(38) I've watched every one of the "Pirates of the Caribbean" movies.

The idea is that an experiential perfect describes an experience the subject has had. Unlike with a universal perfect, in an experiential perfect, at the reference time only the perfect characterization of the event is true, and not the progressive one. So in the examples above, for instance, *I am visiting Paris* and *I am watching every one of the "Pirates" movies* are not necessarily true.

In a prospective perfect, then, we would perhaps look for a use of the construction that describes an experience that that the subject will have, but that does not imply (or entail) that the event is also taking place at the reference time. It seems that these characteristics are met by a typical *be going to* sentence in English:

(39) Tomorrow I'm going to study for the test.¹⁰

Resultative: As discussed in the retrospective chapter, some authors distinguish between regular experiential perfect readings and *resultative* perfect readings. Recall that the criterion that distinguishes resultative readings is that the 'result' of the event (but not the event itself) carries into reference time. So, in general, (40) in English when unmodified will have a resultative reading (so that the sentence might easily be uttered, for example, to a co-worker in the next cubicle, in response to their questioning of your recent imprecation):

¹⁰ Again, *will* can also be used here (*Tomorrow I will study for the test*), but this is no different from the fact that *I have studied for the test* and *I studied for the test* are both licit.

(40) I've (just) spilled my coffee.¹¹

In a prospective, we would be looking for a usage in which the “result” of the event, but not the event itself, carries into the reference time. One way we might interpret this in terms of a forward-looking perfect would be to look for a use in which, at reference time, the event expressed by the prospective is seen as being the reason for something (an action, etc.) that is accessible to and of importance in the discourse context. (This would be one way to interpret the coffee-spilling situation described above.) Consider the following scenario:

It is New Year's Eve, at 11:58. You are at a party, in the midst of a conversation in a room in which there is no television. The Times Square ball drop is being watched by others on the television in the front room. All of a sudden, your conversational partner looks at her watch and jumps up, and goes to leave the room. You call after her, and by way of explanation, she shouts over her shoulder:

(41) ✓The ball's going to drop!

It seems, at least, that the concept of a resultative prospective is possible; we will see in sections 3.3 and 3.4 whether such a reading seems to arise in SG.

3.2.2.2 *A perfect time span for prospectives?*

Finally, I want to consider the concept of the ‘Perfect Time Span’ and how it might be applied to prospectives. The ‘Perfect Time Span’ (PTS), introduced by that name in Iatridou, et al. (2001), is a span of time bounded by an adverbial (overt, like a ‘since’ adverbial, or understood) on the left, and on the right by reference time. So, in (42), the PTS stretches from (the end of) the year 2000 to reference time (which is speech time, since we are in the present tense):

¹¹ As mentioned in chapter 2, the simple past is also used for this function in many dialects (including my own); see e.g. Kratzer (1998), Mittwoch (2008).

(42) Sophia has visited Eric in Paris three times since 2000.

Let's consider what this might mean for a prospective. We want a time span that stretches from the reference time to a time past the event time, and possibly including the final part of the event time, in which an event would take place. I propose that *before* or *by* adverbials would mark just such a time span:

(43) I'm going to finish this *by 5 o'clock*.

(44) I'm going to learn to knit *by next May*.

(45) I'm going to write two books *before the year 2015*.¹²

I will discuss PTS and ERI (the event-reference interval, as I first discussed with respect to retrospective perfects) further in sections 3.3 and 3.4. Now that I have presented some background information on prospectives, futures, and perfects, we are ready to investigate the grammatical phenomena themselves. First though, I take a brief detour and present data from the morphological future tense in SG so that we have something to compare the prospective to.

3.2.3 The future tense in Scottish Gaelic

Here I very briefly present data from the (analytic) future tense in SG. As we have seen, the periphrastic aspects we have been discussing can occur with the future form of the verb *bi* 'be' to form a future perfect, future prospective, etc.; but verbs also have analytic future forms. These can be interpreted as simple futures, or as present or future habituais. Examples (46-48) show non-habitual uses (the "dependent" form is required under negation, among other places):

¹²These are apparently not, however, "prospective-level adverbials", as *since* is a "perfect-level adverbial", since they are not restricted to the prospective.

- (46) *Sgrìobhadh e litir thugam.*
 write.FUT 3SM letter to.1S
 ‘He will write me a letter.’
- (47) *Tha mi a’ dol a chuir crìoch air an taobh eile agus
 be.PRES 1S A’ DOL DO put.VN end on the.SM side.S other and
 an uair sin cuiridh mi an cìl oirre —agus sin e—
 the.SM hour MED put.FUT 1S the.SM mark on.3SF and MED 3SM
 t-eile deiseil.
 other.SF ready/done
 ‘I’m going to finish the other side and then I will put the [sheep] mark on her
 and that’s it—another one done.’
 Note: *Deiseil* is usually defined as ‘southward’.*
- (48) *Cha rùisg Iain na caoraich a-màireach, rùisgidh e
 not shear.FUT.DEP Iain the.P sheep.P tomorrow shear.FUT 3sm
 iad DiCiadain.
 3P Wednesday
 ‘Iain won’t shear the sheep tomorrow, he’ll shear them Wednesday.’*

Example (49c) shows a habitual use of the analytic future. Note that future imperfective constructions can also be interpreted as habituals, as in (49b, d).

- (49) a. *Chunnaic mi deamhas a’ crochadh air a’ bhalla.*
 see.PAST 1S sheap.shears A’ hang.VN on the.DAT.SM wall
 ‘I saw shears hanging on the wall.’
- b. *Phoint mi riutha agus thuirt mi “am bi an deamhas
 point.PAST 1S to.3P and say.PAST 1S Q be.FUT the.SM sheap.shears
 sin a’ geàrradh troimh mhòine?”
 MED A’ cut.vn through peat
 ‘I pointed to them and said, “are those shears for cutting through peat?”’
 Lit.: ‘Will those shears be cutting through peat?’*
- c. *Rinn m’ athair gàire agus thubhairt e “cha gheàrr,
 do.PAST 1S.POSS father laugh and say.PAST 3SM not cut.FUT.DEP
 geàrraidh iad clòimh!”
 cut.FUT 3P wool
 ‘My father laughed and said, “no, those shears cut wool!”’
 Lit.: ‘...Will not cut, they will cut wool!’*

- d. *Nisde bithidh daoine a' cleachdadh deamhas-dhealan*
 now be.FUT person.P A' use.VN sheep.shears-electricity
airson caoraich a rùsgadh.
 for sheep.P AGRO shear.VN
 'Now people use electric shears to shear sheep.'
 Lit.: 'Now people will be using electric shears...'

There is also a “relative future” form of the verb, which is used in subordinated contexts:

- (50) *Ma chuireas tu clach anns a' bhaga seo, brisidh e.*
 If put.REL_FUT 2S stone.S in.the the.DAT.SM bag.SM PROX, break.FUT 3SM
 'If you put a stone in this bag, it will break.'

The simple future in English can also be used to express future habitual semantics:

- (51) What does he do every day now that he's retired? –Well, he'll go down to the lake and walk around for a while; then he'll drive into town and get a cup of coffee at the diner....

There is clearly more to be said about the future in SG, but I leave an analysis of it for future work.

3.3 The regular prospective perfect in Scottish Gaelic

Now that we have established tests for prospectivity and for perfecthood, we can work on applying them to two constructions in SG (with data from English sprinkled in along the way). In this section, I approach the construction *a' dol do*. This construction seems to be a good candidate for prospective semantics; based on glosses, it seems to act much like *going to* in English, which I have already mentioned has been analyzed as (or at least labeled as) a prospective by a number of authors.¹³

¹³ Of course, what is meant by 'prospective' varies among authors—i.e., some use it to mean only a distinction like *about to* in English. It is for this reason that I have defined what I will consider to be a prospective (namely, an aspect with the opposite time relation of a retrospective perfect), and have established tests for such a thing.

The phrase is made up of the aspectual particle *a'* (for my analysis of which see chapter 4), which is the marker of imperfective aspect, and the verbal noun form of the verb *rach* ‘go’: *dol*. This pair of words is found when *dol* is a main verb, rather than aspectual; with the verb *be* in the present tense and a subject preceding the pair, the meaning is ‘x is going’:

- (52) *Tha i a' dol dhachaidh.*
 be.PRES 3SF A' go.VN home
 ‘She is going home.’

After briefly considering previous discussions of the construction, I will apply the tests for prospectivity and for perfecthood. Having established an identity for the construction, I will provide a formal analysis of its semantics, along with a brief syntactic analysis.

3.3.1 Previous accounts of *a' dol do*

Very little has been said on the topic of this construction. Cram (1983) mentions *gu* (discussed in section 4 of this chapter) in his discussion of the language’s aspectual particles and glosses it ‘be going to’; he does not discuss *a' dol do*. MacAulay (1992) mentions the construction (which he terms ‘predicative aspect’) in his discussion of aspect. He notes that an example like the following “normally would denote *intention* and would therefore be better treated as a *modal* usage” (p. 186):

- (53) *Tha Iain a' dol a cheannach an leabhair.*
 be.PRES Iain A' DOL DO buy.VN the.SM book.GEN¹⁴
 ‘Iain is going to buy the book.’
 (MacAulay ex. 178, p. 186)

The construction “may, however, operate simply as a predication” (ibid.)—when we

¹⁴ I have changed the morpheme-by-morpheme glosses of others’ examples according to match my conventions; the spelling and the free gloss are left as in the original.

compare the sentences in (54) and (55) below, “It is clear that sentences with *a’ dol do* can have a range of senses” (ibid.).

- (54) *Tha Iain a’ dol a thuiteam.*
 be.PRES Iain A’ DOL DO fall.VN
 ‘Iain is going to fall.’
 (MacAulay ex. 179, p. 186)

- (55) *Tha Iain a’ dol a bhàsachadh.*
 be.PRES Iain A’ DOL DO die.VN
 ‘Iain is going to die.’
 (MacAulay ex. 180, p. 186)

Intention, MacAulay states, is “confined to sentences with actor/agentive subjects” (as in (53)); (54) and (55) above “have ‘experiencer’ subjects, the former is a simple predication, the latter a simple predication or a predication based on a universal truth” (ibid.). He concludes that “*a’ dol do* basically expresses *predictive* aspect, and is capable of expressing additional senses when governed by the appropriate contexts” (ibid.).¹⁵

MacAulay, then, presents us with the starting point we want: a claim about the meaning of these sentences and how it can vary. I pursue the meaning of this type of expression in depth in this section.

3.3.2 *A’ dol do as a ‘prospective’*

In this subsection, I present data with *a’ dol do* and show that the construction passes the tests I established for what I am calling prospectivity: aspectual in nature, forward-referring (ET located after RT), and not simply an adverbial.

¹⁵ For discussion of intention vs. predication in modal contexts, see e.g. Condoravdi (2002), Copley (2009).

3.3.2.1 *A' dol do is aspectual in nature*

APPEARANCE ACROSS TENSES

Our first criterion for a construction being a distinction of aspect rather than tense is its co-occurrence restrictions. If we have an aspectual distinction on our hands, we would expect it to be permitted across tenses, but to be restricted in the presence of other aspectual morphosyntax, unless there is another verb ‘be’ intervening. In the following examples, we can see that *a' dol do* is indeed permitted in past, present, and future tenses. Recall that in aspectually marked sentences in SG¹⁶ the verb ‘be’ appears in sentence-initial position, in past, present, or future form; the contentful verb appears in the ‘verbal noun’ form after the aspectual marker.

PAST

- (56) *Bha i a' dol a dhol dhan a' bhaile an dè, ach cha*
 be.PAST 3SF A' DOL DO go.VN to the.DAT.SMtown yesterday but not
robh tide aice.
 be.PAST.DEP time at.3SF
 ‘She was going to go to town yesterday, but she didn’t have time.’¹⁷
- (57) *Bha Calum a' dol a phòsadh Màiri aig meadhan-latha.*
 be.PAST Calum A' DOL DO marry.VN Màiri at mid-day
 ‘Calum was going to marry Màiri at noon.’

¹⁶ Other than the perfective aspect that is the default interpretation of the analytic form of contentful verbs in past and future forms.

¹⁷ Past tense versions of these sentences often imply the non-occurrence of the eventuality, but this is not an entailment. For example, note the following:

- i. I was going to watch “Jurassic Park” over the weekend—and I did, five times!
- ii. The ficus was going to die no matter what I did, so I ignored it and took care of the other trees.
- iii. Peter was about to leave when I showed up, so I gave him the report and left instead of staying to chat.

PRESENT

- (58) *Tha e a' dol a bhàthadh!*
 be.PRES 3SM A' DOL DO drown.VN
 'He's going to drown!'
- (59) *Tha mi a' dol a dh'fhàgail an ceann còig mionaid.*
 be.PRES 1S A' DOL DO leave.VN the.SM head five minute.S
 'I am going to leave in five minutes.'

FUTURE

- (60) *'S docha nach bu choir dhuinn am pàrtaidh*
 cop.PRES probabilitynot cop.PAST right to.1P the.SM party
a dhèanamh an oidhche sin...bithidh thu
 AGRO do.VN the.SM night MED be.FUT you.S
a' dol a phòsadh an ath latha.
 A' DOL DO marry.VN the.SM next day
 'Maybe we shouldn't have the party that night...you'll be going to get married the next day.' [Lit. 'You will be going to marry the next day.']

Next, we can see that *a' dol do* is not permitted with other aspectual markings, unless a second verb 'be' is included:

- (61) *Tha Iain a' dol a bhith ag ithe marag a-màireach.*
 be.PRES Iain A' DOL DO be.VN A' eat.VN pudding tomorrow
 'Iain is going to be eating pudding tomorrow.'
- (62) **Tha Iain air a' dol a sgrìobhadh.*
 be.PRES Iain AIR A' DOL DO write.VN
 *'[Iain has going to write.]'
- (63) **Tha Iain as dèidh a' dol a sgrìobhadh.*
 be.PRES Iain AS DÈIDH A' DOL DO write.VN
 *'[Iain has just going to write.]'
- (64) **Tha Iain ag a' dol a sgrìobhadh.*
 be.PRES Iain A' A' DOL DO write.VN
 *'[Iain is being going to write.]'

- (65) **Tha Iain gus a' dol a sgrìobhadh.*
 be.PRES Iain GU A' DOL DO write.VN
 *'[Iain is about to going to write.]'

These data provide good evidence that we are dealing with an aspectual distinction.

3.3.2.2 A' dol do *is forward-looking*

Our second criterion for prospectivity is that it be forward-looking. By this I mean that a sentence with a prospective in it should have an eventuality that does not occur until after the time anchored by the tense (i.e., the RT). In the time-relational aspectual semantics I am employing here, we are looking for an aspect in which event time follows reference time—the opposite of a retrospective perfect. In any tense, then, a prospective sentence will not entail that the eventuality has occurred at the reference time. This is shown clearly by the possible continuation of a past tense *a' dol do* sentence in (66), in which the implicature about the occurrence of the event is canceled.

- (66) *Bha i a' dol a dhol dhan a' bhaile an dè...*
 be.PAST 3SF A' DOL DO go.VN to the.DAT.SM town yesterday
 'She was going to go to town yesterday...'
 ≠ There had been a going-to-town event by her at RT, as shown by the following possible completion of the sentence:

- (67) *...ach cha robh tìde aice.*
 but not be.PAST.DEP time at.3SF
 '...but she didn't have time.'

Clearly, sentences with *a' dol do* locate an eventuality after reference time (and not just after utterance time).

3.3.2.3 A' dol do *can occur with future adverbials*

Finally, we want to see that the construction we have in mind can occur with specifying future adverbials. I established in section 3.2.1.2 that present tense *going to*

sentences, along with present tense progressives, can co-occur with future adverbials. The thing I want to show here is that *a' dol do* is not merely some kind of general future adverbial. To do this, I first establish that SG follows the same patterns as we saw for English in section 3.2.1.2; then I show that specifying future adverbials in SG cannot co-occur with general ones like 'soon'. Then I give examples of *a' dol do* with various future adverbials as evidence that it is not something like 'soon'.

Here again we see that SG follows the same patterns as English:

IMPERFECTIVE

- (68) #*Bha mi a' fàgail a-màireach.*
 be.PAST 1S A' leave.VN tomorrow
 #‘I was leaving tomorrow.’

The same restriction applies to this sentence as in English—it is only acceptable on the reading where there was a plan in the past for leaving tomorrow, but not on the reading that can be paraphrased as ‘Tomorrow, I was leaving’ (that is, where ‘tomorrow’ is supposed to be modifying the RT (or ET)).

- (69) a. **A-màireach bha mi a' fàgail.*
 tomorrow be.PAST 1S A' leave.VN
 *‘Tomorrow, I was leaving.’
- b. *Tha mi a' fàgail a-màireach.*
 be.PRES 1S A' leave.VN tomorrow
 ‘I am leaving tomorrow.’
- c. *Bithidh mi a' fàgail a-màireach.*
 be.FUT 1S A' leave.VN tomorrow
 ‘I will be leaving tomorrow.’

A' DOL DO (PRESUMED PROSPECTIVE)

- (70) a. #*Bha mi a' dol a dh'fhàgail a-màireach.*
 be.PAST 1S A' DOL DO leave.VN tomorrow
 #‘I was going to leave tomorrow.’

(Acceptable, as in English, on the reading where *tomorrow* modifies ET or else a modal component.)

- b. *Tha mi a' dol a dh'fhàgail a-màireach.*
 be.PRES 1S A' DOL DO leave.VN tomorrow
 ‘I am going to leave tomorrow.’
- c. *Nuair a¹⁸ ruigais tu a-màireach, bithidh mise a' dol a*
 when arrive.REL_FUT 2S tomorrow be.FUT 1S.EMPH A' DOL DO
dh'fhàgail.
 leave.VN
 ‘When you arrive tomorrow, I will be going to leave.’
 Note: The English gloss is marginal for me.

So, it seems that future positional adverbials with these constructions work the same way in SG as in English, and that *a' dol do* largely patterns with *going to*. Now we will see the behavior of (non-positional) specific, and nonspecific, future adverbials with constructions other than *a' dol do*, and then with *a' dol do*. I use the present imperfective form to compare to the present tense of *a' dol do*.

A' DOL DO AND OTHER CONSTRUCTIONS WITH ADVERBIALS

As one would expect, nonspecific time adverbials are perfectly acceptable with the imperfective in SG:

- (71) *Tha mi a' fàgail a dh'aithghearr.*
 be.PRES 1S A' leave.VN soon/shortly
 ‘I’m leaving soon.’

¹⁸ *Nuair a* is from *an uair a*, ‘the time that’.

- (72) *Tha mi a' fàgail ann an ceann còig mionaid.*
 be.PRES 1S A' leave.VN in head five minute.S
 'I'm leaving in five minutes.'

We see in (73) that these adverbials cannot be combined.

- (73) **Tha mi a' fàgail a dh'aithghearr ann an ceann còig mionaid.*
 be.PRES 1S A' leave.VN soon/shortly in head five minute.S
 *'I'm leaving soon in five minutes.'

Now we see that *a' dol do* can co-occur with an adverbial, but not with two (just as was the case with the imperfective), so *a' dol do* is not itself an adverbial:

- (74) *Tha mi a' dol a dh'fhàgail a dh'aithghearr.*
 be.PRES 1S A' DOL DO leave.VN soon/shortly
 ✓'I'm going to leave soon.'
- (75) *Tha mi a' dol a dh'fhàgail ann an ceann còig mionaid.*
 be.PRES 1S A' DOL DO leave.VN in head five minute.S
 ✓'I'm going to leave in five minutes.'
- (76) **Tha mi a' dol a dh'fhàgail a dh'aithghearr ann an ceann còig mionaid.*
 be.PRES 1S A' DOL DO leave.VN soon in head five minute.S
 *'I'm going to leave soon in five minutes.'
- (77) *Tha mi a' dol a dh'fhàgail uaireagan.*¹⁹
 be.PRES 1S A' DOL DO leave.VN sometime
 ✓'I'm going to leave sometime.'
- (78) *Tha mi a' dol a dh'fhàgail aon latha.*
 be.PRES 1S A' DOL DO leave.VN one day
 ✓'I'm going to leave one day.'
- (79) *Tha mi a' dol a dh'fhàgail uaireagan aon latha.*
 be.PRES 1S A' DOL DO leave.VN sometime one day
 *'I'm going to leave sometime one day.'

As we would expect, *a' dol do* co-occurs with many future adverbials:

¹⁹ This word is morphologically *uair* 'hour, time' + *-eagan*, a diminutive suffix.

- (80) *Tha e a' dol a phòsadh an ath sheachdain.*
 be.PRES 3SM A' DOL DO marry.VN the.SM next week
 'He is going to get married next week.'
- (81) *Ann an deich mionaidean, tha mi a' dol a ruith mìle.*
 in ten minute.P be.PRES 1S A' DOL DO run.VN mile
 'In ten minutes (from now), I'm going to run a mile.'
- (82) *Tha Iain a' dol a thogail taigh ann an còig bliadhna.*
 be.PRES Iain A' DOL DO build.VN house in five year.S
 'Iain is going to build a house in five years.' (i.e., 5 years from now)

Note too that in the examples above, there does not seem to be a restriction placed by *a' dol do* on the length of time between the reference time and the event time. Any time span is permitted, from five minutes to five years to the unspecified 'eventually' or 'one day'. This makes *a' dol do* parallel to English *going to* again. While this fact is not particularly surprising, we will see in section 3.4 that it differentiates *a' dol do* from the other prospective aspect in SG, marked by *gu*.

Now that we have seen that *a' dol do* fits the picture of what I have presented here as being a prospective, I will demonstrate to what extent it passes the tests that I established for perfect-like semantics, based on others' tests for retrospective perfects.

3.3.3 Similarities between *a' dol do* and the perfect

In section 3.2.2 I proposed ways to modify standard tests for retrospective perfects so that they might be applied to the things we think might be the "opposite" of a perfect. The tests I discussed above were stativity; the continuing result of an eventuality; having two slots for adverbials in the past tense; and having universal, experiential, and resultative readings.

It should be noted that some of these characteristics (e.g., stativity) have also been

discussed for the progressive. The “tests” I present here will not prove that these constructions are prospectives to the exclusion of having something in common with progressives/imperfectives. The intent here is to demonstrate the extent to which perfects and prospectives share characteristics (at least in SG), but the results of the study can certainly inform a later investigation into the similarities between prospectives and progressives. In Copley’s (2009) account, *be going to* is progressive-like, but the two constructions involve different modals. I have a different division of labor; namely, the two have different time relations and thus can be used to express different propositions. Clearly the present progressive and present *be going to* have similarities; for instance, as mentioned before, both have the sub-interval property, and both can relate the present to a future event (or, rather, a plan of one). However, the constructions (and their counterparts in different tenses) do not always mean even close to the same thing. Most obviously, a progressive can also express a non-futurate proposition, so that *I was/am running* usually conveys the relation of RT within (or perhaps coincident with) ET, without a plan modal involved. *Was/be going to X* can never express the proposition that *X is happening* because the time relations predicated don’t allow it.²⁰ What I am claiming, then, is that while these constructions (at least in English) can both be used to assert something about a plan, those assertions about plans do not mean the same thing and, indeed, they are arrived at from the basic semantics of their constructions in different ways. Here I take a deeper look at the ways in which *a’ dol do* in SG behaves, and I do so through the lens of phenomena that have been discussed with respect to retrospective perfects.

²⁰ With the possible exception of a “universal” *be going to*, as discussed below.

3.3.3.1 Stativity

What I am interested in here is not lexical stativity of the verb itself, of course, but stative-like properties at the sentence level, like those characteristics of English perfects described by Katz (2003b). The widely cited inability of statives in English to appear in the progressive has also been noted of perfects. Katz departs from syntactic accounts of this fact such as Chomsky (1957) and analyzes the incompatibility as being due to the stativity of perfects. On this point my story will differ from Katz's, since under my analysis of the perfect, its incompatibility with the progressive (without an intervening verb 'be', of course) would be due to the fact that both are distinctions of aspect and thus cannot both be realized syntactically without further structure. However, I find Katz's general line of argument for the stative qualities of perfects compelling, and I will use some of his tests here.

AGENTIVITY

Katz bases his tests on Lakoff's (1966) work, where the major features of interest are "agentivity, temporal homogeneity and present orientation" (Katz 2003b, p. 2). He first considers agentivity. Noting the complications brought by perfects to tests involving only agent-indicating adverbs like 'intentionally', he uses *wh*-clefts to test for agentivity. He explains:

the *wh*-cleft, then, appears only to be felicitous if the clefted predicate describes an agentive event. Applying the *wh*-cleft to perfect predicates is quite revealing, in that it appears that when the perfect operator is part of the *wh*-clause and not part of the matrix, as in (12a), the sentence is acceptable, while if it is not part of the matrix, as in (12b) it is not.

- (12) a. *What Hans had done was kiss Lin.*
 b. ??*What Hans did was have kissed Lin.* (p. 4)

He also notes that it's not just the perfect that has this characteristic, but also negated predicates; and "since negation is often taken to be a "stativizer" (Dowty 1979; Krifka 1989; Parsons 1990), the natural generalization seems to be that only agentive (and therefore non-stative) predicates can appear post-copula in the *wh*-cleft construction" (p.

5). In English, we can see that *going to* follows the same pattern as the perfect:

(83) What Alex was going to do was read 'Moby Dick'.

(84) *What Alex did was be going to read 'Moby Dick'.

In SG, we can see that the equivalent sentences follow the same pattern:

(85) 'S e a' rud a bha Alex a' dol a
 cop.PRES 3SM the.SF²¹ thing WH_COMP be.PAST Alex A' DOL DO
dhèanamh 's e leughadh 'Moby Dick'.
 do.VN cop.PRES 3SM read.VN Moby Dick
 'What Alex was going to do was read 'Moby Dick'.'

(86) *'S e a' rud a rinn Alex 's
 cop.PRES 3SM the.SF thing WH_COMP do.PAST Alex cop.PRES
 e a bhith a' dol a leughadh 'Moby Dick'.
 3SM PART be.VN A' DOL DO read.VN 'Moby Dick'
 *'What Alex did was be going to read 'Moby Dick'.'

PRESENT ORIENTATION

Next, Katz focuses on the characteristic of 'present orientation'. By this he is referring to the property of statives to more naturally receive a present orientation (and the corresponding property of eventives to receive a past orientation) in some languages (he cites Haitian); this property can also be seen in what Stowell (1982) refers to as 'headline English'. More germane to our purposes are the other instances in which this

²¹ The noun *rud* is masculine; masculine nouns usually take *an* as their article. This may be a shortening of the article for pronunciation's sake, or a reanalysis of the gender of the noun.

‘present orientation’ seems to show up. For instance, he refers to work on complement clauses of verbs like *believe*:²²

It can be shown that the complement clauses of such verbs as *believe* and *think* must be interpreted with respect to a “local now”—a subjective present (von Stechow 1995; Ogihara 1996; Abusch 1997). While this holds for tensed complements as well, infinitival complements provide particularly good illustrations. In (16) we see that stative predicates appear quite naturally as infinitival complements of *believe*, but eventive predicates do not (again, setting aside generic/habitual readings):

- (16) a. ??*Thelma believed Hans to kiss Lin.*
 b. *Thelma believed Hans to love Lin.*

While the belief described is a past belief, the content of the belief is present, and this appears to be crucial to the contrast. (p. 6).

The English perfect, then, patterns with statives:

- (87) *Thelma believed Hans to have kissed Lin.* (Katz ex. 20b, p. 7)

In English, *going to* does the same (albeit slightly awkwardly):

- (88) *Lisa believed Eric to be going to betray her, so she refused to marry him.*

SG does not allow infinitival complements, so (89) is impossible.

- (89) **Chreid Màiri Iain a bhith a’ dol ga²³ trèigsinn.*
 believe.PAST Màiri Iain PART be.VN A’ DOL DO.3SF betray.VN
 ‘Màiri believed Iain to be going to betray her.’

Still considering present orientation, he next describes the behavior (noted by, e.g., Giorgi & Pianesi 1998) of statives in the complement of modal verbs like *must*; namely, that they will tend to receive an epistemic reading (as opposed to eventives, which will receive a deontic reading). He shows that perfects in English again pattern with statives. In SG, epistemic and deontic readings are expressed differently; epistemic modality is expressed with ‘must’ plus the declarative complementizer and an embedded proposition,

²² This is also known as the *factative* effect; see e.g. Fitzpatrick (2006).

²³ With a pronominal object, the particle inflects as follows: ‘*gam^L*, ‘*gad^L*, ‘*ga^L*, ‘*gar*, ‘*gur*, ‘*gan*/‘*gam*. The same pattern occurs the imperfective particle *a*’.

while deontic modality is expressed with ‘must’ alone.

- (90) *Feumaidh gu bheil an t-acras ort.*
 need.FUT DECL_COMP be.PRES.dep the.SM hunger on.2S
 ‘You must be hungry.’ (epistemic)
- (91) *Feumaidh gu bheil gràidh agad air Calum.*
 need.FUT DECL_COMP be.PRES.DEP love at.2S on Calum
 ‘You must love Calum.’ (epistemic)
- (92) *Feumaidh tu falbh an-dràsda.*
 need.FUT 2S leave.VN now
 ‘You must leave now.’ (deontic)
- (93) *Feumaidh gràidh a bhith agad air Calum.*
 need.FUT love PART be.VN at.2S on Calum
 ‘You must love Calum.’ (deontic)

We can see that in SG, the epistemic version of a ‘must’ sentence with *a’ dol do* is natural, while the deontic version is out (compare the version without *a’ dol do*):

- (94) ✓ *Feumaidh gu bheil thu a’ dol a dh’fhàgail a dh’aithghearr.*
 need.FUT DECL_COMP be.VN 2S A’ DOL DO leave.VN soon
 ‘You must be going to leave soon.’ (epistemic)
- (95) **Feumaidh tu a’ dol a dh’fhàgail a dh’aithghearr.*
 need.FUT 2S A’ DOL DO leave.VN soon
 *‘You must be going to leave soon.’ (deontic)
- (96) *Feumaidh tu fàgail a dh’aithghearr.*
 need.FUT 2S leave.VN soon
 ‘You must leave soon.’ (deontic)

INTERPRETATION OF DISCOURSE

Katz also investigates the behavior of the perfect with respect to the advancing of narrative time (as Dry 1983 notes for statives). The perfect in English clearly does not move narrative time forward, while the simple past/past perfective does:

- (97) The sky was clear. Màiri had left quietly. The washing was on the line. She had hung it up to dry.

- (98) The sky was clear. Màiri left quietly. The washing was on the line. She hung it up to dry. (cf. Katz ex. 24, p. 9)

Be going to in English seems to follow the same pattern:

- (99) It was Monday. Elisa was going to wake up at 6. The coffee was already brewing. She was going to leave for work at 7.

Compare the same with the perfective:

- (100) It was Monday. Elisa woke up at 6. The coffee was already brewing. She left for work at 7.

And *a' dol do* does the same:

- (101) 's e DiLuain a bha ann. Bha Eilidh a' dol a
 cop.PRES 3SM Monday WH_COMP be.PASTin.3SM be.PAST Eilidh A' DOL DO
 dhùsgadh aig sia. Bha an cofaidh air mar tha. Bha i
 wake.VN at 6 be.PAST the.SM coffee on already be.PAST 3SF
 a' dol a fhàgail airson obair aig a seachd.
 A' DOL DO leave.VN for work at PART 7
 'It was Monday. Eilidh was going to wake up at 6. The coffee was on already.
 She was going to leave for work at 7.'

The interpretation of this sentence is that Eilidh is still asleep throughout the description; the coffee is on and she is going to wake up at 6 and then leave at 7.

We can see from these tests, then, that *a' dol do* (as well as *going to* in English) seems to have stative properties. I will discuss what this means for our semantics in section 3.3.4, but for now we can see that this characteristic of retrospective perfects seems to be shared by prospectives.

3.3.3.2 Continuing result

As I discussed in section 3.2, we can fairly easily conceive of a “continuing result” of an eventuality that has not yet occurred. Perfects have often been described as having a special kind of “resultant state” or “result state”. Such states have been discussed for all

or many eventualities (see especially Parsons 1990, for whom these states exist for every event that culminates; cf. Kamp and Reyle 1993, Giorgi and Pianesi 1998); others have argued against the existence of such states, either in the semantics or more generally (see for example McCoard 1978). Accounts that turn to “result states” as part of their explanation of the perfect (for instance, to account for the stativity of the perfect) include Parsons (1990), Kamp & Reyle (1993), and Katz (2003b). What is important to our purposes here, though, is that the result state in perfects, whether it be a “real” semantic entity or not, is of a particular sort. That is, the “result state” of an experiential perfect sentence like *I have met Cher* is *having met Cher*; the special part about this result state in perfects is that it holds forever after (that is, at any RT you choose after the event, the proposition will hold.) What we are looking for with prospectives, then, is a state describable using the prospective sentence that is true up until the point at which the eventuality described in the sentence takes place.

In section 3.2 I suggested that such “result” states do seem to exist for English *going to*. Let’s consider some such sentences again:

(102) Kacy is going to meet Cher tomorrow.

(103) She’s going to turn 18 in the year 2018.

(104) Your daughter is going to grow up to be president.

In all of these sentences, the state of ‘being going to X’ (awkward as it is) can be said to be true up until the point that the eventuality begins (that is, ET_{init}). You will note that it is not necessarily the case that the subject will be able to evaluate the truthfulness of the result state at a given point in time; for instance, Kacy may not know that her friend has

arranged for her to meet Cher, so she may not agree that ‘I am going to meet Cher’ is a true statement. If we can assume a third person perspective for these sentences wherein the future is knowable, we can evaluate them with respect to the real world. The evaluation of the truthfulness of these sentences falls under the modal meaning I do not treat here. We need not do this, though, if what we are interested in is the relationship between the sentences.

The next question might be *from* what point the ‘being going to X’ state will be true. For retrospective perfects, the result state holds until (at least) the reference time anchored by tense. This is a bit odd when we consider simple experiential perfects, since (in the case of *She has visited Paris*) the state of ‘having visited Paris’ seems to hold indefinitely, regardless of the reference time, once the subject has first done the visiting. (So long as that time is within the subject’s lifetime, usually; see e.g. Portner 2003 for a discussion of lifetime effects and the perfect.) It becomes clearer, though, when we consider a modified experiential perfect, or a negated one:

(105) I have seen *Jurassic Park* 45 times.

(106) I have never seen *Jaws*.

Clearly, the states of ‘having seen *Jurassic Park* 45 times’²⁴ or ‘having never seen *Jaws*’ are states that could be easily changed; the states only need hold true until the reference time. So, for *be going to*, we can look at the same time span—between (at least) the reference time and the (beginning of the) event time. The state may well be ‘true’ before

²⁴ In fact, what the result state should be here is perhaps not entirely clear; there is a strange and not very salient reading of this sentence which is paraphrasable by ‘I have had the following experience: that of seeing *Jurassic Park* 45 times’—that is, not the repetitive reading where the adverbial is modifying the VP, but an experiential reading where it is modifying the AspP.

the reference time, given the correct evaluation window, but it does not *need* to be. This fact, though, gives us examples like the following:

- (107) a. But we have to stop him! He's going to leave!
 b. Let him go—he was always going to leave. The question was when.
- (108) Jacob Johnson couldn't have known it in 1708, but a descendant of his was one day going to become the first computer hacker.

For instance, we could easily say (108) now (in the 21st century), even though Jacob could not have evaluated such a claim for a truth value in 1708.

With a present prospective, the state will be true from speech time to event time; with past and future prospectives, it is true from the reference time to the event time. The sentence in (109) is true from any reference time you choose in the past until the wind breaks the branch (although knowledge of its truth value will likely not begin until much closer to event time, of course):

- (109) *Tha a' ghaoth a' dol a bhriseadh a' mheanglan 'ud.*
 be.PRES the.SF wind A' DOL DO break.VN the.SM branch DIST
 'The wind is going to break that/yon branch.'

In (110), the state of 'being going to marry Màiri at noon' is true at any RT until the wedding:

- (110) *Bha Calum a' dol a phòsadh Màiri dìreach aig meadhan-latha,*
 be.PAST Calum A' DOL DO marry.VN Màiri directly at mid-day
sin an uair a bha an solas nas fhearr
 MED the.SM hour WH_COMP be.PAST the.SM light COMPAR good.COMPAR
anns an eaglais.
 in.the the.SM church
 'Calum was going to marry Màiri at noon—that was when the light was better in the church.'

And in (111), the state of 'being going to get married the next day' is true from the

reference time ('that night') (repeated from (60)):

- (111) 'S *docha* *nach bu* *chòir* *dhuinn am* *pàrtaidh*
 cop.PRES probability not cop.PAST right to.1P the.SM party
a *dhèanamh* *an* *oidhche* *sin...bithidh* *thu*
 AGRO do.VN the.SM night MED be.FUT you.S
a' dol a *phòsadh* *an* *ath* *latha.*
 A' DOL DO marry.VN the.SM next day
 'Maybe we shouldn't have the party that night...you'll be going to get married
 the next day.' [Lit. 'You will be going to marry the next day.']

A continuing result is thus another way in which prospectives seem to parallel retrospective perfects.

3.3.3.3 Two slots for adverbials

As I showed in chapter 2, retrospective perfects in English and SG show two different readings in the past tense when paired with time adverbials in certain positions. A time adverbial after the VP allows either an event time reading or a reference time reading, while a preverbal time adverbial allows only a reference time reading. In English, the future *be going to* construction is a bit marginal anyway, but the past of *be going to* demonstrates this adverbial property quite clearly:

- (112) a. She was going to marry Carl at noon. (ET or RT)
 b. ✓She was (still) going to marry Carl at noon, but by 1 she had changed
 her mind. (RT)
 c. ✓She was going to marry Carl at noon, because that was when the light hit
 the gazebo just right. (ET)
- (113) a. ✓At noon she was (still) going to marry Carl, but by 1 she had changed
 her mind. (RT)
 b. #At noon she was going to marry Carl, because that was when the light hit
 the gazebo just right. (ET)

In the future tense, if we can get the sentences to work in the first place, the same pattern holds:

- (114) a. ✓She'll (still) be going to marry Carl at noon, but by 12:30 we will have revealed to her that he is a robot, and by 1 she will have called it off. (RT)
 b. ✓She'll be going to marry Carl at noon that day, so I'm thinking 11:30 a.m. will not be the best time for a prank. (ET)
- (115) a. ✓At noon she'll (still) be going to marry Carl, but by 12:30 we will have revealed to her that he is a robot, and by 1 she will have called it off. (RT)
 b. #At noon she'll be going to marry Carl, so I'm thinking 11:59 a.m. will not be the best time for a prank. (ET)

SG shows the same patterns:

- (116) *Bha Calum a' dol a phòsadh Màiri aig meadhan-latha.*
 be.PAST Calum A' DOL DO marry.VN Màiri at mid-day
 'Calum was going to marry Màiri at noon.' (ET or RT)

POSTVERBAL ADVERBIAL

- (117) ✓*Bha Calum fhathast a' dol a phòsadh Màiri aig meadhan-latha,*
 be.PAST Calum still/yet A' DOL DO marry.VN Màiri at mid-day
achaig uair gabh e an t-eagal.
 but at hour take.PAST 3SM the.SM fear
 'Calum was still going to marry Màiri at noon, but at 1 he got scared.' (RT)
- (118) ✓*Bha Calum a' dol a phòsadh Màiri dìreach aig meadhan-latha,*
 be.PAST Calum A' DOL DO marry.VN Màiri directly at mid-day
sin an uair a bha an solas nas fhearr
 MED the.SM hour WH_COMP be.PAST the.SM light COMPAR good.COMPAR
anns an eaglais.
 in.the the.SM church
 'Calum was going to marry Màiri at noon—that was when the light was better in the church.' (ET) (Repeated from (110))

PREVERBAL ADVERBIAL

- (119) ✓ *Aig meadhan-latha bha Calum a' dol a phòsadh Màiri, ach*
 at mid-day be.PAST Calum A' DOL DO marry.VN Màiri but
aig uair gabh e an t-eagal.
 at hour take.PAST 3SM the.SM fear
 'At noon Calum was going to marry Màiri, but at 1 he got scared.' (RT)
- (120) **Aig meadhan-latha bha Calum a' dol a phòsadh Màiri,*
 at mid-day be.PAST Calum A' DOL DO marry.VN Màiri
sin an uair a bha an solas nas
 MED the.SM hour WH_COMP be.PAST the.SM light COMPAR
fhearr anns an eaglais.
 good.COMPAR in.the the.SF church
 *'At noon Calum was going to marry Màiri—that was when the light was
 better in the church.' (ET)

We can see, then, that *a' dol do* (and *going to*) share with retrospective perfects the characteristic of allowing two different readings of sentences with postverbal time adverbials, and one reading of sentences with preverbal time adverbials.²⁵

3.3.3.4 *Experiential, resultative, and universal readings*

EXPERIENTIAL

An experiential reading in retrospectives describes an experience the subject has had, without reference to the continuation of that experience into the reference time. So, the unmodified perfect in (121) describes Jan's experience of having lived in Athens, but does not (necessarily) tell us she still lives there (in opposition to a universal reading).

- (121) Jan has lived in Athens.

In section 3.2.2.2 I suggested that we look for a similar reading in prospectives, wherein an experience that would be had by the subject would be described. I said then that a

²⁵ Futurates also share this property.

typical sentence with *going to* in English would satisfy this description:

(122) Tomorrow I'm going to study for the test.

The sentence in (122) tells us that the subject is going to take part in a studying event. It does not tell us that she is already studying and will continue, or that there is a special kind of result that carries into reference time, but simply that there is going to be a studying event.

We see the same basic expression of an event at ET located after RT in SG:

(123) *Tha Iain a' dol a thogail taigh.*
 be.PRES Iain A' DOL DO build.VN house
 'Iain is going to build a house.'

(124) *Tha Calum a' dol a dhol air bàta anns a' bhliadhna*
 be.PRES Calum A' DOL DO go.VN on boat in the.SF.DAT year
dà mhìle 's a leth cheud.
 two thousand and half hundred
 'Calum is going to go on a boat in 2050.'

In both of these sentences, we have a description of an event that the subject will take part in, either at a particular time or not (parallel to what we see with retrospective perfects), in which the eventuality does not carry into reference time and in which the 'result' of the eventuality is not necessarily a salient factor in the discourse.

RESULTATIVE

A resultative reading is one in which the effect of the eventuality, but not the eventuality itself, carries on into the reference time. Note that this 'result' is not the same as the 'result state' that is discussed with respect to (experiential) perfects; rather, this is a result of a telic predicate like *lose one's glasses*, *spill one's coffee*, or *fall (down)*. So, for instance, with a retrospective perfect, there are two readings of *I have lost my glasses*—

the one in which the glasses are still lost, which is the ‘resultative’ reading, and the one (which could also be expressed as *I have lost my glasses before*) in which they are not (necessarily) still lost. In section 3.2.2.2 I proposed that one way to interpret this kind of “result” would be to think about it in terms of an eventuality being the immediate reason for a current situation. So, in the case of *I’ve lost my glasses*, the sentence might be felicitously uttered while looking for one’s glasses. If we use this as a first attempt at a diagnostic for a “resultative” prospective, we would be looking for a situation in which the eventuality in question is the proximate cause of a current situation (although it has not yet come to pass).²⁶ This seems to be the case in the following English sentences:

Situation: Speaker storms past interlocutor into the kitchen and quickly turns off a burner on the stove; interlocutor looks at speaker quizzically:

(125) The pot was going to boil over.

Or, as above, but the speaker says as she is storming past:

(126) The pot is going to boil over!

Again, we see something in SG that could be described in the same way:

Situation: Speaker begins to run towards the pond.

(127) *Tha e a’ dol a bhàthadh!*
 be.PRES 3SM A’ DOL DO drown.VN
 ‘He’s going to drown!’ (Repeated from (58))

Situation: Speaker hands interlocutor an umbrella.

(128) *Tha an t-uisge a’ dol a bhith ann.*
 be.PRES the.SM water A’ DOL DO be.VN in.3SM
 ‘It is going to rain.’

²⁶ Another approach would be as in Copley & Harley (to appear), in which different events or states can “sum” into a situation that is then seen as a cause.

Our first attempt seems to be missing something, however. As noted by Iatridou, et al. (2001), the resultative (retrospective) perfect “is said to be possible only with telic predicates and only for as long as the effect of the underlying eventuality holds” (p. 155). Our resultative prospective diagnostic does not rule out atelic predicates; nor are we necessarily getting the same characteristic of a reading that is only available for as long as an effect holds. As Iatridou (2001) notes in a footnote (p. 191), Kratzer (1994) has a possible analysis for resultative retrospective perfects; she uses Parsons’ (1990) concept of a ‘target state’ to develop a proposal about which verbs allow a resultative perfect (namely, it is those that can easily be seen to have target states). If this account is accurate, we might be able to see why the concept of a resultative prospective perfect is rather hard to define in the same terms as resultative retrospective. In fact, those predicates that do form resultatives in retrospective perfects (perhaps unsurprisingly) don’t seem to act like resultatives in their prospective forms. So (129) has none of the flavor of a resultative; not even as much as those I proposed above.

(129) I’m going to lose my glasses.

The idea that prospectives might not have resultative readings that can be directly compared to retrospectives shouldn’t necessarily worry us, since the meaning of resultative readings seems to be directly tied to the fact that an eventuality has already happened, which is clearly not the case with prospectives. I will, however, point out one more possible way to interpret the idea of a “resultative” prospective.²⁷ If we think of the verbs that easily participate in resultative perfects as having natural ‘target states’, then

²⁷ Thanks to Bridget Copley for this suggestion.

the “opposite” of this might be a verb that has a natural initial state (see e.g. Ramchand 2008)—i.e., a verb with an intentional agent. Then a “resultative” prospective would be one in which the state was required to hold. *Going to* by itself would be ambiguous between these two readings (just as an unmodified resultative perfect also has an experiential reading); the difference could be seen with a modification that cancelled the intent:

(130) Margie was going to leave but she didn’t in the end.

(131) #Margie was going to get sick but she didn’t in the end.

Interestingly, *about to* does not seem to follow this pattern:

(132) ✓Margie was about to get sick but she didn’t in the end.

I think this speaks to the more modal nature of many uses of *going to* in English; more research would certainly be beneficial in sorting out these distinctions.

UNIVERSAL

Finally, we can consider the possibility of a universal reading in prospectives. As I established in section 3.2.2.2, in a universal reading of a retrospective perfect the eventuality continues up to and includes the reference time:

(133) Brynna has lived in Michigan (ever) since 2004.

At reference time (here, speech time), both the experiential perfect *Brynna has lived in Michigan* and the non-perfect *Brynna lives in Michigan* are true. For a prospective universal perfect, I suggested that we would be looking for a sentence in which the eventuality includes reference time in addition to extending past it. That would mean that when uttered, both the prospective and the non-prospective version of the eventuality

would be true. For instance:

Situation: You are running. Your friend pulls up beside you on her bicycle and rides alongside you while you continue to run. She asks if you would like to get some coffee later that morning. You respond:

- (134) I'm going to run for ten more minutes, then I'm going to go home and change, so I'll meet you there at 9:30.

When the sentence is uttered, the speaker can truthfully say both "I'm running" and "I'm going to run." The same can be done in SG:

- (135) *Tha mi a' dol a ruith airson còig mionaidean eile.*
 be.PRES 1S A' DOL DO run.VN for five minute.P more
 'I'm going to run [i.e. keep running] for five more minutes.'

In both languages, we have a prospective where the event time overlaps with the reference time. You will notice that in our universal prospective perfects we have modification with a *for* adverbial. Indeed, it seems that an unmodified prospective cannot receive a universal reading:

- (136) [while running] #I'm going to run.

This is actually quite similar to what we see with retrospective universal perfects. Iatridou, et al. (2001) argue that truly unmodified perfects are always experiential, never universal; it seems that the same may be true in prospectives. However, it is not clear that this should really be considered to be a universal reading; with perfects, universal readings only arise with stative verbs. If we try a stative verb with *going to*:

- (137) [while a resident of Tucson] I'm going to live in Tucson until 2015.

This is perhaps closer to a universal reading.

3.3.3.5 Time spans and *a' dol do*

Here I want to briefly discuss the time spans involved in *be going to* and *a' dol do*, and see which, if any, is essential to the meaning of prospectives. I discuss two possible time spans of interest: the 'Perfect Time Span', as introduced by Iatridou, et al. (2001), and the 'Event-Reference Interval', as I first discussed in chapter 2 with respect to retrospective perfects. The Perfect Time Span (PTS) is an alternative way to talk about the concept of 'Extended Now' (as discussed in McCoard 1978, Dowty 1979, and elsewhere). The PTS is a span defined on one side (the 'left bound') by an adverbial like 'since', and on the other (the 'right bound') by the reference time; the event time will be within this time span. More precisely, the span would stretch from the end of the adverbially defined time to the beginning of reference time. The adverbial can be overt or not, according to Iatridou, et al. (2001). The Event-Reference Interval (ERI), as I defined it, is the span of time between the final moment of the event time interval and the initial moment of the reference time interval. If we consider a retrospective perfect (in English for now), we can see that these two time spans will be quite different:

- (138) Pam has visited Louisiana once since 2003. It was in March of 2005.
 PTS: 2003-reference time (which = UT)
 ERI: March 2005 to RT (which = UT)

As I showed in chapter 2, in retrospective perfects SG has grammaticalized information about the ERI, in the form of the (compound) particle *as dèidh*, which requires that the ERI (but not the PTS) be short.

Since I am trying to show that prospectives are fundamentally the same kind of animal as retrospectives, it would be good to know if these intervals meant anything in

prospective sentences. For a prospective PTS, we would be looking for a relevant time span that would stretch from the reference time to a time defined by an adverbial. This time, it would be from the end of the ‘left bound’ (the reference time here), to the beginning of the right bound (the adverbial time).²⁸ *Since* obviously won’t work, but we want an adverbial that defines the same kind of time span. Informally (as I discussed in chapter 2), *since x*, *P* means something like ‘in the time span from *x* to the beginning of RT, *P* occurred at ET’; it does not contain any additional ‘during’-type meaning. For prospectives, then, we would be looking for an adverbial that means something like ‘*P* will occur at an ET in the time span between RT and *x*’. As I mentioned in section 3.2.2.3, I propose that ‘before’ or ‘by’ adverbials would mark just such a time span:

- (139) a. I’m going to leave *by 5 o’clock*.
 b. I’m going to write a book *before the year 2015*.

However, while *since* is found in retrospective perfects but not perfectives, neither *before* nor *by* is usable exclusively by prospectives:

- (140) a. I’m going to watch the movie before/by tomorrow.
 b. I’ll watch the movie before/by tomorrow.

Interestingly, futurates with the progressive seem to allow *before* but not *by*:

- (141) a. I’m watching the movie before tomorrow.
 b. ?I’m watching the movie by tomorrow.

Of course, the two sentences in (140) don’t mean exactly the same thing (again see Copley 2009 for an account of the differences); but they do mean the same thing with

²⁸ In fact, it is not clear to me that the ERI might not begin at the beginning of the reference time span, or whether this would make a difference anywhere.

respect to the adverbial modification—in both cases, there will be a movie watching between the RT and tomorrow.²⁹ In any case, *a' dol do* allows the same:

- (142) *Tha Calum a' dol a dhol air bàta roimh a' bhliadhna dà*
 be.PRES Calum A' DOL DO go.VN on boat before the.SF.DAT year two
mhìle 's a leth cheud.
 thousand and half hundred
 'Calum is going to go on a boat before the year 2050.'

If I am right about *before* (and *roimh*), then the (prospective) PTS in (142) is between RT and 2050.³⁰

Next I am interested in what an ERI would look like in a prospective, and whether there is a grammaticalization of it with *a' dol do*. As in retrospectives, the ERI with prospectives will be the span between the event and reference times; in prospectives, this means being between the reference time and the *beginning* of the event time, since once the eventuality begins, *I am going to x* is no longer an accurate description (except perhaps in a universal reading, as I discussed in the previous section). As for whether *a' dol do* carries a specification for a particular ERI (or PTS) length, it appears not to (nor does *be going to*). In the data below, there are varying lengths of time between ET and RT, and between the “PTS” adverb and RT (143f).

- (143) a. *Tha mi a' dol a dh'fhàgail an-dràsda.*
 be.PRES 1S A' DOL DO leave.VN now
 'I am going to leave now.'
- b. *Tha mi a' dol a dh'fhàgail an ceann còig mionaid.*
 be.PRES 1S A' DOL DO leave.VN the.SM head five minute.S
 'I am going to leave in five minutes.'

²⁹ For me, at least, *before* might indicate a bit more that the movie watching will take place today, while *by* more easily permits a reading where the movie watching is done before a particular salient point tomorrow—say, when we're meeting to watch the sequel.

³⁰ See e.g. Beaver & Condoravdi (2003) for an analysis of *before* and *after*.

- c. *Tha mi a' dol a dh'fhàgail a-màireach.*
 be.PRES 1S A' DOL DO leave.VN tomorrow
 'I am going to leave tomorrow.'
- d. *Tha e a' dol a phòsadh an ath sheachdain.*
 be.PRES 3SM A' DOL DO marry.VN the.SM next week
 'He's going to get married next week.'
- e. *Tha Iain a' dol a thogail taigh ann an còig bliadhna.*
 be.PRES Iain A' DOL DO build.VN house in five year.S
 'Iain is going to build a house in five years.' (5 years from now)
- f. *Tha Calum a' dol a dhol air bàta roimh a' bhliadhna dà mhìle 's a leth cheud.*
 be.PRES Calum A' DOL DO go.VN on boat before the.DAT.SF
 year two thousand and half hundred
 'Calum is going to go on a boat before 2050.'
 (repeated from (142) above)

Now that I have made my arguments for *a' dol do* (and *going to*) being prospectives and sharing characteristics with perfects, I will present my formal analysis of the construction.

3.3.4 Semantic and syntactic analysis of *a' dol do*

I argue, then, that the distribution of data with *a' dol do* support an analysis of it as the marker of a prospective perfect construction. My proposal is that *a' dol do* amounts to a particle verb 'going to',³¹ which has been reanalyzed as a compound aspectual particle.

3.3.4.1 Basic characterization

First I want to argue that the construction is what I have been glossing it as. What we see in the examples I have presented so far is the string *a' dol a*. It is clear from sentences with *a' dol* by itself that this part of the construction arose from the use of the contentful

³¹ I am greatly indebted to Andrew Carnie for the backbone of this syntactic proposal. For a more complete analysis see Reed & Carnie (forthcoming).

verb ‘go’:

- (144) *Tha e a’ dol dhachaidh.*
 be.PRES 3SM A’ go.VN home
 ‘He is going home.’

The preposition *a* ‘to’ is present in the main verb use of *dol* if one is going to a place:

- (145) *Tha Màiri a’ dol a Glaschu.*
 be.PRES Màiri A’ go.VN to Glasgow
 ‘Màiri is going to Glasgow.’

And while this main verb use of *dol* allows clefting of the location (146a), the aspectual use does not (146c):

- (146) a. *’S ann³² a Glaschu a tha Màiri a’ dol.*
 COP.PRES in.3SM to Glasgow WH_COMP be.PRES Màiri A’ go.VN
 ‘It’s to Glasgow that Màiri is going.’
- b. *Tha Màiri a’ dol a bhàthadh!*
 be.PRES Màiri A’ DOL DO drown.VN
 ‘Màiri is going to drown!’
- c. **’S ann a bhàthadh a tha Màiri a’ dol!*
 COP.PRES in.3SM to drown.VN WH_COMP be.PRES Màiri A’ go.VN
 *‘It’s to drown that Màiri is going!’

What is the particle *a*, then? First, note how to say ‘going to [the place]’:

- (147) *Tha e a’ dol dhan a’ bhaile.*
 be.PRES 3SM A’ go.VN to the.DAT.SM town
 ‘He is going to town.’

What we see in (146) is the preposition *do* ‘to’, in the form it takes before the definite article—*dhan* (*do* governs the dative case so the masculine definite article takes the form *a*). Could the aspectual version we are interested in have arisen from the verb+preposition construction? In fact, *a* is another form of *do* (or a synonymous

³² This use of *ann* is as an existential particle in some types of clefts.

proposition, depending on your perspective),³³ as we saw in (145) above. Both (forms of the) prepositions also show a particular pattern of lenition and reduplication, whether in a ‘going to [place]’ construction or ‘going to [verb]’ construction. When followed by letters that lenite in a typical fashion, normal lenition occurs (and orthographic ‘h’ is added); but before vowels and ‘f’, you get the form *do dh’* (or *a dh’*). This reduplicated form still causes lenition if possible, meaning that with vowels you get *a/do dh’V*, but with ‘f’ you get *a/do dh’fh*.

- (148) *Tha e a’ dol a phòsadh an ath sheachdain.*
 be.PRES 3SM A’ DOL DO marry.VN the.SM week next
 ‘He’s going to get married next week.’ (repeated from (81, 144))

- (149) *Tha mi a’ dol a dh’ithe.*
 be.PRES 1S A’ DOL DO eat.VN
 ‘I am going to eat.’

- (150) *Tha mi a’ dol a dh’fhaicinn Cher.*
 be.PRES 1S A’ DOL DO see.VN Cher
 ‘I am going to see Cher.’

- (151) *Tha e a’ dol a dh’Alba.*
 be.PRES 3sm A’ go.VN to Scotland
 ‘He is going to Scotland.’

Similar reduplication is seen in other places,³⁴ such as after the homophonous past particle *do*, used in questions:

- (152) *An do dh’fhàg e?*
 Q PAST leave.VN 3sm
 ‘Did he leave?’

³³ I have been glossing it as *a’ dol do* and not *a’ dol a* for two reasons: one, *do* is the (form of the) preposition which my informant uses elsewhere, and two, to keep from confusing the reader with yet another particle *a*, of which there are many in the language.

³⁴ Thanks to Andrew Carnie for this observation.

The question might arise as to whether the construction is not just the contentful use of ‘be going to’. For instance, in (150) above, both readings are possible, as they are in English—if you are walking down the street to see your friend Cher, and utter the sentence, the listener would interpret your utterance as [I am going] [(in order) to see Cher]. However, if your roommate uttered the sentence after listening to his favorite Cher CD, you might interpret it as [I am [going to see Cher]]—that is, as a declaration of intent to go see the singer in concert, perhaps. Sentences like (147), however, would be difficult to interpret as containing a contentful ‘go’. Even more clear are sentences like (58), repeated here as (153):

- (153) *Tha e a’ dol a bhàthadh!*
 be.PRES 3SM A’ DOL DO drown.VN
 ‘He’s going to drown!’

This sentence can felicitously be uttered on seeing someone already in the water and struggling, in which it is not in any way a case of going in order to drown. One more fact which points to the string being a cohesive unit (or, especially, having started as a contentful construction and moving more and more towards aspectual grammaticalization) is the following type of exchange,³⁵ which my consultant reported as being something she would not say, but that one might hear from children.

- (154) Mother: *Ith do dhinnear!*
 eat.IMP POSS.2S dinner
 ‘Eat your dinner!’
- Child: *Tha mi a’ dol ga!*
 be.PRES 1S A’ DOL ga
 ‘I’m going to!’

³⁵ Thanks to Andrew Carnie for these data.

The *ga* at the end of the sentence is a bit of a mystery; it seems to be the third person singular form of what might be called a direct object pronoun—it is a contraction of the preposition *aig* ‘at’ and the possessive pronoun. Andrew Carnie (p.c.) suggested that perhaps this is actually a reanalysis of *dha*, which is the pronoun *do* from above in its third person singular form. (The pronunciation of *dha* is [ya], while *ga* is [ga].) Indeed, we also see something that is being thought of as *ga* when *a’ dol do* is used with a pronominal object:

- (155) *Tha i a’ dol gad fhaicinn.*
 be.PRES 3SFA’ DOL at.2S? see.VN
 ‘She’s going to see you.’

We notice here that along with what seems to be the second person singular form of *aig*, we get normal lenition (not the reduplicated ‘dh’fhaicinn’). It is not at all clear to me what is going on here, nor has enough data been gathered to tell. However, whether or not the *ga* in the child’s speech above in (154) is indeed a reanalysis of *do/a/dha* or something else, we can see that for the speaker the phrase is acting as a unit, since the *ga* survives the ellipsis.

One argument for the *ga* in (154) not really having started as the object pronoun *ga* is that it is not in the right place to be that piece of morphology. In a sentence with *a’/ag* being used as the imperfective particle (historically this was the preposition *aig*), it can show up as *ga* (or another form, depending on the person and number) when an object pronoun is needed:

- (156) *Bithidh mi ga coinneachadh tric.*
 be.FUT 1S A’.3SF meet.VN often
 ‘I meet her often.’

Notice here that we have the form *be*+subject+*ga*+VN. In the sentences with *a' dol*, what we have is *be*+subject+*a' dol*+*ga*+VN. It's not the imperfective particle part of *a' dol do* that is being affected, but the particle at the end. *A' dol do* is acting as a unit. I will leave this discussion here; for now I assert that we at least have enough evidence to think that *a' dol do/a* is acting as a unit, and is expressing a distinction of what I have defined here as prospective perfect aspect.

3.3.4.2 Formal analysis

Next I want to establish a basic picture of what is going on with this construction syntacticosemantically. I have shown that *a' dol do* patterns semantically to some extent with the retrospective perfect aspects in the language. However, the syntax we see with *a' dol do* does not pattern with that found with the perfect constructions; rather, if anything, it patterns with the syntax of the imperfective particle *a'*:

- (157) *Tha mi a' togail taighe.*
 be.PRES 1S A' build.VN house.GEN³⁶
 'I am building a house.'

- (158) *Tha mi air/as dèidh taigh a thogail.*
 be.PRES 1S AIR/AS DÈIDH house AGRO build.VN
 'I have built a house.'

- (159) a. *Tha mi a' dol a thogail taigh(e).*
 be.PRES 1S A' DOL DO build.VN house(.GEN)
 'I am going to build a house.'
- b. **Tha mi a' dol a taigh a thogail.*
 be.PRES 1S A' DOL DO house AGRO build.VN
 *'I am going to build a house.'

³⁶ My consultant does not tend to produce the genitive form of nouns, but acknowledges that this noun is probably "supposed to be" in the genitive case. In the rest of the data you will rarely see marking for the genitive, since she does not produce it; this example came up during discussion of existing data, from MacAulay (1992).

The syntactic similarity between the sentence with *a'* and the sentence with *a' dol do* is the location of the direct object: in neither construction does the object appear before the verbal noun, as it does with *air* and *as dèidh* (and, as we will see, with *gu*). In addition, in a sentence with *air* or *as dèidh*, but not *a'* or *a' dol do*, the particle *a* is required before the verbal noun when there is a direct object. (I have been glossing this as AgrO here (based on Ramchand (1993), who glosses it *OAgr*); it triggers lenition in the verbal noun³⁷). If there is no direct object, it does not appear:

- (160) *Tha e air (*a) falbh.*
 be.PRES 3SM AIR AGRO leave.VN
 ‘He has left.’

In addition, in the sentences with *a'* and with *a' dol do*, the direct object receives genitive case (although my consultant does not usually produce case marking).

It would seem that the language is treating sentences with *a' dol do* as if they were sentences in which *a'* was an independent part, rather than a portion of a larger aspectual unit, as I have been trying to argue—sentences with *a' dol do* show the syntactic pattern of *a'* rather than of *air*, *as dèidh*, or (as we will see) *gu*. I propose that what we have here in SG is exactly what it looks like: a construction in transition. I would argue that its syntax is a reflection of the construction it began as (namely, the imperfective particle, the contentful verb ‘go’ and a preposition, which in some cases is still the correct interpretation, as I mentioned); its aspectual semantics, however, reflect the aspectual construction it is trending towards syntactically.

³⁷ If the verbal noun begins with a vowel, there is no particle; before consonants other than ‘f’ the particle appears, and lenition occurs if the particle precedes a lenitable sequence; if the verbal noun begins with ‘f’, no particle appears, but ‘f’ lenites. If the object is pronominal, AgrO appears as a possessive pronoun.

What I think we have here is a construction, syntactically carrying an imperfective-like specification, that has been co-opted to express prospective semantics. In its use as an aspectual construction, as I have demonstrated here, it is being reanalyzed by speakers as being a distinction of aspect, and as such as a unit. I propose the following structure for *a' dol do* in its aspectual use:

(161) [TP [T *Tha*] [AgrSP *Iain* [AspP [Asp *a' dol a*] [vP [VP *sgriobhadh litir*]]]]]

I claim that *a' dol do* is functioning as another instantiation of the aspect operator; it introduces a relation between two time spans: the event time and another time, grounded by tense (i.e., RT). For reference I repeat here my general formula for aspect.

(162) ASPECT = $\lambda P_{(vt)}. \lambda t_{(i)}. \exists e: [\tau(e) \mathcal{R} t \ \& \ P(e)]$

I am again taking the Asp head to be a function of type $\langle\langle v, t \rangle, \langle i, t \rangle\rangle$. It composes with vP and returns a property of times that returns a truth value of 1 if and only if the time it takes as an argument fully precedes (\prec) the runtime of the event. The denotation of *a' dol do* then, is as follows:

(163) $\llbracket A' \text{ DOL DO} \rrbracket = \lambda P_{(vt)}. \lambda t_{(i)}. \exists e: [t \prec \tau(e) \ \& \ P(e)]$
 $(t \prec \tau(e) \text{ iff there is no } t' \subset \tau(e), \text{ s.t. } t' \prec t)$

Note that there is no ‘precedes or reaches’ in this denotation, as there was with that of *air* and *as dèidh*, as it seems that there are no truly universal readings of *a' dol do*. Here I give a partial sentence-level denotation:

(164) a. *Tha mi a' dol a dh'ithe.*
 be.PRES 1S A' DOL DO eat.VN
 ‘I am going to eat.’
 b. = $\exists t': [t' = t_{\text{now}} \ \& \ \exists e: [t' \prec \tau(e) \ \& \ \llbracket Iain \text{ write a letter} \rrbracket(e)]]$

As usual, Tense will compose with AspP, and Asp with vP.

What used to be the combination of the imperfective aspectual particle and the contentful verb ‘go’, I have argued now functions as a compound aspectual particle, heading an aspectual projection in the same way that *air* and *as dèidh* do in their respective sentences. Although the syntax still reflects the construction’s origins, its semantics are that of a unitary aspectual phenomenon. In the next section, I explore the particle *gu* and demonstrate that it shows an aspectual syntax as well as semantics.

3.4 The restricted prospective perfect in Scottish Gaelic

In this section, I present data with the particle *gu* and argue for its status as an aspectual particle; namely, a restricted prospective perfect(-like) particle. Sentences with *gu* pattern syntactically with the perfect particles from chapter 2, and tend to be glossable with *about to*:

- (165) *Tha mi gu litir a sgrìobhadh.*
 be.PRES 1S GU letter AGRO write.VN
 ‘I am about to write a letter.’

It is perfect-like because it relates ET and RT in a precedence relationship; it is a prospective because it orders ET *after* RT; and it is restricted because it has a requirement that the interval between RT and ET be relatively short. As I did in section 3.3 for *a’ dol do*, I first present previous accounts of the particle; then I show that it qualifies as a prospective; then I show in what ways it is like, and in what ways unlike, a retrospective perfect. Then I discuss the relationship *gu* has with either a Perfect Time Span or an Event-Reference Interval. Finally, I present a formal analysis of the semantics of the particle, and a basic syntactic analysis.

Since I have already discussed in detail the tests I will be using, I will be moving much more quickly through the data in this section. Before I present previous work on *gu*, I should take a moment to clarify my terminology. Here, as above, I am using the term ‘prospective’ to mean “an aspect which is the reverse (with respect to the relation between times it predicates) of a perfect.” This is certainly not the only way the term ‘prospective’ has been used, and it is not the only term that has been used for this type of concept. Of course, I used this same term to refer to *a’ dol do* in the previous section. Cinque (1999) has a helpful footnote on this topic, as I discussed in section 3.2.1.

3.4.1 Previous accounts of *gu*

Not much in detail has been written on *gu*; however, several authors have given brief accounts, and I summarize them here. Cram (1983), in his article on the particle *ann*, mentions *gu* in his discussion of SG aspectual particles. He glosses it as ‘about to’ (when it appears by itself, yielding ‘about to write’) and ‘going to’ (when it appears with ‘be’ and *a’* to yield ‘going to be writing’); he labels it a ‘prospective’. He also includes an example of *gu* used in a modal fashion, but still refers to it as a prospective:

- (166) *Tha Calum gu bhith faiceallach.*
 be.PRES Calum GU be.VN careful
 ‘Calum is to be careful.’

I will in fact briefly argue in section 3.4.2.2 that this is a special, and separate, usage of *gu*. Cinque (1999), however, takes this as some evidence that *gu* is at least not marking the same kind of aspect as *na* in Gungbe (apparently a prospective marker); he also cites the fact that in SG, in the combined form with the imperfective particle (‘going to be writing’), *gu* follows rather than precedes *a’*, where the (equivalent of the) opposite is

true in Gungbe (p. 192). However, it is quite unclear to me that Gungbe's progressive+prospective combination is doing the same thing at all; at least according to Cinque's glosses, the combination yields 'is about to X', not 'is about to be X-ing'.³⁸ In fact, when the progressive particle in Gungbe *does* appear after other aspectual morphology, then it seems to show up in the meaning. So when there is habitual marking followed by progressive marking, the gloss is 'frequently be X-ing'. It may be that the progressive particle is doing something else when it interacts with the prospective, or that the prospective indeed has its own head in Gungbe but not in SG. In any case, I do not take his evidence to be a challenge for my characterization of *gu*.

MacAulay (1992, 1996) describes *gu* as marking 'prospective aspect'. He notes both the 'about to' and modal 'to' uses, and says that the 'to' use is usually found "with time adverbials denoting a time remote from the time of the action of the main verb" (1992, p. 185). One point where MacAulay's data differ from mine is here; he relates that "all verbs that have a potential *completive* sense display this sense after *gus*"³⁹, but this is not borne out in my data. For example, MacAulay cites the following sentence as only being able to mean that Iain is about to finish his dinner; this is not true for my consultant:

- (167) *Tha Iain gus a dhinnear ithe.*
 be.PRES Iain GU AGRO dinner eat.VN
 'Iain is about to eat dinner.'

Adger (1994) identifies *gu* as a marker of "E>R", that is, that it says that event time follows reference time (the basic idea I am proposing here), and glosses it as 'about to'.

³⁸ That is, something like *John is about to eat* rather than *John is about to be eating*.

³⁹ *Gus* is the form of the cognate preposition found with determiners or 3rd persons; my consultant also often uses *gus* before vowels.

He includes it in his larger picture of aspect in SG, where *air* marks $R > E$, and *a'* marks $E = R$. Ramchand (1993) has a bit more to say about the particle's meaning, though her basic characterization is the same. About *gu* she says, "this morpheme is like the perfect *air* in that it imposes the constraint that the I introduced by the predication is bounded, but it is different from *air* in that it states that it is the initial moment, not the final moment of I_R which is anchored to tense" (p. 102) The particle also carries the same [+bound] specification as *air*.

Here I will present an analysis which characterizes *gu* as an aspect particle which marks the time relation that both Ramchand and Adger suggested, and usually is glossable as 'about to'; however, I will have more to say about what, exactly, this particle means, and how it differs from *a' dol do*.

3.4.2 *Gu as a prospective*

In this section I demonstrate, using the tests I established in section 3.2 above, that *gu* is a particle which marks an aspect that can be considered a 'mirror image' of a perfect. In fact, I will show that while *a' dol do* can be thought of as the 'mirror image' of *air*, *gu* is the prospective "version" of the restricted retrospective particle *as dèidh*.

3.4.2.1 *Gu is an aspectual marker*

First, I will demonstrate that *gu* is an aspectual marker. First, we can notice that *gu* appears in the same syntactic pattern as the particles *air* and *as dèidh*, which I have already established to be markers of aspectual distinctions.

- (168) a. *Tha mi air litir a sgrìobhadh.*
 be.PRES 1S AIR letter AGRO write.VN
 'I have written a letter.'

- b. *Tha mi as dèidh litir a sgrìobhadh.*
 be.PRES 1S AS DÈIDH letter AGRO write.VN
 ‘I have just written a letter.’
- c. *Tha mi gu litir a sgrìobhadh.*
 be.PRES 1S GU letter AGRO write.VN
 ‘I am about to write a letter.’

Notice that while in English, ‘be about to’ is expressed using a periphrastic construction (in a way parallel to ‘be going to’), in SG the construction is completely syntactically parallel to the retrospective perfect constructions.

GU CO-OCCURS WITH TENSE, NOT ASPECT

Like the other particles, *gu* appears with all three tenses.

PAST

- (169) *Bha i dìreach gu fàgail airson a’ bhaile an dè*
 be.PAST 3SF directly GU leave.VN for the.DAT.SM town yesterday
nuair a ràinig Calum.
 when arrive.PAST Calum
 ‘She was just about to leave for town yesterday when Calum arrived.’
- (170) *Bha Calum gu Màiri a phòsadh aig meadhan-latha.*
 be.PAST Calum GU Màiri AGRO marry.VN at mid-day
 ‘Calum was about to marry Màiri at noon.’

PRESENT

- (171) *Tha e gu dòrtadh.*
 be.PRES 3SM GU pour.VN
 ‘It’s about to pour [rain].’
- (172) *Tha e gu tuiteam.*
 be.PRES 3SM GU fall.VN
 ‘He’s on the verge of falling.’
- (173) *Tha mi gu mìle a ruith ann an deich mionaidean.*
 be.PRES 1S GU mile AGRO run in ten minute.P
 ‘I’m about to run a mile in ten minutes [i.e., from now].’

FUTURE (the fortune teller:)

- (174) *Ann an còig bliadhna deug, bithidh tu dìreach gu pòsadh nuair a*
 in five year.S teen be.FUT 2S directly GU marry.VN when
thèid do leannan a mharbhadh.
 go.FUT POSS.2S sweetheart AGRO kill.VN
 ‘In fifteen years, you will be just about to get married when your fiancé will
 get killed.’⁴⁰

These facts indicate that *gu* is relating ET and RT, rather than RT and speech time—it can appear across tenses, where the tense is setting the RT with respect to the UT. *Gu* is also unable to co-occur with other aspectual markings, unless an additional ‘be’ is included.

- (175) **Tha mi gu a’ ruith airson còig mionaidean eile.*
 be.PRES 1S GU A’ run.VN for five minute.P more
 *‘I’m about to running for five more minutes.’
- (176) ✓*Tha mi gu bhith a’ ruith airson còig mionaidean eile.*
 be.PRES 1S GU be.VN A’ run.VN for five minute.P more
 ‘I’m about to be running for five more minutes.’

In addition to being able to appear with the future form of ‘be’, *gu* is not the same as the future in that it cannot be used to convey a habitual interpretation (as the future can):

- (177) *Tha Calum gu fàgail air bàta.*
 be.PRES Calum GU leave.VN on boat
 ✓‘Calum is about to leave on a boat.’, #‘Calum leaves on a boat.’

GU IS FORWARD-LOOKING

Gu does not entail the completion of the eventuality it marks:

- (178) a. *Tha mi gu taigh a thogail.*
 be.PRES 1S GU house AGRO build.VN
 ‘I’m about to build a house.’
 ≠
 b. *Tha mi air taigh a thogail.*
 be.PRES 1S AIR house AGRO build.VN
 ‘I will have built a house.’

⁴⁰ There are several ways to form a passive in SG; this is with the verb ‘go’.

- (179) a. *Tha mi gu casaid a dhèanamh.*
 be.PRES 1S GU cough AGRO make.VN
 ‘I’m about to cough.’
 ≠
 b. *Tha mi air casaid a dhèanamh.*
 be.PRES 1S AIR cough AGRO make.VN
 ‘I have coughed.’

In fact, sentences with *gu* entail the corresponding sentence with *a’ dol do* (but not vice versa):

- (180) *Tha i gu bàsachadh.*⁴¹ ⇨ *Tha i a’ dol a bhàsachadh.*
 be.PRES 3SF GU die.VN be.PRES 3SF A’ DOL DO die.VN
 ‘It’s about to die.’ ‘It’s going to die.’
- (181) *Tha i a’ dol a bhàsachadh.* ≠ *Tha i gu bàsachadh.*
 ‘It’s going to die.’ ‘It’s about to die.’

These data indicate that we are dealing with an aspect that locates ET after RT, and also one which means something different from ‘be going to’.

GU CAN OCCUR WITH FUTURE ADVERBIALS

Here we can see that *gu* can occur with specifying future adverbials. I established in section 3.2 that prospectives do not necessarily act the same as retrospectives with respect to adverbials. Past positional adverbials are infelicitous with the present perfect in both SG and English; on the other hand, as I showed, both English and SG allow future positional adverbials to occur with *going to* and *a’ dol do*, respectively. Since this is the case, we want to see whether sentences with *gu* admit future positional adverbials; if they do, this will help assure us that *gu* is not some sort of strange adverbial. More important (since we are already fairly certain by this point that *gu* is not an adverbial), these

⁴¹ Note: This verb ‘die’ is used with animals, etc., and not usually with human subjects.

sentences show us that *gu* is only felicitous with certain adverbials; namely, ones that indicate that the event is fairly close to the reference time. This also helps show us that *gu* and *a' dol do*, while obviously related, do not mean exactly the same thing. It seems from these data that what is considered to be close depends on the eventuality, as it did with *as dèidh* (more on this in section 3.4.4.1).

- (182) *Tha mi dìreach gu fàgail an-dràsda.*
 be.PRES 1S directly GU leave.VN now
 'I am on the verge of leaving now.'

- (183) *Tha mi gu fàgail an ceann còig mionaid.*
 be.PRES 1S GU leave.VN the.SM head five minute.S
 'I am about to leave in five minutes.'⁴²

- (184) *Tha mi gu mìle a ruith ann an deich mionaidean.*
 be.PRES 1S GU mile AGRO run.VN in ten minute.P
 'I'm about to run a mile in ten minutes (from now).'

- (185) *Bha Calum gu Màiri a phòsadh aig meadhan-latha.*
 be.PAST Calum GU Màiri AGRO marry.VN at mid-day
 'Calum was about to marry Màiri at noon.'

Note: My consultant reports that the event-time reading is the more salient one here.

- (186) a. *Tha Iain gu bhith trang a-màireach.*
 be.PRES Iain GU be.VN busy tomorrow
 'Iain is about to be/going to be busy tomorrow.'

But:

- b. #⁴³*Tha i gu bàsachadh a-màireach.*
 be.PRES 3SFGU die.VN tomorrow
 #'It's about to die tomorrow.'

⁴² For me, at least, 'about to' with such adverbials in English yields only marginal felicity; I would need to add the adverbial information as an appositive, as in "I'm about to leave—in, like, five minutes—so hurry up." However, I have been told by other native speakers that these glosses with 'about to' seem fine.

⁴³ I use # here rather than * because these sentences are more anomalous than they are ungrammatical, and the judgments are not necessarily stark.

- (187) *Tha e gu ceumnachadh ann am mìos.*
 be.PRES 3SM GU pace/graduate.VN in month
 ‘He is about to graduate in a month.’
- (188) *#Tha Iain gu taigh a thogail ann an còig bliadhna.*
 be.PRES Iain GU house AGRO build.VN in five year.S
 #‘Iain is about to build a house in five years.’

From these data, it seems reasonable to adopt that *gu* can be glossed fairly well as ‘about to’; and contributes something like ‘ET follows RT closely’—that is, that it marks prospective aspect, and requires that its eventuality be not too far away. Now, before I go on to demonstrate what *gu* shares with retrospective perfects, I will address the modal construction *gu bhith*.

3.4.2.2 *Gu’s other meaning*

As I mentioned when discussing Cram’s use of *gu bhith*, this construction has two uses: one where *gu* is interpreted aspectually, and one where it is interpreted modally.

ASPECTUAL

- (189) *Tha an t-uisge gu bhith ann.*
 be.PRES the.SM water GU be.VN in.3SM
 ‘It’s about to rain.’ Lit. ‘There is about to be water/Water is about to be in it.’
- (190) *Tha mi gu bhith a’ ruith airson còig mionaidean eile.*
 be.PRES 1S GU be.VN A’ run.VN for five minute.P more
 ‘I’m about to be running for five more minutes.’

MODAL

- (191) *Tha Calum gu bhith faiceallach.*
 be.PRES Calum GU be.VN careful
 ‘Calum is to be careful.’ (Cram 1983 ex. 44, p. 323)

For my consultant, this modal use did not arise often at all; however, it did arise naturally once when used in conjunction with ‘go’, rather than ‘be’:

- (192) *Bha i gu a dhol dhan a' bhaile an dè, ach cha*
 be.PAST 3SFGU PART go.VN to the.DAT.SM town yesterday but not
d'fhuaire i cothrom.
 get.PAST 3SF opportunity
 'She was (supposed) to go to town yesterday, but she didn't get the chance.'

My consultant reported that a non-modal, aspectual reading was also possible with this sentence, but that for some reason the modal reading was more prominent. (Note also that this kind of reading is not available at all with *a' dol do*.) We had several examples with *gu bhith* where *gu* did not have its modal meaning, so we know that *gu* is not *only* modal.

I did find one example of the modal use of *gu bhith* (like Cram's) too, however:

- (193) *Tha an t-uisge gu bhith ann a-màireach.*
 be.PRES the.SM water GU be.VN in.3SM tomorrow
 'It's supposed to rain tomorrow/it's going to rain tomorrow.'

Gu's modal use is not my focus here, though it would likely make for very interesting further investigation; what I want us to take away here is that its modal use does not affect its primary use and interpretation as an aspectual particle.

Next I show what, if anything, *gu* has in common with retrospective perfects.

3.4.3 Similarities between *gu* and the perfect

In sections 3.2 and 3.3, I presented several (sets of) characteristics that are often associated with retrospective perfects, and then showed that *a' dol do* shared many of these characteristics. The idea here is not to show that prospectives are identical to retrospectives—obviously they are not—but to establish a way to compare them in a slightly more systematic way. Recall that our “tests” for perfecthood, based on retrospectives, were (1) stativity, (2) continuing result, (3) 2 positions for adverbs, and (4) different readings.

3.4.3.1 Stativity

Here I will again follow some of Katz's tests for stativity, namely, *agentivity*, *present orientation*, and *adverbial modification*.

AGENTIVITY

With *a' dol do*, I used a cleft construction to test for agentivity—something like 'What x did was y'. Katz showed that the perfect follows the same pattern as statives, and I showed in section 3 that *a' dol do* and *going to do* the same. And, as we can see, *gu* (and *be about to*) also follow this pattern:

- (194) 'S e a' rud a bha Alex gu dèanamh
 cop.PRES 3SM the.SF thing.M WH_COMP be.PAST Alex GU do.VN
 's e leughadh 'Moby Dick'.
 cop.PRES 3SM read.VN Moby Dick
 'What Alex was about to do was read 'Moby Dick'.'
- (195) *'S e a' rud a rinn Alex 's
 cop.PRES 3SM the.Sf⁴⁴ thing WH_COMP do.PAST Alex cop.PRES
 e a bhith gu 'Moby Dick' a leughadh.
 3SM PART be.VN GU 'Moby Dick' AGRO read.VN
 *'What Alex did was be about to read 'Moby Dick'.'

PRESENT ORIENTATION

This characteristic was shown via embedding under 'believe', as well as behavior with modals. Both *be about to* and *gu* seem to share these characteristics.

- (196) Lisa believed Eric to be about to graduate.

In (197), we see that *be about to*, like statives and perfects, more naturally receives an epistemic reading:

⁴⁴ The noun *rud* is masculine; masculine nouns usually take *an* as their article. This may be a shortening of the article for pronunciation's sake, or a reanalysis of the gender of the noun.

(197) You must be about to leave.

In SG, as I noted in section 3.3, there are different constructions for epistemic vs. deontic readings. We can see that in SG, the epistemic version of a ‘must’ sentence with *gu* is natural, while the deontic version is out:

(198) ✓ *Feumaidh gu bheil thu gu fàgail a dh’aithghearr.*
 need.FUT DECL_COMP be.VN 2S GU leave.VN soon
 ‘You must be about to leave soon.’ (epistemic)

(199) **Feumaidh tu gu fàgail a dh’aithghearr.*
 need.FUT 2s GU leave.VN soon
 ‘You must be about to leave soon.’ (deontic)

ADVERBIAL MODIFICATION

Finally, statives can be modified by adverbials like ‘still’ and ‘no longer’. *Gu* shows the same pattern, while *about to* is a bit marginal:

(200) a. ?Ellen is still about to be president.

b. Ellen is no longer about to die.

(201) a. *Tha Eilidh gu “retireadh” cò-dhiubh.*
 be.PRES Eilidh GU retire.VN anyway
 ‘Eilidh is about to retire anyway/Eilidh is still about to retire.’

b. *Chan eil Eilidh gu “retireadh” idir a-nisde.*
 not be.PRES.DEP Eilidh GU retire.VN at-all now
 ‘Ellen is no longer about to retire.’

From these tests, it seems as if *gu* qualifies as “stative” in the terms we’ve defined here, while *about to* at least comes close.

3.4.3.2 Continuing result

I defined what a continuing “result” might look for *a’ dol do/be going to* in section 3.3. The quality I said we were looking for was a state of ‘being going to x’ that would be

true from reference time to event time (as a state of ‘having X’d’ is true from event time to reference time in retrospective perfects). The corresponding (and thankfully less horrible-sounding) state we would be looking for here would be ‘being about to X’. So, we want to see if *gu* (and maybe *be about to*) seem to involve such states—and indeed, they do. The difference between those found with *a’ dol do* and *gu* seems to be, unsurprisingly, that *gu* requires that the event time be close to the reference time in order for the state to hold true. If a sentence with *gu* is felicitously uttered, the state seems to be there:

- (202) *Tha a’ ghaoth gus a’ mheanglan ’ud a bhriseadh.*
 be.PRES the.SF wind GU the.SM branch DIST AGRO break.VN
 ‘The wind is on the point of breaking that branch.’
- (203) *Tha e gus an duais a bhuinnigeadh.*
 be.PRES 3SM GU the.SM prize AGRO win.VN
 ‘He is about to win the prize.’

In (202), the state ‘being about to break that branch’ is true of the wind from at least the speech time (which is the RT here) up until the branch breaks. The state of ‘being about to win the prize’ holds of the subject in (203) from speech time until the prize is won. These seem different than their counterparts with *a’ dol do*; with that construction the state held from any RT chosen up to ET. Here, because of the extra meaning involved, it cannot be said that “from the beginning of time, the wind was about to break that branch”.

- (204) *Bha i dìreach gu fàgail airson a’ bhaile an dè*
 be.PAST 3SF directly GU leave.VN for the.DAT.SM town yesterday
nuair a ràinig Calum.
 when arrive.PAST Calum
 ‘She was just about to leave for town yesterday when Calum arrived.’
 (repeated from (189) above)

- (205) *Ann an còig bliadhna deug, bithidh tu dìreach gu pòsadh nuair a*
 in five year.S teen be.FUT 2S directly GU marry.VN when
thèid do leannan a mharbhadh.
 go.FUT POSS.2S sweetheart AGRO kill.VN
 ‘In fifteen years, you will be just about to get married when your fiancé will
 get killed.’ (Repeated from (174))

In the past tense example in (204), the state of ‘being about to leave for town’ holds true from the reference time (presumably just before Calum arrives); here we have an interesting possible termination to our state; that is, when Calum arrived, the referent of the matrix subject may very well have changed her mind about going to town, making the statement ‘I am about to leave for town’ no longer true.⁴⁵ In the future tense, too, we have a state of ‘being about to get married’, which begins at reference time and seems to end not with marriage, but with the unfortunate death of the fiancé. So, it seems, what we have is a “continuing state” that stretches from reference time to *an* event time, just not necessarily the event time of the eventuality modified by *gu*. And, although in section 3.3 I made a case for the state of ‘being going to X’ holding possibly before the subject, at a given reference time, might acknowledge the veracity of the state (for instance, in ‘You were always going to be president, I just knew it—even if you didn’t’), this doesn’t seem to hold true for the restricted prospective. ‘He was always going to leave’ seems to mean ‘it was always the case that (someday): he BE going to leave’, where the state holds from whenever ‘always’ starts. On the other hand, ‘he was always about to leave’ means something like ‘it was the case that: he always BE about to leave’—that is, you get a repetitive or habitual reading. This makes sense if *about to* requires that ET be close to RT—the way to get that in this case is with a repetitive reading, in which there are

⁴⁵ To get an accurate semantics for such a reading we would definitely need to resort to possible worlds.

multiple ETs close to multiple RTs.

So while both types of prospective seem to act differently when it comes to this idea of a continuing state, *gu/about to* seem to act even more differently, and the difference seems to arise from the restriction on having a short period of time before the event time.

3.4.3.3 Two slots for adverbials

In chapter 2 I showed that perfects in SG, like those in English, allow two readings of time adverbials in the past tense, depending on where the adverbial is located. In section 3 of this chapter, I showed the same for *a' dol do* and *going to*. *Gu* shows the same pattern as everything else when the adverbial is preverbal:

- (206) *Aig meadhan-latha, bha Calum gu Màiri a phòsadh.*
 at noon be.PAST Calum GU Màiri AGRO marry.VN
 ✓‘At noon, Calum was about to marry Màiri.’ (reference time reading)
 #‘[It was] noon that Calum was about to marry Màiri at.’ (event time reading)

When the adverbial is postverbal, the event time reading is apparently more salient, though both readings are possible.

- (207) *Bha Calum gu Màiri a phòsadh aig meadhan-latha.*
 be.PAST Calum GU Màiri AGRO marry.VN at mid-day
 ‘Calum was about to marry Màiri at noon.’ (event time reading more salient)

We definitely see the same pattern with *gu* as the other aspects with respect to preverbal adverbials; the postverbal ones may lead to small differences in which reading is more salient.

3.4.3.4 Experiential, resultative, and universal readings

Finally, I will examine the possible readings to be found with *gu*.

EXPERIENTIAL

An experiential reading in prospectives, I said in section 3.3, would tell us about an

event that the subject was going to take part in (rather than one she had already had taken part in)—that is, the basic reading of *about to*. It seems that this definition would also work for *gu/be about to*; the difference, again, will come in the length of the time span between the reference time and the event time that is expressed. So in (208), Calum is in the time period relatively soon before having the experience of getting work. In (209), the subject is in the period just before having a coughing experience.

(208) *Tha Calum gu obair fhaighinn.*
 be.PRES Calum GU work get.VN
 ‘Calum is about to get work.’

(209) *Tha mi gu casadaich.*
 be.PRES 1S GU cough.VN
 ‘I’m about to cough.’

The English equivalents with *be about to* seem to carry the same meaning.

RESULTATIVE

In section 3 I established that the concept of a resultative prospective is inherently a bit odd, since the idea behind a resultative retrospective perfect is that it is expressing a result of an eventuality, which holds at the reference time; the resultative reading is only obtainable so long as the result holds. Another way to look at this might be to look at warning-type utterances—something said with the intent that something be done about it (i.e., so that there is still the “result” of an action taken). For instance:

(210) *Tha e gu tuiteam!*
 be.PRES 3sm GU fall.VN
 ‘He’s about to fall!’

(211) *Tha e gu bàthadh!*
 be.PRES 3sm GU drown.VN
 ‘He’s about to drown!’

It's not clear, though, that any prospectives really carry an equivalent of the resultative reading found in retrospective perfects.

UNIVERSAL

Last we can see whether *gu* or *about to* accept a universal reading. In section 3, I said that we might reasonably define a universal reading for a prospective to be one in which the event time is seen as stretching back to and including the reference time, just as a universal reading of a retrospective perfect has an event time which extends forward to include the reference time. It was difficult to find such a reading for either *a' dol do* or *be going to*. *Gu* and *about to* seem definitively not to. If we go back to our running examples:

Situation: You are out on your daily run. Your friend drives up along side you and offers you a doughnut out the window. You decline, since you still have a bit more to run to get home, and you don't want to get a side ache.

- (212) a. ✓No thanks, I'm going to run for five more minutes.
 b. ✓...I'm going to be running for five more minutes.
 c. #...I'm about to run for five more minutes.
 d. ...I'm about to be running for five more minutes.

For me, at least, (212c) would only be felicitous if I had first stopped running. The example in (212d) seems fine, if a bit contrived. The SG version also rejects this reading.

- (213) #...*Tha mi gu ruith airson còig mionaidean eile.*
 be.VN 1S GU run.VN for five minute.P more
 #'...I'm about to run for five more minutes.'

However, the prospective-imperfective combination is fine (my consultant suggested this as an alternative for what I was trying to get across in (214):

- (214) ✓...*Tha mi gu bhith a' ruith airson còig mionaidean eile.*
 be.PRES 1S GU be.VN A' run.VN for five minute.P more
 ✓‘...I’m about to be running for five more minutes.’

Given the results of these tests, it seems that *gu* patterns with both *a' dol do* and *as dèidh*. *Gu*, like *a' dol do*, acts in some ways like the regular retrospective perfect, with differences that seem to be based on the fact that the constructions are *prospective* instead of *retrospective*. On the other hand, *gu* seems to pattern with *as dèidh* in a few places, where neither particle patterns quite like a regular retrospective, due to the added restriction on *gu* and *as dèidh* that the event time be close to the reference time.

3.4.4 Time intervals and *gu*

3.4.4.1 ERI vs. PTS

Throughout this section I have been referring to the idea that *gu* places a restriction on the time span between the RT and the ET, as I argued *as dèidh* does, but I have not presented any independent evidence that this it is the ERI and not the PTS. I will show that while sentences with a long ERI are ruled out, those with a long PTS are not.

- (215) ✓*Saoil am biodh tu riamh gu pòsadh, agus ghabhadh*
 wonder Q be.COND.DEP 2S ever GU marry.VN and take.COND
tu an t-eagal agus theicheadh tu.
 2S the.SM fear and flee.COND 2S
 ‘I wonder if you would ever be about to get married, but get scared and flee.’
 PTS: ever—long; ERI: unspecified
- (216) ✓*Ann an còig bliadhna deug, bithidh tu dìreach gu pòsadh nuair a*
 in five year.S teen be.FUT 2S directly GU marry.VN when
thèid do leannan a mharbhadh.
 go.FUT POSS.2S sweetheart AGRO kill.VN
 ‘In fifteen years, you will be just about to get married when your fiancé will get killed.’ (Repeated from (174))
 PTS: 15 years—long; ERI: very short ‘just about to’

- (217) ✓ *Tha a' ghrian gu èirigh.*
 be.PRES the.SF sun GU rise.VN
 'The sun is about to rise.'
 PTS: unspecified; ERI: unspecified
- (218) #*Tha a' ghrian gu èirigh aig seachd uairean a-màireach.*
 be.PRES the.SF sun GU rise.VN at seven hour.P tomorrow
 # 'The sun is about to rise at 7 tomorrow.'
 PTS: unspecified; ERI: longer (into the next day)
- (219) #*Tha Iain gu taigh a thogail ann an còig bliadhna.*
 be.PRES Iain GU house AGRO build.VN in five year.S
 # 'Iain is about to build a house five years from now.' (repeated from (9))
 PTS: unspecified; ERI: long (5 years)

From these data, I conclude that *gu* does not care whether its prospective perfect time span is long or short, but only that its ERI is short—and 'short' seems to mean 'within a day' or possibly 'before tomorrow' for some predicates (like 'be busy').

A quick note about English. If I were analyzing my speech only, I would have to argue that *be about to* comes with a pre-specified period of time for the ERI (say, 'really soon'). This is because I find the following sentence bad on the reading where 'in five minutes' modifies the length of the ERI, rather than the length of the event time:

- (220) I'm about to reach the summit in five minutes.

For me, this sentence could only describe a situation in which the speaker is professing to be about to make a five-minute trip to the summit, not one in which the speaker is conveying that she will finish a (presumably long) trip to the summit within the next five minutes. Other speakers have told me that they can get either reading.

In SG, however, (at least for my consultant), modifications of both the ERI and the ET are possible, just as they are with *a' dol do* (and *be going to*):

- (221) *Tha mi gu mìle a ruith ann an deich mionaidean ann an*
 be.PRES1S GU mile AGRO run.VN in ten minute.P in
mionaid.
 minute.S
 ‘I’m about to run a mile in ten minutes in a minute.’
 [I.e., ‘A minute from now, I’m going to run a ten-minute mile.’]

3.4.4.2 Does the verb determine a single ERI for both directions?

One question that arises is whether the length of the ERI seems to be determined by only the VP, or if it varies depending on whether the prospective or retrospective is being used. First of all, in general, *gu* requires a shorter ERI than *as dèidh*. As we saw above, anything past about a day (or less) is too long of an ERI for *gu*, no matter the predicate, while we saw in chapter 2 that *as dèidh* will allow up to a year or two, given the right circumstances. That distinction takes precedence over any predicate-specific ERI requirements. However, it does seem that some predicates might require shorter ERIs than others, in general. For instance, we saw with *gu* that the verb *bàsachadh* ‘die (of an animal)’ rejected modification with *a-màireach* ‘tomorrow’, while the adverbial was fine with the predicate *bi trang* ‘be busy’. More data would need to be collected to be sure of any analysis of these facts, however.

3.4.5 Semantic and syntactic analysis of *gu*

3.4.5.1 *Gu* vs. *about to*

Before I present the semantic analysis, I would like to point out one further difference between *gu* and *about to*. English has a use of *about to* under negation that is not purely aspectual in nature, as in (222):

- (222) Listen, I’m not about to fire the girl just because she showed up five minutes late for one shift—I can’t afford to lose another waitress.

This usage seems to mean something like ‘I’m not the kind of person who would do x’ or ‘I’m not going to do x, how preposterous’ or ‘I really don’t intend to do x’—the ‘about to’ meaning is not necessarily there at all, although the intent meaning of ‘be going to’ seems to be. Joos (1964) describes this use as “signif[ying] that the [speaker] is not the sort of person from whom such a deed can be expected” (p. 24). This reading is found only under negation sentences; otherwise the usual prospective reading is found:

- (223) That’s right, I’m about to fire the new girl just because she showed up five minutes late for one shift. I can’t afford another lazy waitress.

The sentence in (223) cannot mean ‘I intend to fire the new girl’ (as the same sentence with *going to* could); it can only be uttered in a situation where ‘about to’ would already be felicitous (unlike the sentence in (222), which is not really the negation of ‘I’m on the point of firing the girl’). The point I would like to make here is that *gu* does not accept such a reading. The sentence in (224) can only be felicitously uttered to mean ‘it is not the case that I am about to write a letter’, not ‘I’m not going to write a *letter*, how absurd’:

- (224) *Chaneil* *mi gu litir* *a* *sgrìobhadh...*
 not be.PRES.DEP 1S GU letter AGRO write.VN
 ‘I’m not about to write a letter’
 ✓ ...I’m about to read a book.
 # ...to the company just because I found one burnt oat in the package.

I do not present an analysis of this usage here, but present it as further evidence that *gu* and *about to* are not, in fact, equivalent.

3.4.5.2 Formal analysis

Based on the data I’ve presented here, I argue that *gu* is another instantiation of the

Aspect head in Gaelic, and establishes an ET in a subsequence relation with RT. The syntax of *gu* is much more obvious than that of *a' dol do*, since the particle parallels both retrospective perfect particles in its syntax.

I argue from the distribution of time adverbials that *gu* requires that the ET be relatively close to the RT. I use ε , as I did with *as dèidh*, to denote a small quantity (I assume its precise value will be determined from context); the value of the interval between RT and ET must be less than ($<$) this.

$$(225) \quad \llbracket GU \rrbracket = \lambda P_{(vt)} . \lambda t_{(i)} . \exists e: [t < \tau(e) \ \& \ P(e) \ \& \ \exists \varepsilon_c: [0 < |t - \tau(e)| < \varepsilon_c]] \\ (t < \tau(e) \text{ iff there is no } t' \subset \tau(e), \text{ s.t. } t' < t_{\text{final}} \text{ or } t' = t_{\text{final}})$$

This formula says that *gu* conveys that a time (which will be the reference time bound by tense) fully precedes ($<$) the runtime of the event; and there is some number determined by the context such that the value of the interval between that time and the runtime of the event is less than that number. In this formula, unlike in that for *as dèidh*, we have a relationship of ‘fully precedes’ rather than ‘precedes or reaches’, since *gu* does not permit universal readings. I take this fact to indicate that the semantics of *gu* require that the eventuality in question not have its initial moment until *after* the final moment of the RT.

The specification carried by *air* and *as dèidh* (but not by *a' dol do*), which Ramchand (1993) analyzes as boundedness, but I refer to simply as [+perfect], is also carried by *gu*. It is for this reason that with *gu* we see the same movement of the object as we do with the other perfect particles, but not with *a'*, and not with the hybrid *a' dol do*. I give a partial sentence-level denotation in (226).

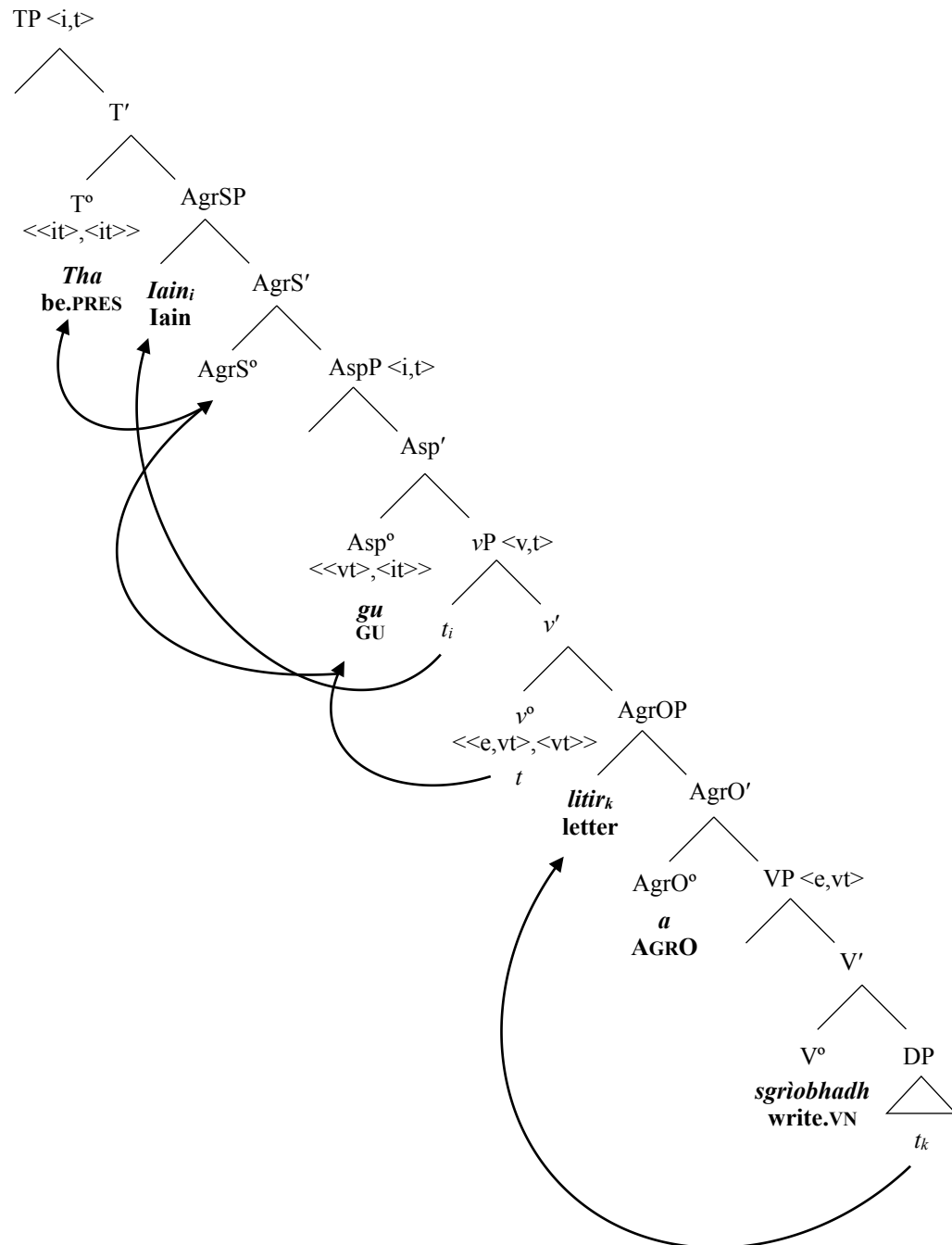
$$(226) \quad \begin{array}{l} \text{Tha} \quad \text{Iain} \quad \text{gu} \quad \text{ithe.} \\ \text{be.PRES} \quad \text{Iain} \quad \underline{\text{GU}} \quad \text{eat.VN} \\ \text{'Iain is about to eat.'} \end{array}$$

$$(227) = \exists t': [t' = t_{\text{now}} \ \& \ \exists e: [t' < \tau(e) \ \& \ \llbracket \text{Iain eat} \rrbracket (e) \ \& \ \exists \varepsilon_c [0 < |t - \tau(e)| < \varepsilon_c]]]$$

This says that there is a time, which is equated with the time anchored by tense, and there is an event, whose runtime fully succeeds that time, and the event is an eating event by Iain, and the event succeeds the time by an amount determined by the context.⁴⁶ The structure, identical to that for *air*, is in (228).

⁴⁶ I assume this will also take care of non-typical usages such as “in geological time, the Earth was just about to be born—even though it took 100,000 years”.

(228)



I have shown that the particle *gu* functions as the second prospective perfect aspectual distinction in SG. Although it means something similar to what *a' dol do* means, it has an

added restriction on the length of time perceived to elapse between the reference time and the event time. In this way, *gu* is parallel to the restricted retrospective perfect particle *as dèidh*, while *a' dol do* is parallel to the regular retrospective perfect particle *air*.

3.5 Perspectives on prospectives

Having thus analyzed the two distinctions of prospective aspect in SG, with additional data from English, I here present just a few key previous accounts of similar phenomena.

Joos (1964) categorizes perfects as distinctions of *phase* (which term, Joos notes, originated with Trager & Smith 1951), in addition to distinctions of tense (*actual*, unmarked; *remote*, marked with ‘-d’) and aspect (*generic*, unmarked; *temporary*, marked with ‘be’ + ‘-ing’); phase can be either *current* (unmarked) or *perfect* (‘be’ + ‘-en’). He is clearly of the perfect-is-not-tense camp; and in a footnote makes his thoughts about ‘be going to’ clear (as noted above): “The meaning of BE GOING TO...turns out to be the exact reversal, in every detail as far as I can see, of the meaning of perfect phase: it simply exchanges ‘previous’ and ‘subsequent’” (p. 141). In the descriptive section, Joos describes the meaning of *be going to*: “the future event is *assumed rather than determined*; it is taken for granted as a proper part of future reality without any suggestion that there had to be a cause to make it so” (p. 22). He also notes “here there is no emotion, desire, intention, resolution, compulsion, or the like. That is to say, this is a completely colorless ‘future tense’ way of speaking” (p. 23). About *be about to*, Joos says that it “also takes the subsequent event for granted; but in addition *represents it as*

imminent and perhaps even threatened, and furthermore it allows that the event may be forestalled” (p. 23).

In addition to descriptive accounts of ‘be going to’ (as Joos’ mostly is, as well as, for instance, McIntosh 1966, Wekker 1976, Palmer 1979, Coates 1983), a number of others have also suggested ways to work the semantics of this type of construction into a larger system of tense and aspect. Binnick (1991) notes:

One of the advantages of a neo-Reichenbachian approach, in which his analyses of the various tenses are factored out into separate tense (R, S) and aspect (E, R) relations...is that it allows simple definitions of possible tense and possible aspect (excluding such things as metric tenses which mark additional distinctions): the three possible tenses are $R < S$ (past), $R = S$ (present), and $R > S$ (future); the three possible aspects are $E < R$ (perfect or anterior); $E = R$ (imperfect), and $E > R$ (prospective or posterior). (p. 268)

Copley (2009) analyzes *be going to* in English as a ‘progressive future’. For her, *be going to* and *will* have the same modal semantics, but “because there is a temporal input to the accessibility relation, a difference in aspect means a difference in the set of worlds quantified over by the modal” (p. 86). In her analysis she derives the semantics of *going to* from the combination of the semantics of the future and the semantics of (something like) the progressive. For the future, she takes there to be a future modal, which is a version of the operator ALL_b (which she uses for the semantics of futurates to replace the term *plan*), which she joins others in calling *woll*; for the progressive she uses a Bennett & Partee (1978) style operator $SOME_t$. She shows that *be going to* sentences have the subinterval property, like progressives (but unlike sentences with *will*), and do not allow for generic readings (as some readings of *will* do). These properties account for the compatibility of *be going to* with present tense.

Fleischman (1983) notes the similar development of the perfect and the “go-future” in English and Romance, and argues that they are developing “from exponents of ASPECT, whose principal function was to identify the situation described by the verb as being of ‘present relevance’, to exponents of TENSE” (p. 183). She identifies “the basic function of tense” as being “to *sequence events* in a discourse.” On Comrie’s (1976) observation that the perfect seems not to fit exactly with his definition for aspect, Fleischman notes that “this apparent contradiction may be eliminated, however, if we do not restrict the referential domain of aspect to the *internal* constituency of a situation; that is, if in addition to those features of the situation cited above, we also include within the confines of aspect the representation of a situation as being in some logical (i.e. not strictly temporal, sequential) relation to a reference point” (pp. 184-185). While it is not the conclusion that I will come to about the perfect aspects, this intuition is certainly in the spirit of the analysis here, in which perfect semantics always involve a relation between ET and RT. She also rightly notes that, with respect to *be going to* and similar constructions, “temporal proximity (i.e. the ‘immediate future’ interpretation) must be ruled out, since currently go-futures can and often are used to describe situations in the indeterminate and potentially distant future” (p. 189). However, she analyzes both *will* (what she terms the *simplex future*) and *be going to* as futures—“currently equivalent” “along a temporal axis,” “and in many contexts interchangeable, with minimal if any difference in meaning” (p. 191), statements I do not think are supported by the facts in English (or SG). She notes one difference between the two as being the “important overtone on [*be going to*’s] basic meaning an optional connection with the speaker’s

present which is lacking in the simplex future and which translates into grammar as an aspect of ‘prospection’. ...[this] is the future-oriented dimension of *present relevance*” (p. 191). Although she acknowledges that the concept of present relevance probably corresponds to what people have termed *prospective* and *retrospective* aspects, that is, aspects that relate Reichenbachian E to S, she states that “the go-construction has moved into the territory of the ‘future tense’ and is now operating in environments in which its aspectual feature of PR/prospection has been neutralized” (p. 192). I disagree that *be going to* is operating in current English as a future tense; instead, I claim that it is sometimes in competition with *will* because both can express a semantics wherein the event time is perceived to be after the utterance time. This happens to be true with the present tense of *be going to* because *be going to* (I say) orders ET after RT; present tense makes UT and RT contemporaneous, so ET follows UT as well. I would analyze *will* as a future perfective/default; so that RT and ET are basically contemporaneous (ET would be contained by RT), and both follow UT. However, the same facts are not true in the past or future tenses.

Haegeman (1989) and Nicolle (1997) present pragmatic accounts of *be going to*. Haegeman presents a Relevance Theory account of the difference between *be going to* and *will*; she argues “that at the level of sentence meaning *be going to* and *shall/will* are equivalent, and that the difference between them is to be found in the constraints they impose on the processing context of the utterance in which they occur” (p. 291). Haegeman notes, “the observation that an inappropriate use of *be going to* or *will* does not cause ungrammaticality or semantic anomaly is important, though, as it might suggest

that we are not dealing with the violation of a formal grammatical principle of tense selection but rather with the infringement of some principle governing the appropriate use of a construction in a context, i.e. a pragmatic principle” (pp. 292-293). I disagree with this line of reasoning; the ability to substitute one thing for another in a sentence with resulting grammaticality only means that they have the same semantics if the resulting sentences mean the same thing. In some cases, yes, a sentence can be felicitously uttered with either *will* or *be going to*; however, I would argue that there are few cases in which both resulting sentences have the same meaning. The fact that any such cases exist should not be surprising; by my analysis, both constructions (present tense of *be going to* and future tense of *will*, or however you want to analyze *will*) do share a particular characteristic (that of ET being after UT, as mentioned above). This fact can account for the cases in which the two constructions seem to result in similar meanings. However, that doesn’t mean they share all their semantics. The difference in semantics between the two constructions can (I argue) account for the various differences in sentence-level meaning. Haegeman’s analysis does touch on a few ideas that are consistent with my argument here; she argues that *be going to* “constrains the processing of the proposition with which it is associated to the present context,” and so “the different notions such as present intention...” are not coming from *be going to* itself, but from “the present time contextualization of the construction” (p. 307). However, instead of attributing this present time contextualization to the pragmatics of the construction, I would argue that it arises from the present *tense* itself (as marked on the verb ‘be’ in both English and SG). She also notes:

One possible approach is to depart from Reichenbach's system and to treat all the constructions with *be going to* outside the tense system properly speaking and to treat it perhaps as some aspectual marker. In an eight tense system such as that developed by Vikner (1985), for instance, the forms with *be going to* are excluded from the tense system, as is the *futur proche* in French. One argument in favour of this proposal is that *be going to* is found with all tense forms. (p. 315)

This I agree with; if we take *be going to* to be relating Reichenbach's R and E, we can see that it is of the same type as the perfect, rather than the past or future tenses.

Nicolle (1997) also presents a relevance-theoretic account of *be going to*; in which “the semantic field of *be going to* concerns ‘realis potential’ (in contrast to ‘irrealis potential’ encoded by *will*)” (p. 375). As in Haegeman's account, *be going to* for Nicolle does not directly encode “future time reference and overtones of prior intention, inevitably or imminence”—instead, “future time reference, prior intention and inevitability are explicatures of the utterances from which they are recovered, being derived from a combination of information encoded in *be going to* and inference. Imminence, however, is simply inferred from the utterance interpretation context and is therefore an implicature of the utterances in which it is recovered” (p. 375-6). He analyzes *be going to* as encoding conceptual information as part of the *propositional content* of a sentence it is in, rather than being an operator (operators such as mood, tense, and modal auxiliaries encode *procedural information*, and scope over propositional content) (p. 359).

Van Baar (1994) has an analysis that is very much in the same spirit as mine; he labels ‘going to’ a prospective, and classifies prospectives and perfects as “State of Affairs-relational Aspect,” as opposed to “State of Affairs-internal Aspect,” which includes perfective, imperfective, and progressive. (The State of Affairs consists of aspect

and Aktionsart together, like Reichenbach's E.) He distinguishes both from *perspectivity*, which he uses to discuss sentences with particles such as 'still', 'already', etc. Perspectivity is also State of Affairs-relational, so is closely related to perfect and prospective aspects, but is different in its behavior under negation.

As mentioned in chapter 1, Demirdache & Uribe-Etxebarria (1997, 2000, 2002, 2004, 2005, 2007, 2008a, 2008b) have argued for an integrated syntax and semantics of tense, aspect, and temporal adverbs. In this system, temporal relations are represented with ordering relations between Assertion Time and ET (aspect), or between UT and ET (tense): AFTER, BEFORE, and (WITH)IN. Tense and Aspect are both "spatiotemporal ordering predicates" (2004, p. 2). Prospective in this system is an aspect with the meaning BEFORE as its relation between Assertion Time and ET.

3.6 Conclusion

I have argued here that SG makes use of two different markings for prospective perfect semantics: one unrestricted (*a' dol do*), and one with a restriction on the length of the ERI (*gu*). This bipartite system seems to parallel the system of retrospective perfects in the language. These two prospective aspects also seem to show several of the characteristics of retrospective perfects, such as stativity.

What I have suggested across the discussion here and in chapter 2 is a wider picture of perfect aspect, one which can have multiple semantic instantiations—either retrospective or prospective, and either unrestricted or restricted. In doing so I have been arguing for a wider view of aspect as a whole. If this wider system is an accurate

representation of aspect, we would expect to see aspectual systems which did not fit into other schemas, but which fit more easily into this one.

Clearly, data from additional languages would be of great use here; especially helpful to find would be a language which has solidly grammaticalized *both* the regular and the restricted prospective. English grammaticalizes neither fully, but expresses both; SG grammaticalizes only the restricted version but expresses both. In both languages, though, it seems as though the ‘be going to’ construction is on its way to being grammaticalized.

In the next chapter I look at a construction that might seem at first to be a further distinction of aspect, but that I will argue is simply (or, rather, not so simply) a prepositional construction.

CHAPTER 4

PREDICATION WITH THE PARTICLE *ANN*

Our ordinary language shows a tiresome bias in its treatment of time. ...This bias is of itself an inelegance, or breach of theoretical simplicity. Moreover, the form that it takes—that of requiring that every verb form show a tense—is particularly productive of needless complications....

—W.V.O. Quine, *Word and Object*

4.1 Introduction

We have seen so far that the aspect particles *a'*, *air*, *as dèidh*, *gu*, and *a' dol do* follow similar patterns. Each occurs with the verb *bi* 'be' in one of its tensed forms, followed by the subject, the particle, and the verbal noun form of the verb. With *a'* and *a' dol do*, a direct object follows the verbal noun; with *air*, *as dèidh*, and *gu*, a direct object moves to a position preceding the verbal noun, and with a full NP object we see a default object agreement particle *a* in between the object and the verbal noun. If there is a pronominal object, it occurs directly after the aspect particle (or the particle is inflected for it, in the cases of *a'* and *a' dol do*). There is another particle in SG that appears in a similar syntactic pattern, and has a prepositional meaning in general but seems to carry some sort of aspectual semantics: *ann*. However, this particle's behavior is quite different from that of the other particles. I argue here that *ann* is syntactically in the head of a prepositional phrase and not an instantiation of the Asp head. I claim that some predicates appear in this kind of construction because of their nominal-like semantics, while the reason for the particular strategy (embedding under preposition+possessive pronoun) has a syntactic explanation. Here I explain the problem, present basic data, and outline the basics of the

analysis. In the next section I will formally introduce the tools we need to understand the phenomena at hand, present more nuanced data, and finally present a formal analysis of the particle's syntax (and semantics).

What makes this particle intriguing is that at first glance, it seems to be conveying some kind of aspectual semantics. Notice the contrast with the imperfective particle *a'* in (1). (The particle appears in different forms, this will be discussed shortly).

- (1) a. *Tha Iain a' seasamh.*
 be.PRES Iain A' stand.VN
 'Iain is standing up [i.e., moving into a standing position].'
- b. *Tha Iain 'na sheasamh.*
 be.PRES Iain ANN.PRO.3SM stand.VN
 'Iain is standing [i.e., in a standing position].'

It seems here as if *ann* is marking something like stativity (while the imperfective particle *a'* leads to a dynamic interpretation). After all, it seems to occur in the same pattern as the other aspect particles. In addition, verbs that, at least in English, would be classified as lexical statives (by their inability to occur with the progressive) appear not with *ann+pro* but with *a'* (as in (4a, b) below) or in a kind of possessive construction with a nominal as the subject (I will have more to say on this in sections 4.3 and 4.4):

- (2) *Tha fios aig Alaig air mòran rudan.*
 be.PRES knowledge at Alaig on many thing.P
 'Alec knows many things.'
- (3) *Tha fios agam ciamar a dh'iasgachas tu.*
 be.PRES knowledge at.1S how WH_COMP fish.REL_FUT 2S
 'I know how to fish.'
 Lit.: 'I know how you will fish.'

There are a number of oddities about this *ann+pro* construction, then, when compared to the aspectual particles we have been looking at so far. First, the particle's appearance is

restricted to a limited set of verbs, unlike any of the aspect particles. This set of verbs seems to be semantically cohesive in some way—it includes the verbs for ‘sit’, ‘stand’, ‘lie’, ‘stretch out’, ‘rest’, ‘stop’, ‘sleep’, ‘wake’, and ‘run’—verbs of bodily position or state (more on *ruith* ‘run’ later). Second, the particle does not appear by itself; rather, it is inflected for (or appears alongside) the possessive pronoun, which agrees with the subject. For reference, the forms are thus:¹

(4)

	sing	pl
1st	<i>'nam</i> ^{L2}	<i>'nar</i>
2nd	<i>'nad</i> ^L	<i>'nur</i>
3rd masc	<i>'na</i> ^L	<i>'nan/nam</i> ³
3rd fem	<i>'na</i>	

The only time a pronoun appears in this position with the aspect particles is when it is an object pronoun:

- (5) a. *Tha mi 'gad⁴ cluinntinn.*
 be.PRES 1S A'.2S hear.VN
 ‘I hear you.’
- b. *Tha mi a' cluinntinn.*
 be.PRES 1S A' hear.VN
 ‘I hear.’
- c. **Tha mi 'gam cluinntinn.*
 be.PRES 1S A'.1S hear.VN
 *‘I hear.’

¹ These come from a contraction of *ann* + the possessive pronouns (*mo*^L ‘my’, *do*^L ‘your’, *a*^L ‘his’, *a* ‘her’, *ar* ‘our’, *bhur/ur* ‘your (pl./polite)’, *an/am* (their)). In my consultant’s SG, in the first and second person singular versions, these will sometimes come out as *na mo/na do*; the extra ‘a’ in these two forms is presumably an epenthetic vowel.

² The 1st person, 2nd person, and 3rd person masculine singular pronouns also trigger lenition on the following word, if possible; this tends to appear in the orthography as an ‘h’ after the initial consonant.

³ The form *nam* here occurs before bilabials (/b/, /f/, /m/, /p/).

⁴ The possessive forms of *a* ‘ag (and of *aig*, the form when used as a preposition) are as with *ann*, only with a ‘g’ instead of an ‘n’ (for *a(i)g mo*, etc.): *'gam*^L, *'gad*^L, *'ga*^L, *'gar*, *'gur*, *'gan/*^L*'gam*. The same pattern occurs with *gu* and the *a/do* in *a' dol do*, though not with *air* or *as dèidh*.

Third, the particle + pronoun combination does not just appear with verbal nouns; rather, it is also the strategy for nominal predication with *bi* ‘be’ (nominal predication with the copula *is* does not require this strategy). This can be seen in (6):

- (6) *Tha e *('na) dhotair.*
 be.PRES 3SM ANN.3SM doctor
 ‘He is a doctor.’

The difference between predication with *bi* and *is* has been attributed to a stage-level/individual level distinction (Ramchand 1996, Adger & Ramchand 2003, see also Carnie 1995 for Irish). The *ann*+pronoun does not, however, appear with adjectival or prepositional predicates. This behavior is not seen with any of the aspect particles (except when they are being used in their prepositional meanings, e.g., *air* for ‘on’, etc.).

The overarching question is what the function of this particle is. If it is aspectual in nature, why is it also used for nominal predication (in contrast with the other aspect particles); or, if it is not aspectual in nature, why can it appear with what seem to be verbs? We want an analysis of *ann*+pro that provides answers to the following questions: (1) What meaning does it contribute? (2) Why does it appear where it does—with a small set of verbal nouns, and with nominal predication with *bi*—and not with other verbal nouns, adjectival predicates, or prepositional predicates? (3) Why does it occur with a subject-agreeing possessive pronoun? (4) What, if anything, do all the predicates it occurs with have in common, semantically and/or syntactically?

I outline the analysis here; the details will be laid out in sections 4.3 and 4.4 below. My analysis of *ann*+pro is that it is not an instantiation of an aspect head either when it precedes verbal nouns or when it precedes nouns, but rather that it heads a prepositional

phrase. First, *ann*+*pro* is required for the creation of nominal predicates in the language. Scottish Gaelic has two verbs that translate as English ‘be’—the ‘copula’ *is*, and the so-called substantive verb *bi*. The copula *is* is compatible with nominal, adjectival, and prepositional predicates but not verbal ones (i.e. not verbal nouns), while the verb *bi* is compatible with verbal, adjectival, and prepositional predicates but not nominal ones (Ramchand (1996), Adger & Ramchand (2003)). To account for this and the behavior of *ann*+*pro*, I draw on Ramchand’s (1996) and Adger & Ramchand’s (2003) analysis of SG, and Roy’s (2006, to appear) three-way system for non-verbal predicates. I assume that roots are acategorical (as argued for in various ways in, e.g., Borer (2005a, 2005b), and in the Distributed Morphology framework (e.g., Halle 1993; Marantz 1997; Harley 2005), and gain their categories depending on the functional structures into which they are inserted. In SG, an acategorical root can be embedded within an adjectival phrase, a verbal phrase, or a prepositional phrase in order to become a predicate; but noun phrases in SG cannot be predicates on their own (after Ramchand 1996, Adger & Ramchand 2003 for SG, Roy (to appear) for a cross-linguistic claim with data from Irish). Ramchand (1996) and Adger & Ramchand (2003) characterize the difference between *is* and *bi* as a difference between individual- and stage-level interpretations. I agree with their basic analyses, but I suggest that the differences of meaning are better captured via Roy’s (2006, to appear) system.

There are two paths to forming a nominal predicate in SG, then. *Is* selects for referential projections and so is compatible with bare NPs (Ramchand 1996), while *bi* selects for predicational projections. Adjusting Ramchand’s (1996) account of the

difference in predication with *is* vs. with *bi* based on Roy's system, I claim that "defining" (or "maximal") (Roy's terms) sentences are formed with *is*, while "characterizing" ("non-dense") and "situation-descriptive" (Roy's terms) sentences are formed with *bi*. Since bare NPs cannot be predicates by themselves, "defining" nominal sentences can be formed with *is* (which does not require a predication projection), but non-defining nominal sentences cannot be formed with *bi*; thus, a repair strategy is undertaken wherein the NP is embedded within a prepositional phrase (headed by *ann+pro*; the pronoun is an overt linker to the subject. More discussion of the pronoun in section 4.3).

Then, the various instantiations of the Asp head are predicates that bind an eventuality and set up one of several relations between ET and RT. PP and AP predicates, however, are embedded under a phonologically null Asp head. This is either the same as the null perfective Asp head present in sentences with analytic past or future forms of the verb, or one that is functionally equivalent (in that it says ET is inside RT, or perhaps that $ET=RT$).⁵ I assume that the embedding of a root under verbal material can lead to both homogeneous and heterogeneous predicates of eventualities (depending on the lexical semantics of the root), while embedding under non-verbal material leads only to homogeneous predicates of eventualities.⁶ I also assume that roots contain enough information for them to be characterizable as typically having homogeneous or heterogeneous interpretations (see e.g. Baker 2003, Acquaviva 2009 for views of how

⁵ It also seems possible that perfective heads do not set up a relation proper between ET and RT, but rather serve to coindex the two. Perfectives cross-linguistically tend to be realized non-periphrastically, and perhaps that is because a perfective arises when RT simply *is* ET (see Coon 2010 for further discussion).

⁶ In the last chapter I discussed intervals that were homogeneous with respect to eventualities; here we have homogeneous predicates (i.e., homogenous descriptions of eventualities).

much information is in roots and more discussion below), and so will typically get inserted under either nominal or prepositional or verbal (etc.) material. The final interpretation will be of the entire predicate, however, and coercion is always an option.⁷ Roots that occur most naturally as nouns are those such as ‘doctor’, but a certain class of roots typically found in verbal predication can also turn up as nouns in SG—namely, roots concerning the positions or states of the body. These roots are special in that they have very natural and very different readings depending on whether they are interpreted as being homogeneous or heterogeneous. When one of these roots is embedded under a V head (and then under an overt Asp head), it most naturally gets a heterogeneous interpretation (which in these cases tends to be the “moving into position” reading), but can also get a homogeneous interpretation. Under the P head, the “being in a position” reading (the homogeneous interpretation) is the only one available. These nominal predicates are formed the same way as the others—via a repair strategy under the preposition *ann*+pro. The “verbal noun” morphology that is used in both verbal and nominal predication for these roots can be seen as parallel to nominalizing vs. verbalizing types of *-ing* morphology in English (see Carnie 2011 for verbal noun categorization in Irish; more discussion of all of this in 4.4.2 below).

Thus we have explained the puzzle of why one particle seems to appear with a small set of verbs, and also seemingly stage-level nominal predicates. There are several other

⁷ That is, I’m going to assume that the insertion of roots into functional structure does have some kind of semantic reasoning behind it, *or*, there is an equivalent set of non-semantic functions to lead to the same result—namely, that locations, etc. tend to get expressed via prepositional predicates, that referring expressions tend to get expressed via nominal predicates, etc. What’s important for the account here is the observation that non-verbal functional material yields homogeneous predicates while verbal material can also yield heterogeneous predicates.

pieces involved, such as the subject-agreeing pronoun, the choice of the preposition for the repair strategy, and the exact meanings involved; we will come to these questions in sections 3 and 4. In the next section, I present the few previous accounts of *ann*.

4.1.1 Previous accounts of *ann*

The particle *ann* has clear uses as a preposition (e.g., ‘in’ a location); however, it has been noticed that *ann*+pro in the contexts we are discussing here is performing a function different from the one it performs when it is used as a (locational) preposition (Cram 1982, McCloskey & Hale 1984, Lamb 2001). To my knowledge, the only focused analysis of *ann* in the use I will be concerned with here is found in Cram (1983). Ramchand (1993) mentions *ann* briefly, noting that it can be used along with the possessive pronoun “to convert a verb of [the V_{plural}] type into a predication which expresses a state” (p. 255).⁸ In the framework she is working in (based on Verkuyl 1972 and Krifka 1989, 1992), the generalization is that “this construction is found whenever a single predicative location, as opposed to a full ‘path’ is to be constructed as the meaning of the AspP, and always gives rise to stative predication” (p. 256).

Cram (1983) presents a transformational grammar analysis of the particle *ann*, arguing against traditional grammars which present the particle as a preposition in all its uses. He points out the similarities between the particle *ann* and the other aspectual particles, and the differences between the particle and the preposition *ann*. He concludes that *ann* is a realization of the “progressive” (imperfective, in my analysis) particle *ag* which appears when its complement is one of a restricted group of verbs, or when its

⁸ She mentions it again in its use with nominals in Ramchand (1996).

complement is a nominal.

First Cram notes that there are two verbs ‘be’ in SG, the copula *is* and the verb *bi*, that contrast in a manner “not unlike” like *ser* and *estar*, respectively, in Spanish (p. 311) (a comparison which I will not continue here). Observations about the contrasts with these two lexical items are made by Ramchand (1993, 1996) and Adger & Ramchand (2003), among others, and we will be seeing more of their treatment of this distinction in sections 4.3 and 4.4. Cram notes that with adjectival predicates, the two constructions show differing word orders.

- (7) *Is faiceallach Iain.*
 cop.PRES careful Iain
 ‘Iain is careful [a careful person]’
 lit. ‘Is careful Iain’⁹
- (8) *Tha Iain faiceallach.*
 be.PRES Iain careful
 ‘Iain is [being] careful’
 lit. ‘Is Iain careful’ (Cram p. 311, ex. 1)

Note that *ann* is not present in either construction. In some nominal predicates, we see the same word order difference, but also *ann+pro* appearing in the version with *bi*. ‘Englishman’ is actually not one of the nouns that is typically seen in a construction with *ann*, since, as mentioned, sentences with *ann* are used to express more temporary (or, as I will say, characterizing rather than defining) properties, and *Englishman* seems to be a noun that would usually be permanent/defining. But the pattern holds regardless.

⁹ (I have left his SG as *is*, but added glossing of my own and sometimes altered the free translation, marked with square brackets [].)

- (9) a. *Is Sasunnach¹⁰ Iain.*
 cop.PRES Englishman Iain
 ‘Iain is an Englishman.’
 lit. ‘Is Englishman Iain’
- b. *Tha Iain ‘na Shasunnach.*
 be.PRES Iain ANN.PRO.3SM Englishman
 ‘Iain is an Englishman.’
 lit. ‘Is Iain in-his Englishman’ (Cram p. 311, ex. 2)

Cram notes that the forms with *is* have been slowly falling out of use since at least the late 1800s; indeed, my consultant largely rejects these *is* forms as sounding “bookish” (she uses a cleft formation instead, which still uses *is*). Cram then presents the parallel construction with a verbal predicate, as seen in his example 4:

- (10) a. *Tha mi ‘nam shuidhe.*
 be.PRES 1S ANN.PRO.1S sit.VN
 ‘I am sitting.’
 lit. ‘Am I in-my sitting’
- b. *Tha Iain ‘na sheasamh.*
 be.PRES Iain ANN.PRO.3SM stand.VN
 ‘Iain is standing.’
 lit. ‘Is Iain in-his standing’ (Cram p. 312 ex. 4)

This use, he notes, looks very much like the pattern taken by aspectual markers in the language, as we have already seen. He gives the general pattern for aspectually marked constructions as follows:

- (11) Aux + NP + Aspect + V
 (p. 312, ex. 6)

He proposes several transformations to achieve the two patterns of direct object and verb ordering that occur with the different aspect particles (*a’* vs. *air* and *as dèidh*), and then proceeds to his analysis of *ann*. He notes that “the general syntactic behaviour of ANN

¹⁰ Modern spelling is ‘Sasannach’.

follows that of the aspect particles just described” (p. 316). I would note that although the general pattern is the same (as I mentioned in section 4.1), the syntax of *ann* is not the same as that of the aspect particles, as none of the rest occur with a subject-agreeing possessive pronoun, and none of the rest occur with nominals.

He notes that the particle occurs with a set of verbs which “form a loosely structured word-field involving posture, bodily movement, waking/sleeping, etc.” and that “all have a stative versus non-stative ambiguity built into their lexical meaning” (p. 316). He also notes that sentences without a separate aspect particle (that is, with an analytic past or future verb form), both stative and non-stative interpretations are possible. He also mentions the alternation with *a*’, wherein the *ann* version describes a stative version of the situation while the *ag* version describes the non-stative version. He cites this kind of alternation as one piece of evidence for *ann*’s status as an aspectual marker. He also notes that *ann* appears with all three tenses of the verb *bi* ‘be’, following another aspect, and with modals, as the other aspectual particles do:

- (12) *{Tha/Bha/Bithidh} mi ’nam shuidhe.*
 be.PRES/be.PAST/be.FUT 1S ANN.PRO.1S sit.VN
 ‘I {am/was/will be} sitting.’ (p. 317, ex. 28)
- (13) *Tha mi air a bhith ’nam shuidhe.*
 be.PRES 1S AIR PART be.VN ANN.PRO.1S sit.VN
 ‘I have been sitting.’
 lit. ‘Am I after being in-my sitting’ (p. 317, ex. 29(a))
- (14) *Feumaidh mi a bhith ’nam shuidhe.*
 need.FUT 1S PART be.VN ANN.PRO.1S sit.VN
 ‘I must be sitting.’
 lit. ‘Must I to be in-my sitting’ (p. 318, ex. 30)

From such distributional evidence, Cram concludes that an analysis of *ann* as an

aspectual particle is warranted. I would note, however, that in fact the same syntax can be used to express prepositional notions.¹¹

Next he considers the appearance of the possessive pronoun, “which in surface structure appears to be functioning as a determiner in construction with the verbal noun” (p. 318). He compares the structure with *ann* (which only involves intransitive verbs) to sentences with *ag* and a pronominal direct object, which always appears pre-verbally (compared to a full NP, which remains post-verbal) as in (15):

- (15) a. *Tha mi a' sgrìobhadh na litreach.*
 be.PRES 1S A' write.VN the.GEN letter.GEN
 ['I am writing the letter.']
 lit. 'Am I at writing of the letter.'
- b. *Tha mi 'ga sgrìobhadh Ø*
 be.PRES 1S A'.PRO.3SM writing.VN
 ['I am writing it.']
 lit. 'Am I at-its writing'. (p. 318, ex. 33)

He proposes a transformation he calls *Pronoun Object Preposing* for such structures, including those involving *ann*. He also notes a construction even more similar to the *ann* construction—with reflexives, where the pronominal object appears pre-verbally, but also agrees with the subject:

- (16) a. *Tha mi a' nighe na h-uinneige.*
 be.PRES 1S A' wash.VN the.GEN window.GEN
 ['I am washing the window.']
 lit. 'Am I at washing of the window'

¹¹ This isn't terribly common, since expressing possession with the possessive pronouns (rather than a construction with 'the N at-me') gives something almost like inalienable possession, or at least a close attachment to the thing possessed; so saying you were in your car with *mo* would be a bit odd (but not impossible).

- b. *Tha mi 'ga nighe* Ø
 be.PRES 1S A'.PRO.3SM wash.VN
 ['I am washing it.']
 lit. 'Am I at-its washing' (p. 319, ex. 34)
- c. *Tha mi 'gam nighe* Ø (*fhèin*)
 be.PRES 1S A'.PRO.1S wash.VN self
 'I am washing myself.'
 lit. 'Am I at-my washing (self)' (p. 319, ex. 35)

Cram calls for two transformational relations for (16c), *Object Preposing* (as in the non-reflexive case in (16b)), and *Reflexive Agreement* “which copies features for number and person from the subject NP onto the pronoun”. Given these patterns and necessary transformations in the rest of the language, he concludes that the behavior of the possessive pronoun with *ann* is “*syntactically* not as idiosyncratic as it first appeared,” but that “this regular behaviour is *lexically* governed in that it co-occurs with ANN only with a restricted set of verbs, and furthermore with these verbs only in one of their readings, namely stative rather than non-stative” (p. 319).

To come to a derivation for the sentences with *ann*, he suggests lexical entries for the verbs in the *ann* group with “sub-headings”, so that each verb’s entry will have a “plus stative only” version and a “plus or minus stative” (or unmarked for stativity). Then, “the associated syntactic features indicate that *suidhe*-1 [the first sub-heading of the lexical entry, the plus stative version] behaves like a transitive verb which selects the progressive particle ANN together with a dummy object pronoun, while *suidhe*-2 [the plus or minus stative version] behaves like a regular intransitive verb which (by default) will select the particle *ag* in the progressive” (p. 319). The transformational rules of Object Preposing and Reflexive Agreement will take place during the derivation to get us to the correct

word order and agreement facts.

Using these independently motivated rules, Cram situates *ann* in a larger picture of SG syntax (as he sees it). “The idiosyncrasy of the construction, which results from the fact that regular rules are governed by semantic and syntactic properties of individual lexical items, is dealt with where it properly belongs—in the lexicon” (p. 320).

He also deals with *ann*’s use with nominal predicates. First, he claims that *is* and *bi* are surface reflexes of the same underlying verb, which he terms “COP”; the difference in the realizations is that *is* appears when COP is unmarked for aspect, but *bi* appears when COP is marked for progressive aspect. Recall that nominal predicates in the construction with *tha* occur in the order Aux-subject-predicate, while with *bi* the order is Aux-predicate-subject. Cram presents a derivation of these structures wherein the verb COP undergoes the usual Verb Fronting transformation; then for *is* constructions, there is an additional transformation called *Copula Inversion*, which yields the correct order of the subject and its complement. Another rule, *Copula Deletion*, deletes the copular element and the aspect particle when COP is marked for progressive aspect. So we see aspect and an extra verb *bi* (surfacing as *bhith*) in (17), but neither in (18) (with adjectival predicates in these examples):

- (17) Prospective: *Tha Calum gu bhith faiceallach.*
 be.PRES Calum GU be.VN careful
 ‘Calum is to be careful’ (p. 323, ex. 44)

- (18) Progressive: *Tha Calum faiceallach.*
 be.PRES Calum careful
 ‘Calum is (being) careful’ (p. 323, ex. 46)

- (19) Progressive: **Tha Calum a' bith faiceallach.* (p. 323, ex. 45)
 be.PRES Calum A' "be.VN" careful
 [*'Calum is being careful.']

Cram describes this as a “systematic gap”; “COP never appears in the surface structure together with the progressive aspect marker *ag*” (p. 323). Cram transfers this idea to nominal predicates. With nominal predicates, we see *ann* in *bi* constructions but not *is* constructions (whereas in adjectival constructions, the only difference between *is* and *bi* constructions was the word order). Cram’s answer to this is based on the fact that *ann* appears in the same place in which there was the “systematic gap” with the adjectival constructions:

- (20) *Tha Iain 'na dhotair*¹².
 be.PRES Iain ANN.PRO.3SM doctor
 ‘Iain is (being) a doctor.’ (p. 324, ex. 51(b))

The underlying structures for these two types of constructions, then, are posited to be as follows:

- (21) *Tha Iain faiceallach* ← PRESENT NP PROG COP Adj
 Tha Iain 'na dhotair ← PRESENT NP PROG COP NP
 (p. 325, ex. 52)

Cram adjusts his rule of Copula Deletion to say that COP and the “progressive” marker are deleted when the complement is adjectival or prepositional, but that the progressive marker is instead realized as *ann* when there is a nominal complement. In this way he makes the nominal pattern parallel the verbal one, with *ann* appearing in both cases as a version of the progressive marker. He does not explain why *ann* has a stative reading with verbal predicates and *a'* a dynamic one, however.

¹² Cram has the spelling ‘dhochtair’.

Cram's analysis attempts to demonstrate that *ann* patterns syntactically with the language's aspect particles rather than with its prepositions, and also ground the syntax of *ann* in the syntactic patterns found in the rest of the language. The analysis also takes the important step of relating the uses of *ann* in both verbal and nominal predicates. However, I will ultimately disagree with Cram that *ann*+pro is functioning syntactically as an aspect particle. I also have very different reasons for why adjectival and prepositional predicates do not require *ann*, while nominal ones do.

4.1.2 A note about clefts

As noted, Cram presents the difference between *is* and *bi* as being essentially a difference between individual-level and stage-level predicates, although he does not couch the difference in those terms. He cites "most Gaelic grammars and primers" as making this distinction clear.¹³ While such accounts ascribe the difference in semantics between *is* and *bi* to their being separate lexical items, Cram claims that the two forms are realizations of the same verb (termed "COP"), which are simply different in terms of aspectual marking. Generally, my consultant does not have bare copular constructions (with *is*) in her dialect; instead she allows both "stage-level" and "individual-level" uses of adjectival predicates with *bi*. With nominals, she uses a cleft construction with *is* for individual-level predicates,¹⁴ and the construction with *ann* for stage-level predicates.

There are a number of interesting phenomena that are not within the scope of this

¹³ Carnie (1995) establishes the same for Irish.

¹⁴ For example:

i. 's e dotair a th' ann an Alaig.
 cop.PRES 3SM doctor WH_COMP be.PRES in Alec
 'Alec is a doctor.'

chapter. For instance, I will not be giving an analysis of any constructions using *is*, which my consultant does not use regularly; nor will I be analyzing the other cleft constructions in the language (some of which use *ann* and some of which don't; I believe this to be a fruitful area for future research). The rest of the chapter is organized as follows: In the next section I review the critical ideas and theories that I will be drawing on in my analysis. In section 4.3 I present the detailed data and the informal analysis. Section 4.4 is the formal analysis, and section 4.5 is the conclusion.

4.2 Tools for analyzing *ann*

In this section I review the major ideas I will be borrowing from in my analysis: the special properties of 'sit'/'stand'/'lie' verbs, treatments of states (and events), and intervals and homogeneity; the individual-level/stage-level distinction; Roy's three-way division of nominal predication; and Ramchand and Adger's take on nominal predication in SG. These are all topics at the interface of verbal and nominal predication, which is exactly where we find ourselves with the *ann*+pro construction. Note that throughout this discussion I refer to 'sit'/'stand'/'lie' *verbs* or *predicates*; when in fact in the current analysis these are ending up as nominals that become predicates when they are embedded under a prepositional phrase. But since they also appear as verbs in the analytic past and future in SG, and are mostly verbs in English (not, e.g., *asleep*), I am loose with the terminology here.

4.2.1 States, events, intervals and the classification of 'sit'/'stand'/'lie' verbs

The question of how to classify verbs according to their internal properties has been

discussed at least since Aristotle (*Metaphysics*, *De Anima*, *Nicomachean Ethics*), but especially since Vendler's (1957/1967) influential work. Unsurprisingly, a general consensus has not yet been reached as to the best way to think about or represent verb meaning; nor has it been agreed upon as to what level or type of interaction the semantics of verbs should have with their syntax. Work in event semantics (with events as entities; Davidson 1967a, and much work forward), and tense logic (focusing more on points of time and intervals; Bennett & Partee 1977, Taylor 1977, Dowty 1979, and much work forward), has resulted in various proposals about what verbs and verb phrases do and don't bring to the table with respect to happenings and facts and the time those things take up, and each type of system has its own benefits and its own problems. For the purposes of this chapter and dissertation, I would like to avoid any lengthy ontological inquiries into the nature of time and our perception of it (although such inquiries are surely needed); nor is this the place for establishing an algebra of such things (of which Krifka's 1998 work is a fine example).

However, I must commit myself to a particular semantic model here, and so I will again in my analysis of *ann* be considering things from the perspective of events (although events will play a smaller role formally in this chapter than they did in the previous ones). Because of the nature of the semantics of this particle, I spend a good deal of time considering the place of states in event semantics, a topic that has been addressed by no small number of scholars. In the reader's interest I review here just the approaches that are most germane to an analysis of the phenomena at hand. Mostly for ease of exposition, I will avoid adopting Krifka's (1998) or other mereological

formalisms, and I will not work in an interval semantics *per se*; instead I work with an event-friendly version of Bennett & Partee's (1972/1978) Subinterval Property (as discussed by Taylor 1977, Dowty 1979, and Bach 1986). In the next sections, I briefly review the approaches to events, states, stages, and intervals that motivate my analysis of *ann*.

4.2.1.1 States, events, and intervals

Based purely on Cram's and Ramchand's notes on *ann*, we at least have the idea that it will have something to do with a meaning we might want to term "stativity." Vendler (1957/1967) divides up the verbs of English first by whether or not they permit use with the progressive, and then by whether or not they have a set "terminal point". He calls progressive-allowing verbs with no terminal point "activity terms", and those with a terminal point "accomplishment terms". Then of the verbs which do not admit the progressive (or those "lacking continuous tenses" (1967, p. 23)), he called those which "can be predicated only for single moments of time" (p. 23) "achievement terms," and those which "can be predicated for shorter or longer periods of time" (p. 23) "state terms." Lack of a progressive form distinguishes states from activities, and the ability to occur in the construction "how long did you X" distinguishes them from achievements. He concludes based on the fact that "one cannot know, believe, or love deliberately or carefully" (that is, that event-modifying adverbials are not permitted with states) that states "cannot be qualified as actions at all" (p. 25). Furthermore, he describes the time "schema" of states: "*A loved somebody from t_1 to t_2* means that at *any* instant between t_1 and t_2 *A* loved that person" (26). This differs (luckily for us) from his description of

activities: “*A was running at time t* means that time instant *t* is on *a* time stretch throughout which *A* was running” (p. 25) (as opposed to *the* time stretch, for accomplishments). He gives “having, possessing, desiring, or wanting something, liking, disliking, loving, hating, ruling, or dominating somebody or something, and, of course, knowing or believing things” (p. 26) as examples of states. He also notes that all “qualities” (being married, being present or absent, and also being yellow or soft) as well as “habits” (being a smoker, working for company X, etc.) are also states in the sense of the time schema he has established. However, note that he does not mention the verbs that we are most interested in here, like ‘sit’, ‘stand’, ‘lie’, ‘sleep’, etc.

Next we can consider Bennett & Partee (1972/1978). They do not have too much to say about states, but their influential concept of the subinterval property will be important to us. They are working from a perspective that sentences should be seen as being true at an *interval*, rather than a *moment*, of time (more on this below). Then, they divide verb phrases into three major types: stative, subinterval, and nonstative/nonsubinterval. Stative verbs are verbs that do not take the progressive; subinterval verbs are essentially Vendler’s activity verbs, and nonstative/nonsubinterval verbs are essentially all telic verbs. ‘Subinterval’ refers to whether or not the verb carries the Subinterval Property. First, they define an “open interval of moments of time” *I* (1978, p. 67); then *I* is an interval of *T* (the “nonempty set of moments of time” (p. 67)) if and only if $I \subset T$, and “for any $t_1, t_3 \in I$ such that $t_1 \leq t_3$, if t_2 is such that $t_1 \leq t_2 \leq t_3$, then $t_2 \in I$ ” (p. 69). That is, *I* is an interval of *T* if for any two moments of time in *I*, a third moment of *T* that falls between them is also in *I*. They are assuming \leq to be a ‘dense simple ordering of *T*’,

which means in addition to its being a simple (i.e. linear) ordering (which means being reflexive, transitive, antisymmetric, and connected), it is ‘dense’, i.e. for any two times in T , there is a time between them that is also in T . In this schema, $[t]$ or simply ‘ t ’ is itself a moment of time. Then, I is a *subinterval* of I' if and only if $I \in [T]$, $I' \in [T]$, and $I \subseteq I'$ (a *proper subinterval* if $I \subset I'$). They also define initial and final subintervals, initial and final points of I , and initial and final bounds for I (that is, points on either side of I that are not included in I). Given these definitions, they define “subinterval” verb phrases as those that “have the property that if they are the main verb phrase of a sentence which is true at some interval of time I , then the sentence is true at every subinterval of I including every moment of time in I . Examples of subinterval verb phrases are: *walk, breathe, walk in the park, push a cart*” (p. 72). For Bennett & Partee, then, this ‘subinterval property’ is true to the moment level, and is true of activity verbs (Taylor 1977 will have different views of this kind of property). They do not discuss whether their ‘stative’ verbs have the subinterval property. However, there is nothing about the stative category that would preclude the subinterval property from holding for those verbs.

Taylor (1977) establishes a version of Aristotle’s verb classification system for English, with S(‘state’)-verbs, K(‘*kinesis*’)-verbs, and E(‘*energeia*’)-verbs (p. 199). This system, like Bennett and Partee’s, is based on the ability of verbs to appear in “continuous tenses.” Where Bennett & Partee discuss moments and intervals, Taylor distinguishes between *moments* and *periods* of time. As for states, we have the same kind of definition as Vendler and Bennett and Partee: “the distinguishing characteristic of S-verbs is that they do not occur in genuine continuous tenses in standard English speech”

(p. 205). However, Taylor makes an important observation about what we have been calling the subinterval property. Essentially, he notes that states have it but some activities do not. Specifically, thinking of Rod the hirsute barman, “it is reasonable to say, of any moment m within P , that m is a time of Rod’s being hirsute; indeed, P counts as a time of Rod’s being hirsute, it seems, just because each moment within P is such a time”; but with respect to the other classes of verbs, “although at each moment m within P it is true to say that Rod *is chuckling* and *is pulling a pint*, it is plausible to hold that no moment within P can be a time of Rod’s chuckling or of his pulling a pint; for both pulling pints and chuckling take time in a way in which being hirsute does not” (p. 206). He concludes that the continuous tenses “may be construed as functioning so as to mark the presence of a time t (typically a moment) which, *though not itself a time of application of the tensed verb*, occurs within a more inclusive time which *is* a period of the verb’s application” (p. 206). He concludes that there are two kinds of E-verbs, *homogeneous* and *heterogeneous*. The former are like gold, and the latter like fruitcake—a chunk of a lump of gold is still a lump of gold, but a raisin or green cherry does not a tiny fruitcake make. This is the general tack that subsequent work begins to take; that is, with the idea that while states seem to have a moment-level continuity across subintervals, and achievements have no subinterval continuity, some activities and possibly accomplishments have continuity but at an ‘interval’ or ‘period’ level (that is, above moment level). This will be the general course of the current analysis as well.

Dowty’s extremely influential (1979) work considers a large number of parts of verb and word meaning. To Bennett & Partee’s concept of intervals, Dowty adds the concepts

of ‘initial boundary interval’ and ‘final boundary interval’; that is, he says that intervals themselves can be bounds for other intervals (instead of just moments). He also argues from entailments involving the progressive in English that a semantics involving possible worlds and his *inertia worlds* is necessary for a characterization of the progressive. Then he moves on to suggest instead that what we really want is a concept of *branching futures*, with the concept of a “maximal linear pathway through the time structure” or *history*. He re-defines intervals based on these histories, where the concept of the interval (in terms of ordered times) is identical to that of Bennett & Partee, but where an interval is part of a history rather than just another set of times. Dowty supports Taylor’s interpretation of statives, as well as the idea that some (or most) activities may not be homogeneous. Dowty notes that there might be a minimal interval for all activity verbs, and each might be different—for instance, that a minimal interval of waltzing might need to include the agent taking at least three steps (i.e., the 3 waltz steps). The verb ‘move’ is closer to being homogenous, but even it could be describing a non-homogenous movement. This presents an issue that Taylor also brings up, namely, that ‘John is running’, if non-homogeneous, no longer entails ‘John has run’ (a main diagnostic for atelicity). However, both authors have a possible answer; basically, that the amount of running (or whatever activity) that one would have to witness in order to be able to say “she’s running” is also the minimal interval you would need to be able to say “she has run.”

Of interest for us, Dowty also addresses “‘stative’ verbs in the progressive tense”—verbs like sit, lie, flow, etc.—but with non-agentive subjects (as in, ‘The book is lying on

the table’). These are not the exact examples we are interested in in SG, since in general SG rejects non-agentive subjects on the verbs that *ann* appears with, but there is still some insight to be gained from thinking about them. Dowty notes that these verbs can appear in the progressive even though they don’t involve agency or movement (or change of state)—which is strange for the traditional view of the progressive. He also notes an alternation between the progressive and non-progressive in locative constructions with some of these verbs; for instance,

- (22) a. The river flows through the center of town.
 b. (?) The river is flowing through the center of town.
 (Dowty 1979, p. 175, ex. 70)

While (a) has a normal reading on which it is about the location of the river, (b) seems to describe a flood. (This exact contrast can also be seen in SG; see (51-52) below.) Dowty has a few suggestions: (1) the non-agentive use of these verbs is just an extension of the use with human subjects for bodily position; (2) “...it could be argued that their truth conditions necessarily involve an interval anyway” (p. 176) (e.g., in a given moment you might not be able to tell whether a book was sitting on a table or sliding across it); or (3) perhaps, after Carlson (1977b) (discussed in the next section), the progressive only works with “stage-level predicates”, and these non-agentive versions of these positional statives are actually individual-level predicates. However, Dowty points out that Carlson does not have an explanation for why progressives should be allowed only in stage-level predicates. He concludes that activities, definite change-of-state verbs, and also these sit/stand verbs “should depend on an interval, rather than a moment” (p. 179)—that is, that they are heterogeneous. I would argue that the inanimate sit/stand verbs are a bit

misleading in this respect when compared to their agentive versions; I will claim that these predicates are homogeneous like “true” statives. Dowty distinguishes three kinds of statives: “*interval statives* (the *sit-stand-lie* class, which are stage predicates), *momentary stage-predicates* (e.g. *be on the table, be asleep*), and *object-level statives* (e.g. *know, like, be intelligent*, etc.). The last two classes can be true at moments and are true at an interval if and only if they are true at all moments within that interval....” (p. 180) I would point out that the positional reading of the ‘momentary stage-predicates’ also share this quality. I will claim that the SG equivalents of his ‘interval statives’ and his ‘momentary stage-predicates’ correspond with Roy’s (2006/to appear) ‘dense’ predicates (“situation-descriptive” sentences).

We have seen that intervals come up often in discussions about verb meaning such as the one we are currently in the midst of; for some authors (e.g., Bennett & Partee 1978, Dowty 1979) they are an integral part of the formal mechanism. For us they will be important to our understanding of homogeneity. If we return to Vendler’s original work once more, we can see an early version of the idea, in his differentiation between processes and states:

This difference suggests that running, writing, and the like are processes going on in time, that is, roughly, that they consist of **successive phases following one another in time**. Indeed, the man who is running lifts up his right leg one moment, drops it the next, then lifts his other leg, drops it, and so on. But although it can be true of a subject that he knows something at a given moment or for a certain period, knowing and its kin are not processes going on in time. (p. 22) (emphasis mine)

In this passage, Vendler brings up both something like intervals (“phases”) and something like heterogeneity of activities. Bennett & Partee’s (1978) view of the intervals in activities, then, is different from Vendler’s, since they ascribe their

subinterval property to activities. I have already presented Bennett & Partee's view on intervals, as well as Taylor's (1977) periods, and Dowty's (1979) view. Here I just want to establish the approach to intervals I will be taking in my analysis of the particle *ann* and the predicates (actually, roots) it interacts with.

Although the details of her account differ from the one I present (and we are in fact concerned with slightly different sets of data), Maienborn (2005) makes (part of) the same basic distinction I make here. This is the basic idea that there are "true" states, which are different in some way (either they have a different eventuality argument, or no eventuality argument, or a different syntactic structure); there are these mid-way states like the positional readings of 'sit' and 'stand'; and then there are "true" events. Here what is of interest (with respect to *ann*) is in what way the 'sit' and 'stand' predicates are like nominal predicates. Maienborn is of the opinion that all "states" ('true' states and her D-states, namely, 'sit', 'stand', 'gleam', and others) have the subinterval property at the moment level (more on Maienborn's account below).

The D-state verbs...differ from process verbs in their subinterval properties: while processes involve a lower bound on the size of subintervals that are of the same type, states have no such lower bound. That is, states also hold at atomic times (see, e.g., Dowty 1979; Krifka 1989). If for a certain time interval I it is true that, for example, Eva is standing at the window, sleeping, or the like, this is also true for every subinterval of I. In this respect, D-state verbs pattern with statives. (p. 285)

There is one further concept I should make note of, and that is the topic of gaps within intervals. By this I don't mean the gaps that are ruled out by Bennett & Partee's definition of intervals, but rather the consideration of whether or not gaps (or irregularities) in the actual action of a predicate should affect our conception of its semantics. For instance, Krifka (1998) brings up the example of 'read the article', where

in the actual undertaking of the predicate, we may do seemingly anomalous things like read parts of the article more than once. Others have pointed out the fact that for most activities, we can say something like ‘I X’d for an hour [or a day or a week]’, without X actually being true of each moment in the period of time. This is one of the points that must be addressed with respect to the subinterval property. I would like to address both of these questions: first, what kinds of gaps or irregularities should we care about? And second, what size of interval should we be considering?

Krifka (1998) is an example of an analysis that considers irregularities such as the re-reading of parts of the article something that should be accounted for. I am inclined to agree with this particular type of case, as it seems to me that re-reading parts of the text might be part of the meaning of the predicate ‘read the article’ in its typical use. Although I will not be concerned with formalizing this level of this particular kind of meaning in this work, it seems to be the type of meaning one might want to account for in a formalism like Krifka’s. The other type of gap is discussed by Dowty (1977) (and Filip 1999), and is the kind of gap that is possible in any reasonable reading of most activity and some state predicates. For instance, if I say “I read for two hours,” we know that I may have looked up from my reading on multiple occasions, stopped to make notes, or even talked to someone else, and still have the proposition be true. Gaps such as these have been taken to be a problem for the subinterval property, since in Bennett & Partee’s original formulation there was no account of this. This is part of the reason for the shift (for instance, on Taylor’s (1977) part) from an evaluation at moments to one at intervals. However, I think we are dealing with two different phenomena here.

On one hand, we have natural interruptions of the course of events for many types of predicate (including states; we can imagine saying that ‘John has always been a hairy guy’ even if John had shaved all his hair for a swim meet for two weeks in tenth grade); these are real-world interruptions. It does seem clear that predicates like ‘build a house’ or ‘read an article’ or ‘walk’ admit more gaps than most states; ‘know French’ or ‘love John’ (perhaps ‘since time t ’), for instance. This would be consistent with the idea that states have the subinterval property (or are homogeneous) while non-states don’t (or have it to less of an extent). However, I don’t think that the mapping between level of homogeneity and admission of gaps will be one to one. The number or frequency of gaps allowed in a given predicate seems highly dependent on pragmatic factors in a way that the basic level of homogeneity of the predicate does not. In any case, I will not give an account of it here. However, this notion of gaps will become important again when we look at Roy’s account of non-verbal predication in section 4.2.4 below (and then again in the analysis).

On the other hand, we have the idea of what the actual action or lack of action of the predicate is able to be broken down into. This is the question that I will be more concerned with here. There is consensus that telic predicates are not homogeneous at all; so there are no subintervals of building a house that are building a house, or subintervals of realizing that are, themselves, realizing. There is less agreement about activities, but as we saw with Vendler, an activity like running can be broken down into a series of movements of the body, none of which are, in and of themselves, instances of running. I assume a naïve physics for this type of question—that is, that the minimal units of this

sort are the size of the smallest part that a layperson who knows the word would reasonably be expected to know. So running does not need to involve the movement of muscle fibers, eating a sandwich does not need to involve the mechanics of digestion, etc. It's possible that this kind of intuitive understanding is not enough; but I think that it will be sufficient for our purposes. I agree with Dowty (1979) that there may not be any activity verbs that can really be said to be homogeneous, and I will take the position here that there are not. But I am most concerned with state-like things; and on that count I think it is reasonable to assume with previous work that 'true' states are homogeneous to the moment level (so every moment of a knowing interval can be described with *know*). The real question of interest is whether these more event-like states are also homogeneous to the moment level. I claim (after Maienborn) that they are. Every moment of sitting (that is, being in a seated position) is sitting, every moment of sleeping is sleeping, etc.

So then I will take the following approach to intervals, in intuitive terms: An interval is a section of the timeline, which can have subintervals; it can be bounded by another interval. The timeline is dense, meaning every interval has a subinterval. I will not assert the existence of "moments" or "atoms" of times ontologically; however, I will use the term "moment (of time)" in an intuitive sense (to mean, roughly, "an interval of sufficiently fine grain so as to count as the smallest perceptible"). I take an eventuality to have a "run time" that is the period of time during which the eventuality is going on. Next, I assume a Bennett & Partee-based concept of intervals. I use $<$ and $>$ for 'precedes' and 'follows' and \leq and \geq for 'precedes or is identical with' and 'follows or is

identical with'. T is the set of all times. I assume a dense ordered T , that is, for all $t_1, t_3 \in T$, if $t_1 \leq t_3$ then there is some $t_2 \in T$ such that $t_1 \leq t_2 \leq t_3$. An interval I is a set of moments such that $I \subset T$ and for all t_1, t_2, t_3 , if $t_1 \in I$ and $t_3 \in I$, and $t_1 \leq t_2 \leq t_3$, then $t_2 \in I$. Intervals can be closed, with endpoints included: $[t_1, t_2]$, or bounded, with endpoints not included: (t_1, t_2) .

Then τ_e is Krifka's runtime function, and finally, P is a predicate of eventualities. Then I define homogeneity of a predicate as follows: *homogeneous (to the moment level) with respect to the predicate of times* P is true iff for any two event(ualities) e_1, e_2 , if e_1 is a P event(uality) and e_2 is a subevent(uality) of e_1 (such that $\tau(e_2) \subset \tau(e_1)$), then e_2 is a P event(uality). This is equivalent to saying, without events, that a predicate is homogeneous to the moment level over an interval I iff for all $t \in I$, $P(t) = 1$. I assume that predicates (i.e., descriptions of eventualities) are homogeneous or not, but that roots also contain some information that leads to either a natural interpretation as a homogeneous predicate, or not (more on this in section 4.4.2 below).

4.2.1.2 Arguments and 'sit'/'stand'/'lie' verbs

We have seen several important interpretations of what it means to be a 'state'. The general consensus (if there can be said to be one) is that states are rather homogeneous things that mostly don't take the progressive in English. But what does that mean for event semantics? Katz (2000) addresses just this question. Davidson (1967a) proposed that in addition to the usual arguments in sentences, there are underlying event arguments. This idea is based on the fact that modifiers (such as locative and temporal modifiers) seem to be modifying something that is not usually explicitly visible in the

surface form of the sentence—namely, they seem to be modifying an event. As Katz notes, Davidson suggests that the presence of this underlying event argument distinguishes event sentences from state sentences. Some researchers since then (Katz notes Galton 1984, Löbner 1988, Herweg 1991 and Sandström 1993) have pursued this line of argumentation, keeping states free of Davidsonian arguments. However, other researchers (often referred to as “neo-Davidsonians”) have postulated that state sentences have an underlying state argument, just as event sentences have an event argument.¹⁵ Parsons (1990) is a famous example of a formalized neo-Davidsonian account that explicitly includes Davidsonian arguments for state verbs. Katz defends the proposal that, in fact, no such argument is present in states. He brings up several points where states and events seem to differ, in places where we would predict their behavior to be parallel were they to both have underlying Davidsonian arguments. He points out that there is no specifically state-denoting anaphora, where there is for events; that certain ambiguities that arise from nominalizations appear with events but not states; and that state verbs lack *ing_{of}* nominalizations. He also argues that the neo-Davidsonian treatment of perception verb complements as small clauses (as in Higginbotham 1983, 1996) is not as successful as it is claimed to be. He claims that perception sentences are analyzable without underlying states.

Maienborn’s work on copula sentences (2005, 2007) will also be of interest to us. She draws a distinction between so-called “Kimian states” and “Davidsonian states.” Her work is mostly focused on establishing that copular expressions (that is, any expressions

¹⁵ Kratzer (1995) proposes that only some states have event arguments—namely, stage-level states.

with ‘be’) behave like stative verbs such as ‘know’, ‘hate’, and ‘resemble’, and not like verbs like ‘stand’, ‘sit’, and ‘sleep’. She argues that instead of viewing copula sentences as either stage-level or individual-level predicates along with other verbal predicates, we should view all copula sentences (regardless of whether they seem to be predicating information about a temporary or permanent state) as behaving like and grouped with true state verbs. She thus groups *know*-like verbs and copular predicates together under the heading of “Kimian states” (after Kim’s 1976 work) or “K-states.” I will not go through this set of arguments, as I will not be too concerned in this chapter with the intricacies of individual level predicates (or K-states, if that should end up being the correct partitioning). Of more interest to us is that Maienborn addresses a group of verbs that includes verbs like ‘sit’, ‘stand’, ‘lie’, ‘sleep’, and ‘gleam’. She notes: “The classification of verbs like sit, stand, lie, sleep, and gleam has proven to be notoriously difficult. Vendler (1967) does not mention them and there appears to be no straightforward way to include them into one of the Vendler classes, since they are neither activity (or, more generally, process) expressions nor state expressions (i.e., statives)” (2005, p. 285). She names these verbs “static eventualities” or “Davidsonian states” (“D-states”), making reference to the fact that they pass tests for eventualities that ‘true’ statives don’t, but also differ from activity/process verbs in that they seem to be more homogenous:

The D-state verbs...differ from process verbs in their sub-interval properties: while processes involve a lower bound on the size of subintervals that are of the same type, states have no such lower bound. That is, states also hold at atomic times (see, e.g., Dowty 1979; Krifka 1989). If for a certain time interval I it is true that, for example, Eva is standing at the window, sleeping, or the like, this is also true for every subinterval of I. In this respect, D-state verbs pattern with statives. (2005, p. 285)

We have already seen several ideas about subintervals, homogeneity, and what exactly is true of states vs. processes. I adopt Maienborn's idea on this count—that these particular states pattern with 'true' statives in that they at least are seen to be homogenous to the moment level (or atomic time, etc.), whereas processes are not. She uses a test with 'This happened while...' to pick out processes and exclude D- and K-states (I will use this test in section 2 below) (her examples are in German, so I use my own here):

- (23) a. ✓Mary fixed breakfast. This happened while I was asleep. (event)
- b. *Mary knew French. This happened while I was out. (state)
- c. *Mary sat on the couch. This happened while I was out. (D-state)

Yet these D-state verbs also pass eventuality tests, such as serving as infinitival complements of perception verbs:

- (24) a. ✓I saw Mary eat a sandwich. (event)
- b. *I saw Mary know the answer. (state)
- c. ✓I saw Mary sit in the corner. (D-state)

Her conclusion is that these D-state verbs have a Davidsonian eventuality argument, like process and other event verbs. For K-states, she bases her analysis on Kim 1976 and Asher (1993, 2000), in making them "a further type of abstract objects between eventualities and facts [abstract objects, like propositions, but bound to worlds]. K-states are bound to worlds and times. ... K-states have something in common with eventualities—both have a temporal dimension, and with facts—both are abstract objects..." (p. 303). So for Maienborn, while D-state predicates have an eventuality argument, Kimian states are not a type of Davidsonian eventuality predicate at all.

Dölling (1999), she notes, makes a distinction between states that are spatio-temporally located and those that are not (which would correspond to her D- versus K-states (which are not spatially located)), but makes both eventualities in the Davidsonian sense. This type of analysis, Maienborn claims, “seriously undermines the basic Davidsonian approach, forcing us to abandon the well-motivated understanding of eventualities as spatiotemporal entities” (p. 305). Although she rejects a Davidsonian argument for K-states, she suggests that they do introduce a referential argument of a different sort. In Maienborn (2007), she formulates the difference between Davidsonian eventualities (including D-states) and Kimian states in the following manner: “*Davidsonian eventualities*: Eventualities are particular spatiotemporal entities with functionally integrated participants” (p. 3); “*Kimian states*: K-states are abstract objects for the exemplification of a property P at a holder x and a time t” (p. 5).

So although they have different interpretations of what the specific semantics of “true” states/statives (not including ‘sit’/‘stand’/‘lie’ verbs) are and which types of predicates really belong to the group, both Katz and Maienborn argue against a Davidsonian event argument for them. I am inclined to agree with this basic premise, although I will not take a strong stance in either direction in the current work. It is clear to me that our predicates of interest do have Davidsonian eventuality arguments if anything does, and that ‘true’ statives are different from our predicates in some major way on this account. I think functionally the differences between the two can be accounted for either by positing that ‘true’ statives have no Davidsonian argument, or by positing that they have a fundamentally different kind of eventuality argument. (Whether

it is possible to do this and keep the argument in the spirit of the original Davidsonian proposal, and whether such a thing is desirable, I will not attempt to answer here.) Roy's account (as we will see in 4.2.4 below) also posits eventuality arguments for all the predicates we will be interested in.

So we seem to be interested here a special kind of predicate. Dowty calls them 'interval statives' (but he is referring to the nonagentive versions); Bach calls them 'dynamic states'; and Maienborn calls them 'D-states' (or 'static eventualities'). The gist is that these predicates act like states in some ways (e.g., in seeming homogenous, in not being 'happenings' per se), and like events in other ways (e.g., in being locatable in space as well as time). These ideas will help motivate our analysis of the predicates involved. The last set of concepts I want to address with respect to states (before I discuss the SG syntax and my analyses) is the traditional distinction between stage- and individual-level states, as well as Roy's (2006, to appear) three-way distinction for nominal predicates.

4.2.2 The individual-level/stage-level distinction

A great deal has been written about the stage/individual distinction; here I will focus on the originator of the terms (Carlson 1977b) and on Kratzer's (1995) influential account. Carlson (1977b) is an analysis of bare plurals in English. Along the way, he brings up parallel phenomena in adjectives in English. Milsark (1974) and Siegel (1976) distinguish two types of adjectival predicate, which Milsark calls 'states' and 'properties', respectively. The former are to be more temporary things, and the latter more permanent things. The frames to pick out these "states" are things like:

- (25) a. Jules caught the girls _____. (✓happy, *tall)
- b. There were five Dalmatians _____. (✓available, *large)
(Carlson p. 446, ex. 125)

Carlson proposes that, in fact, these are predicates of different types of thing—namely, predicates of stages of an individual, and predicates of the individual himself:

Suppose we take an individual, Jake, and look at him as being composed of a set of Jake-stages, or temporally-bounded portions of Jake's existence. There is more to Jake, however, than a set of stages. There is whatever it is that ties all these stages together to make them stages of the same thing. Let us call this whatever-it-is the individual Jake. Those predicates we have been calling 'states' then are not predicated of individuals, but of stages of individuals; and those we have been calling 'properties' (in the sense of Milsark) are predicated of the individual, or the thing that ties all the stages together. (p. 448)

Furthermore, the stages are to be event-like:

I do not see them simply as clips of film of an individual's lifetime that are taken out and examined, with the sum of the clips of film being the individual. The individual is more than the sum of the parts, and the stages are not static sorts of things. The stages aren't simply things that *are*; they are more akin to things that *happen*. That is, stages are conceived of as being much more closely related to events than to objects. (ibid.)

Note that in his dissertation, Carlson (1977a) proposed stage-level predicates opposed to 'object' level' predicates; I focus on the later work as that is the view and terminology that has persisted.

So what we have here is an idea about predicates in general—that some are predicated of an individual as a whole, and some are predicated of stages that an individual participates in in some way. Regardless of which direction we might think the causality might run, stage-level predicates tend to be associated with accidental or temporary properties, while individual-level predicates tend to be associated with inherent or permanent properties.

Kratzer (1995), then, takes a view of stage- and individual-level predicates that focuses more on the transitory-versus-permanent angle. She argues that stage-level predicates “are *Davidsonian* in that they have an extra argument position for *events* or *spatiotemporal locations*.... Individual-level predicates lack this position” (p. 126). This is different from Carlson’s actual proposal, which is that the different kinds of predicates are actually properties *of* stages or *of* individuals. She argues for the extra Davidsonian argument from locative modification (i.e., the idea that locatives modify a Davidsonian argument), from when-clauses, and from facts of German extraction. Then stage-level predicates “of all kinds” (p. 155) can take Davidsonian arguments as an argument. In the next section we see a different view of how to divide up these concepts.

4.2.3 Roy’s divisions for non-verbal predication

Roy (2006, to appear) provides an analysis of nominal predication that will be very useful for our purposes. Hers is an account of non-verbal predication that argues for a more finely-grained distinction than that brought by the individual-/stage-level distinction. She argues, and I will assume, that all predicates do have eventuality arguments (of some sort), so that verbal as well as non-verbal predicates are predicated of eventualities, and that that is not the differentiating factor in the predicates she is interested in. She argues for three main types of non-verbal predicates: those which are *maximal*, producing *defining* sentences (they ascribe “a property salient enough to ‘define’ an individual as a particular member of a class of individuals” (to appear, p. 37)); those which are *non-dense*, producing *characterizing* sentences (they ascribe a property to an individual” (ibid.)), and those which are *dense*, producing situation-descriptive

sentences. The maximal and non-dense nominal predicates are differentiated in French via the use of the indefinite article, so that (26a) makes ‘doctor’ a defining characteristic of Jean, while (26b) simply characterizes Jean as a doctor—so that (a) can answer “Who is Jean?”, while (b) answers “What does Jean do?”

- (26) a. *Jean est un médecin.*
 Jean is a doctor
 ‘Jean is a doctor.’
- b. *Jean est médecin.*
 Jean is doctor
 ‘Jean is a doctor/Jean makes his living as a doctor.’

French

“Maximal” refers to the fact that predicates such as that in (26a) describe an eventuality that is not part of a bigger eventuality. Returning to our previous discussion of gaps, we can also differentiate between a predicate like that in (26b) and one like that in (27):

- (27) John is on the table.

The difference between the two according to Roy is that for *John is a doctor* to be true at a time *t*, John does not need to be, at that moment, *being* a doctor. That is, he does not need to be doing doctor-y things. This she calls a non-dense predicate. For *John is on the table* to hold, however, John must actually be on the table. She calls this a dense predicate. She notes that APs and PPs are often dense, but that NPs without other structure cannot be. Note that density is *not* the same as homogeneity; homogeneity (at least as I’m defining it here) has to do with whether a predicate can be said to be true at a moment, while density is concerned with whether there has to be event-ing going on at every moment in order for the predicate to hold. So, homogeneity asks whether a snapshot of a moment within an eventuality can really be said to be that eventuality itself;

density asks whether, in that snapshot, there has to be some amount of activity related to the eventuality actually going on. A snapshot of someone walking might just show them picking up their foot, which is not walking; a snapshot of someone who is a doctor shows a doctor regardless of what they're doing in the picture (which makes *be a doctor* both homogeneous and non-dense). A snapshot of someone sitting on a table clearly shows sitting.

Her definition of density is thus: "If a predicate *P* is interpreted as *dense*, then *P* is true of an eventuality *e* in an interval *I* if and only if for any *I'*, a subinterval of *I*, there exists another eventuality *e'* such that *P* is true of *e'* and *e'* is part of *e*" (to appear, p. 77). And for non-density, "the state that constitutes the evidence for the predicate does not need to hold for all subintervals of *I*." Her formal definition is: "If a predicate *P* is interpreted as non-dense, then *P* is true of an eventuality *e* in an interval *I* if and only if: i. there exists a predicate *P'* true of *e* in a qualifying amount of non-overlapping subintervals *I'* of *I*; and ii. for every *P*, *P'* is the corresponding dense predicate" (ibid., p. 79). This is a bit difficult because her definition of density is, I think, actually properly a definition of homogeneity if we are considering verbal predicates as well (which she is not, but I wish to). The problem with considering verbal predicates along with non-verbal ones is that density and homogeneity actually cut across each other. For instance, I would define *run* as being both dense and heterogeneous—it is dense because you must be walking at every moment in order to be walking (*be on a walk* might not be dense, however), but it is heterogeneous because the subevents that make it up (picking up and setting down feet, etc.) are non-identical. *Doctor* is non-dense and homogeneous. It is

non-dense because you don't need to be *doctoring* every moment in order for the predicate to hold, but it is homogeneous because every moment of being a doctor is still being a doctor (regardless of whether you are doing any doctoring). A heterogeneous non-dense verbal predicate might be something like *build a house*, where neither do you have to be building at every moment, nor is every moment (even when you are building) a building-a-house moment (more like building-towards-a-house). And finally, homogeneous dense predicates would include things like *sit*, *stand*, and *lie*, and also prepositional predicates like *be on the table*. For *sit*, for instance, you must keep your bottom on the chair at all times, *and* every sub-event of sitting is also sitting. In any case, what will matter for us is not the difference between dense and non-dense things, but between maximal and non-maximal on one hand (differentiating between *is* and *bi* predicates), and between (non-maximal) homogeneous and heterogeneous on the other (differentiating between predication under Asp vs. under a P). She notes, in fact, that density is “not a property of lexical expressions, but rather associated to interpretations of the particular predicates in the relevant construals and the relevant contexts” (ibid., p. 84). What I argue is that homogeneity, in fact, *is* (at least to some extent) a property of lexical expressions (roots).

Roy locates the difference among these predicates in their internal structures (involving Classifier Phrases, Degree Phrases, PPs, and Number Phrases; more on this in the next section). Looking at Irish, which shows patterns similar to those found in SG, she argues that copular sentences with the equivalent of the SG copula *is* involve maximal/defining predicates, while those with the equivalent of *bi* ‘be’ involve

non-maximal predicates (non-dense/characterizing or dense/situation-descriptive). Applied to SG, this accounts for the kinds of phenomena that inspired the description of the *is/bi* contrast as being one of individual- vs. stage-level. This is helpful to us since nominal predication with *bi* in SG does not necessarily lead to what we would want to call a stage-level predicate. For instance, the most common way to communicate someone's profession is with *bi+ann+pro*, not with *is* (or a cleft construction with *is*). This seems less like a typical stage/individual-level "temporary" vs. "permanent" distinction, and more like Roy's "characterizing" vs. "defining." We will see in the data below (see e.g. (82)) that when a defining predicate is needed, the *is* (or cleft-*is*) construction is indeed used. Her schema also gives an explanation for why we see tense, but not aspect, marked on defining predicates (and note that *is* constructions take tense but not aspect): "Predicates interpreted as maximal are compatible with simple tense markings on the copula.... They are, however, not compatible with any temporal distinctions that restrict the predicate to smaller intervals within the maximal interval I for which P is true." (to appear, p. 45) This suggests to her:

The impossibility of making independent reference to parts of a maximum eventuality, either the initiation of the eventuality...or the ending of the eventuality...or any other part, suggests that a maximal eventuality must be seen as a single unitary eventuality which lacks sub-parts, or, at least, whose sub-parts are not perceptible. (p. 47)

Having established these further helpful categories, I now turn to the syntactic tools and assumptions we will need.

4.2.4 The syntax of nominal predication in Scottish Gaelic

I primarily rely on Ramchand's (1996) and Adger & Ramchand's (2003) accounts of

nominal predication in SG here, but first I will briefly explain what Roy's account has to say about the syntax of nominal predication. All three of these authors use PredPs in their syntax, which I will not; however, I believe my account here to be fully compatible with such a treatment. Roy argues that there are different functional projections involved in maximal, non-dense, and dense predicates; namely, that bare [XP]s lead to a dense interpretation, the addition of an embedding ClassifierP leads to a non-dense interpretation, and the addition on top of that of a NumberP leads to a maximal interpretation. She then argues that true bare NPs cannot be predicates—following Borer (2005a, b), she assumes that roots must be embedded under a structure to get their category; so for her, they must be under ClassP (alone or together with NumP) to become predicates. This would lead to a lack of dense construals with NPs (since a dense construal comes from a bare XP), which she shows to be the case. Importantly for us, she then argues that there are two ways for nominal predicates to be made, one of which is what happens in SG: “In conclusion, there is no such thing as ‘bare’ NP predicates in copular sentences. Nominals in copular sentences are either ClassPs, or are introduced by a functional head such as a P or a degree” (to appear, p. 124). I argue that this is exactly what is happening in SG.

Finally, I turn to Ramchand's and Adger's claims about the syntax of nominal predication in SG. What we want to take away from their account(s) is that in SG, nominals cannot be predicates by themselves, and must be embedded under a PP instead. Ramchand's (1996) explanation for why is a bit different from Roy's. She first shows that the copula *is* selects for NPs (and some AdjPs and PPs), but not VPs; *bi* does the

opposite—it occurs with AdjPs, PPs, and VPs, but not NPs. Her explanation is that *is* ascribes properties to individuals (which lines up nicely with Roy’s idea of defining predicates), and that it thus cannot take predicates of events (and so VPs). Then she argues that DPs in SG are not predicates but referential projections, which allows *is* to select for them but not *bi* (which selects for predication projections). Instead, the PP construction with *ann* “saves” the otherwise illicit construction with *bi* + DP. (Of the pronoun, she says that “The fact that there is agreement on the predication head ‘in’ here is further evidence that it and the ‘subject’...are in a Spec,Head relationship” (p. 187). For Ramchand, DPs do not introduce event variables in their argument structures, while the other phrases do; this makes them referential rather than predication (and *is* selects for referential projections). Roy in fact says something similar: in defining sentences (i.e., with *is* in SG), there is no Asp—and Asp usually binds the event variable. So instead, the Num head (which is present in predicates interpreted as defining) introduces a Max (for ‘maximal’) operator, and that binds the event variable.

Adger & Ramchand (2003) describe further why nominals do not introduce eventuality arguments:

We put this difference down to the different denotational properties of NPs as opposed to PPs, APs, and verbal constructions: NPs denote properties of individual entities, whereas APs, PPs, and verbal constructions denote properties of individuals with respect to an eventuality. The idea that nominals lack an eventuality variable in their logical representation has been argued for by Higginbotham (1985) and Parsons (1990), among others. We take this to be a property of the functional structure under which the lexical root is embedded: the semantics of the functional structure selecting adjectival, prepositional, and verbal roots introduces eventuality variables, in contrast to the D-related functional projections selecting nominals. (p. 333)

Thus, when an nominal predicate is desired, the Pred head (or the Asp head, in my

account) cannot bind an eventuality variable unless the NP is embedded under a prepositional head—so essentially, the preposition converts “the NP into a predicate with an appropriate variable position to bind” (333). Roy, Ramchand, and Adger’s accounts together provide us with the syntactic reasoning we need to understand the phenomena at hand.

4.2.5 Summary of tools and analysis

We now have a collection of semantic and syntactic reasons why *ann*(+pro) might appear with a certain set of verbal lexical items as well as a certain set of nominal lexical items. The analysis here is as follows: acategorial roots get inserted into structure to get their category (Borer, Marantz, a.o.). Roots can go under A, P, or V material to become predicates, but N material does not form predicates by itself (Roy, Ramchand, Adger). Specifically, NPs denote properties of individuals rather than properties of events, and thus do not carry an eventuality argument for Asp (or Pred) to bind (Adger, Ramchand, Higginbotham, Parsons). In SG, this can be resolved either with the NP being selected for by the copula, or by embedding the NP under a PP with the verb *bi* ‘be’ (Ramchand, Adger). Then the question is, which roots are likely to undergo this process? As for the predicates, I am arguing that they are all (1) homogeneous to the moment level (Dowty/Taylor/my adjustments), not heterogeneous; and (2) non-defining/non-maximal (Roy). So the roots that end up in these predicates are those that easily admit of such an interpretation, and which need to end up as nominal predicates. Thus we end up with characterizing and situation-descriptive (instead of strictly “stage-level”) nominal predicates like ‘be a doctor’, ‘be a man (now)’, ‘be a desert (now)’ on the one hand; on

the other hand we have a set of roots with bodily position and state meanings that would usually be made into verbal predicates, but which naturally have two very different interpretations, one heterogeneous and one homogeneous. The next section goes through the data that support my characterization of the situation, and section 4.4 lays out the formal syntactic and semantic analyses.

4.3 Predication with *ann*

Below I present the patterns of data for which I am providing an analysis. I will often refer to “verbs” versus “nouns”; remember that this is really shorthand for “predicates with roots that usually become (verbs or nouns)”, since I am arguing that syntactically with *ann+pro* these are all Ns.

4.3.1 “Verbal” predication

As we have seen, the basic pattern for sentences with *ann+pro* is as follows:

- (28) *Tha mi ’nam sheasamh.*
 be.PRES 1S ANN.PRO.1s stand.VN
 ‘I am standing.’

Recall that the 1st singular, 2nd singular, and 3rd singular masculine forms trigger consonant mutation in the following word (if it is allowed).

While the other aspectual particles (including the imperfective) can generally appear with all verbs, *ann+pro* can only appear with a handful of verbs. For my consultant, they are as follows (in their citation forms): *suidh* ‘sit’, *seas* ‘stand’, *laigh* ‘lie (down), recline’, *sìn* ‘stretch/reach’, *caidil* ‘sleep’, *dùisg* ‘wake’, *stad* ‘stop/stay/stand/rest’, *tàmh*

‘rest, stay’, *caithris* ‘keep watch by night’, and, somewhat oddly, *ruith* ‘run’.¹⁶

These verbs, like the rest of the verbs in the language, also appear with the imperfective particle *a’/ag*. For these verbs, however, there is an interesting opposition between their use with *a’* and their use with *ann+pro*. The generalization to be made is that with *ann+pro*, the verbs are interpreted statively (or positionally); with *a’* they are interpreted actively/dynamically. One that doesn’t quite follow this pattern is *caidil* ‘sleep’, for which we might expect to find meanings like “being asleep” vs. “falling asleep”; however, both mean much the same thing for my consultant (as ‘be asleep’/‘be sleeping’ do in English); the inchoative meaning ‘fall asleep’ is expressed with the Gaelic verb for ‘fall’. Here are the interpretations of each verb (taken from Reed 2011, with modifications):

(29) *Bha e ’na shuidhe.*
 be.PAST 3SM ANN.PRO.3SM sit.VN
 ‘He was seated/sitting.’ [position]

(30) *Bha e a’ suidhe.*
 be.PAST 3SM A’ sit.VN
 ‘He was sitting down.’ [process]

(31) *Bha e ’na sheasamh.*
 ‘He was standing.’ [position]

(32) *Bha e a’ seasamh.*
 ‘He was standing up.’ [process]

(33) *Bha e ’na laighe.*
 ‘He was lying down.’ [position]

¹⁶ Note www.akerbeltz.org also gives *breislich* ‘be confused’, *faireachadh* ‘be conscious, awake’, *gurraban* ‘be crouched (down)’ and *tost* ‘be silent/still’. These my consultant does not recognize but generally agrees that if she had these words in her vocabulary, that they would make sense with the construction.

- (34) *Bha e a' laighe.*
'He was lying down.' [process]
- (35) *Bha e 'na shìneadh.*
'He was stretched out.' [e.g., in bed]
- (36) *Bha e a' sìneadh.*
'He was stretching out.' [e.g., his hand, or himself in bed]
- (37) *Bha e 'na chadal.*
'He was asleep.'
- (38) *Bha e a' cadal.*
'He was sleeping.'
- (39) *Bha e 'na dhùisg.*
'He was awake.'
- (40) *Bha e a' dùisg.*
'He was waking up.'
- (41) *Bha e 'na stad.*
'He was stopped.'
- (42) *Bha e a' stad.*
'He was stopping.'
- (43) *Bha e 'na thàmh.*
'He was hanging out/resting.'
- (44) *#Bha e a' tàmh.*
[Would not use with this verb]
- (45) *Bha e 'na chaithris.*
'He was up all night (keeping watch).'
- (46) *#Bha e a' caithris.*
[Would not use with this verb]
- (47) *Bha e 'na ruith.*
'He was [in a state of] running. '
- (48) *Bha e a' ruith.*
'He was running.'

Note that English does not have different forms for most of these verbs, hence my specification of [position] or [process] for clarity.

Ramchand (1993, p. 257) also presents the following data for *ruith* ‘run’ (I leave her examples as-is):

(49) *Bha abhainn a’ ruith seachad.*
 Be-PAST river *ag* run-VNOUN past
 “A river ran past.”

(50) *Bha abhainn na ruith seachad.*
 Be-PAST river *in+its* run-VNOUN past
 “A river ran past.”
 (p. 257, ex. 46-47)

Ramchand cites these as having the same meaning. For my consultant, these are not acceptable except in a particular circumstance. First, with an agentive subject, she can use either *ann+pro* or *ag*, and it gives basically the same meaning (‘be running’), but with an important difference, as I noted in Reed (2009):

Both can be uttered on seeing a man running by outside, regardless of whether he usually runs, is running because he is late, is part of a race, etc. However, imagine the following scenario: A man (John) must get into town, and he must get there quickly. He does not have a vehicle to get him there. At the moment, we know that John is on his way into town, but we do not know how he is getting there.

First person: How is John getting to town? He has to be back in twenty minutes. He’s not walking, is he?

Second person: [No,] he’s running.

In this case, only ‘*tha e a’ ruith*’ (lit. ‘*he is at running*’), and not ‘*tha e na ruith*’ (lit. ‘*he is in his running*’) would be acceptable as an answer to the question. (p. 55-56)

When the action is specifically a process (as here, where the focus is on the action of running itself), *ann+pro* is disallowed. As for rivers running, my consultant uses *a’* for the river in its habitual flow (*a’* is the usual way to make habituals in the present tense):

- (51) *Tha abhainn a' ruith troimhn a' bhaile.*
 be.PRES river A' run.VN through the.DAT.SM town
 'A river runs through the town.'

The same sentence with *ann+pro* is anomalous for this reading, but does give one interesting reading, glossed by my consultant with the English progressive:

- (52) *?Tha abhainn 'na ruith troimhn a' bhaile.*
 be.PRES river ANN.PRO.3sm run.VN through the.DAT.SM town
 '?A river is running through the town.'

The only time this would be an acceptable sentence is the same kind of situation in which the English gloss would be acceptable—for instance, if there is a flood, and the river has jumped its banks and is now flowing through the streets (or perhaps there is not usually a river at all, and it's just that the streets have been turned into a river). (Dowty (1979, p. 175) points out these facts for English, as noted in example (22) above.) These data help support my claim that *ann+pro* only results in non-maximal interpretations.

Note that there is not an animacy restriction involved with the *ann+pro* construction *per se*; *stad* 'stop' allows inanimate or animate subjects easily:¹⁷

- (53) *Bha an car 'na stad aig an t-solas.*
 be.PAST the.SM car ANN.PRO.3SM stop.VN at the.SM light
 'The car was stopped at the stoplight.'

- (54) *Tha an t-engine aice 'na stad.*
 be.PRES the.SM engine at.3SF ANN.PRO.3SM stop.VN
 'Her engine is stopped.'
 (This example inspired by Cram (1983), p. 316, ex. 21(c), who glosses it as
 "'Her engine has stopped'; lit. 'Is the engine at-her in-its stopping'")

- (55) *Bha mise 'nam stad aig an t-solas.*
 be.PAST 1S.EMPH ANN.PRO.1S stop.VN at the.SM light
 'I was stopped at the stoplight.'

¹⁷ See e.g. Folli & Harley's (2008) concept of teleological capability.

- (56) *Tha an bocsa 'na sheasamh an sin.*
 be.PRES the.SM box ANN.PRO.3SM stand.VN the.SM MED
 'The box is standing there.'

However, some of the verbs do not lend themselves to inanimate subjects:

- (57) *#Bha an leabhar 'na laighe air a' bhòrd.*
 be.PAST the.SM book ANN.PRO.3SM lie.VN on the.SF table
 #'The book was lying on the table.'
- (58) *Bha am babaidh 'na laighe air a' bhòrd.*
 be.PAST the.SM baby ANN.PRO.3sm lie.VN on the.DAT.SM table
 'The baby was lying on the table.'

My consultant reported that (57) sounded like the book was animately lying there.

The construction can also appear in the future tense, as well as in combination with the perfect aspects (with another verb 'be'):

- (59) *Bithidh mi 'nam sheasamh.*
 be.FUT 1S ANN.PRO.1S stand.VN
 'I will be standing.'
- (60) *Tha mi air a bhith 'nam sheasamh fad an latha.*
 be.PRES 1S AIR AGRO be.VN ANN.PRO.1S stand.VN all the.SM day
 'I have been standing all day.'
- (61) *Tha mi as dèidh bhith 'nam sheasamh.*
 be.PRES 1S AS DÈIDH be.VN ANN.PRO.1S stand.VN
 'I've just been standing.'
- (62) *Tha mi gu bhith 'nam sheasamh.*
 be.PRES 1S GU be.VN ANN.PRO.1S stand.VN
 'I'm about to stand [to be standing/to stand for a while].'

Combination with imperfective *a'* does not yield a grammatical sentence:

- (63) **Tha mi a' bhith 'nam sheasamh.*
 be.PRES 1S A' be.VN ANN.PRO.1S stand.VN
 *'I am being standing.'

Finally, *ann+pro* does not occur with 'true' statives like 'know', 'resemble', 'like', or

‘weigh’. With these predicates, either a copular construction using *is* or an adjectival or prepositional predicate is used (or simply *a*’).

- (64) *'S aithne dhomh Màiri.*
COP.PRES knowledge/acquaintance to.1S Màiri
‘I know Màiri.’
- (65) *Tha mi eòlach air Màiri.*
be.PRES 1S acquaintance on Màiri
‘I know Màiri.’
- (66) *Tha fios agam ciamar a dh'iasgachas tu.*
be.PRES knowledge at.1S how WH_COMP fish.REL_FUT 2S
‘I know how to fish.’
Lit.: ‘I know how you will fish.’ (Repeated from (3) above)
- (67) *Tha Calum coltach ri Iain.*
be.PRES Calum similar to Iain
‘Calum resembles Iain.’
- (68) *Is toigh le Calum Màiri.*
COP.PRES agreeable with Calum Màiri
‘Calum likes Màiri.’
- (69) *Tha a' chaora sin ceud punnd de chuideam.*
be.PRES the.SF sheep MED 100 pound of weight
‘That sheep weighs 100 pounds.’
- (70) *Tha mi a'/(*)'nam cluinntinn.*
be.PRES 1S A'/ANN.PRO.1S hear.VN
‘I hear.’

So far, all the data we have seen is consistent with *ann*+*pro* occurring with homogeneous, non-maximal predicates.

4.3.1.1 The verbal class

This collection of verbs seems to be semi-coherent in an intuitive way; many of the verbs involve positions or states of the body. Levin (1993) lists ‘sit’, ‘stand’, ‘lie’, ‘stretch/reach’, ‘stop’, and ‘rest’ in English in her “verbs of spatial configuration” in their

positional/stative uses, and “verbs of assuming a position” in their process uses. The verb *caithris* ‘keep watch by night’ my consultant glosses the sentence with this verb and *ann+pro* as ‘stay up all night, for watching over a sick person, or a crying baby, etc.’—so we have a meaning of keeping or staying, plus extra lexical information. Then we have ‘sleep’ and ‘wake’, which involve bodily states rather than positions. ‘Run’ seems to be the odd man out. I will have more to say about it in section 4.4, but again, I am arguing that *ann+pro* occurs with this set of roots that are often realized as verbs, but which have distinct homogeneous and heterogeneous interpretations, the homogeneous one of which leads to its being realized as a noun in SG.

4.3.2 Nominal predication

Now we turn to the use of *ann+pro* with nominals. Its use with nominals is far more widespread than its use with (roots otherwise usually categorized as) verbs. In the current analysis, this is explainable because nominal predicates are being made out of roots with a homogeneous character, and few verbs have such an interpretation readily available. In all the examples we will see, *ann+pro* is involved in sentences that are (after Roy) characterizing or situation-descriptive, rather than defining, and the predicates are homogeneous.

Most of the data I have gathered involve animate subjects, but this is not a requirement for the construction. Masson (1882) gives a nominal use: “*nithear an tir ’n a fhasach* = the land will be made in its wilderness = the land will be laid waste” (p. 77); a similar sentence is fine for my consultant:

- (71) *Tha an tìr 'na fhàsach a-nis.*
 be.PRES the.SM land ANN.PRO.3SM desert/wilderness now
 ‘The land is a desert/wilderness now.’

For future reference, compare this to a similar sentence about a piece of land that is *in* a desert; so *ann* does not take the possessive pronoun:

- (72) *Tha an toigh ann am¹⁸ fhàsach a-nis.*
 be.PRES the.SM house in desert/wilderness now
 ‘The house is in a desert/wilderness now.’

Then, as noted, *ann*+pro is the most common way to talk about someone’s profession:

- (73) *Tha Alaig 'na dhotair.*
 be.PRES Alaig ANN.PRO.3S doctor
 ‘Alec is a doctor.’
- (74) *Tha e 'na shaor/ thàillear/ shagart/ mhinistear /
 be.PRES 3SM ANN.PRO.3S carpenter/ tailor/ priest/ minister/
 bhreitheamh/ sgoilear.
 judge/ scholar
 ‘He is a carpenter/tailor/priest/minister/judge/scholar.’*

We can also see the pattern that has been described as stage-level vs. individual-level predication, but which I am calling non-defining/non-maximal vs. defining/maximal. For instance, (75) and (76) are fine since it is clear from modification that a particular situation is being described (being in one’s girlhood), while attempts at defining interpretations are out (77), (78). Note that, for instance, (78) becomes fine if put in the past, because it turns the predicate into a description of a situation, just as in (75).

- (75) *Nuair a bha mi 'nam nighean cha robh
 when be.PAST 1S ANN.PRO.1S girl not be.PAST.DEP
 telebhisean ann.
 television in.3SM
 ‘When I was a girl, there was no television.’*

¹⁸ The *am* here is reduplication as noted in section 2.1, plus assimilation of the nasal to the following labial.

- (76) *Chan e pàisde a th' innte idir, tha i*
 not 3SM child WH_COMP be.PRES in.3sf at all be.PRES 3SF
'na boireannach a-nisde.
 ANN.PRO.3S woman now
 'It's not a child that she is at all, she's a woman now.'
- (77) *#Tha e 'na gille.*
 be.PRES 3sm ANN.PRO.3s boy
 #'He is a boy [i.e., male child].'
- (78) *#Tha i 'na boireannach.*
 be.PRES 3SF ANN.PRO.3S woman
 #'She is a woman [i.e., female adult].'

We can also see the distinction between the cleft construction (for my consultant; or the bare copular construction in traditional descriptions) and the *ann+pro* construction; these are sometimes subtle. For instance, Cram (1983) presents the construction with the noun 'Englishman'. My consultant prefers the cleft construction for the basic predication (i.e., a maximal/defining interpretation):

- (79) *'s e Sasannach a th' ann a Lachy.*
 cop.PRES 3SM Englishman WH_COMP be.PRES in.3SM Lachy
 'Lachy is English/an Englishman.'

She accepts the construction with *ann+pro*, but reports that it sounds like a response to something else, not just a statement of his nationality—as if to say “yeah, but he’s *English*”. This is precisely in line with my claim that *ann+pro* appears with characterizing predicates—the focus here is on *what* Lachy is, not on *who* he is.

- (80) *Tha Lachy 'na Shasannach.*
 be.PRES Lachy ANN.PRO.3S Englishman
 'Lachy is an *Englishman*.'

The *ann+pro* construction (and not the cleft construction) can also be used in a situation-descriptive sentence, as in the following situation: Lachy is was born and raised

in Scotland, but he has some English relatives, and likes to trot out his English accent at parties. In this case, (79) above would not be true, but one could say:

- (81) *Seall— tha Lachy 'na Shasannach an-dràsda.*
 look.IMP be.PRES Lachy ANN.PRO.3S Englishman now
 ‘Look—Lachy’s [being] English/doing his Englishman (impression) now.’

A final pair of rather subtle data points also demonstrate that the copular construction is used for defining/maximal interpretations, while *ann+pro* is used for characterizing ones. Here imagine that you are again at a party, and you notice that across the room, there is a man you don’t know looking into the throat of the host’s son, using a tongue depressor and penlight. Not knowing this man, you turn to the boy’s mother (who is standing next to you) and express concern. She reassures you:

- (82) *'s e dotair a th' ann.*
 COP.PRES3SM doctor WH_COMP be.PRES in.3S
 ‘He’s a doctor.’

She does not say:

- (83) *#Tha e 'na dhotair.*
 be.PRES 3SM ANN.PRO.3S doctor
 #‘He’s a doctor.’

This seems to be a clear case of a situation in which a characterizing predicate is not appropriate, but a defining one is—the boy’s mother is reassuring you by asserting that this man is a member of the class of doctors (Roy’s description of defining predicates), rather than by merely ascribing a property to him. In English, ‘be a doctor’ can be either type of predication, but it seems to me that something like *don’t worry, he practices medicine* or perhaps *don’t worry, he sees patients regularly* would have the same flavor as (83) above—it’s no less true, truth-conditionally, but there is the feeling of perhaps

flouting a Gricean maxim.

Another example of the difference between the cleft construction and *ann+pro* can be seen in examples with a locational modifier. With the basic sentence, either construction is acceptable. However, only the cleft construction can answer “Who is Alaig?”, while either can answer “What does Alaig do?”

- (84) a. *Cò Alaig?*
 who Alaig
 ‘Who is Alaig?’
- b. ✓ *'s e dotair a th' ann an Alaig ann an Glaschu.*
 cop.PRES 3SM doctor WH_COMP be.PRES in.3S Alec in Glasgow
 ‘Alaig is a doctor in Glasgow.’
- c. #*Tha Alaig 'na dhotair ann an Glaschu.*
 be.PRES Alaig ANN.PRO.3SM doctor in Glasgow
 ‘Alaig is a doctor in Glasgow.’
- (85) a. *Dè an obair a tha aig Alaig?*
 what the.SM work WH_COMP be.PRES at Alaig?
 ‘What work does Alaig have/what is Alaig’s job?’
- b. ✓ *'s e dotair a th' ann an Alaig ann an Glaschu.*
- c. ✓ *Tha Alaig 'na dhotair ann an Glaschu.*

The distinction becomes more clear in the following scenario: Alec grows up working as a carpenter with his father on the Isle of Skye, but then goes to university and gets his medical degree. As an adult, he now practices medicine in Glasgow, but when he goes home to Skye for the holidays, etc., he still does some carpentering for people. The version with *ann+pro* is used when describing this situation:

- (86) ✓*Tha Alaig 'na dhotair ann an Glaschu, ach tha e*
 be.PRES Alaig ANN.PRO.3SM doctor in Glasgow but be.PRES 3SM
na shaor anns an Eilean.
 ANN.PRO.3SM carpenter in.the Isle
 'Alec is a doctor in Glasgow but a carpenter on Skye.'

The version with the cleft, on the other hand, is far less acceptable.

- (87) #*'s e dotair a th' ann an Alaig ann an Glaschu,*
 cop.PRES 3SM doctor WH_COMP be.PRES in.3s Alec in Glasgow
ach 's e saor a th' ann anns an Eilean.
 but COP.PRES 3SM carpenter WH_COMP be.pres in.3SM in.the Isle
 #'Alaig is a doctor in Glasgow but a carpenter on Skye.'

Ann+pro is also infelicitous with predicates that are prototypically individual-level—
 or, here, defining—and thus difficult to get a characterizing reading for.

- (88) #*Tha e 'na chealgair.*
 be.PRES 3SM ANN.PRO.3SM cheater
 #'He is a cheater.'
- (89) #*Tha e 'na fhìrean.*
 be.PRES 3SM ANN.PRO.3SM righteous.person
 #'He is a righteous man.'
- (90) #*Tha e 'na ghealtair.*
 be.PRES 3SM ANN.PRO.3SM coward
 #'He is a coward.'

These data all support my claim that *ann+pro* is appearing consistently with non-defining, homogeneous predicates. It seems so far that the predicates are either nominal or verbal; I will argue that they are all nominal syntactically. If my claims (and Roy's, and Ramchand's, and Adger's) are correct about why *ann+pro* appears with NPs (namely, as a repair strategy), then we want to make sure it does not appear with adjectival or prepositional predicates. I show this in the next section.

4.3.3 Prohibition with adjectival and prepositional predicates

As we have seen, *ann+pro* occurs with what seem to be both nominal and verbal predicates, and that the resulting sentences are interpreted as characterizing or situation-descriptive rather than defining. However, adjectival predicates never appear with *ann+pro*, regardless of the intended interpretation:

- (91) **Tha Alaig 'na chòir.*
 be.PRES Alaig ANN.PRO.3SM kind/honorable/noble
 *['Intended: Alaig is honorable.]
- (92) **Tha Alaig 'na choibhneil.*
 be.PRES Alaig ANN.PRO.3SM kind
 *['Intended: Alaig is kind.]
- (93) **Tha e 'na còir an-diugh.*
 be.PRES 3SM ANN.PRO.3SM kind/honorable/noble today
 *['Intended: Alaig is being honorable today.]
- (94) **Tha Alaig 'na sgìth.*
 be.PRES Alaig ANN.PRO.3SM tired
 *['Intended: Alaig is tired.]

Nor is *ann+pro* allowed with PP predicates:

- (95) *Tha Lachy (*na) anns a' chùl.*
 be.PRES Lachy ANN.PRO.3SM in.the the.DAT.SM back
 'Lachy is in the back [e.g. of the house, store].'

The *ann+pro* construction, then, is limited to nominal complements—either nouns or “verbal noun” forms. This is to be expected, as I analyze *ann+pro* as a preposition, and prepositions take nominal complements. In my syntactic analysis, I cite Carnie’s (2011) treatment of verbal nouns in Irish and claim that the verbal noun forms in SG are similarly of “mixed category”; i.e., the verbal noun morphology can mark either tenseless verbs or nominals. Under *ann+pro*, then, they are nominal. *Ann+pro* is a repair strategy to

form nominal predicates because nominals do not bring an eventuality argument to be bound, so it appears with both nouns like ‘doctor’ and those like ‘(a) sitting’. In the next sections, I present my formal semantic and syntactic analyses of the occurrences of *ann+pro*.

4.4 Formal analysis of *ann+pro*

In this section I provide a formal analysis of the syntax and semantics of the construction *ann+pro*, including an explanation for the pronoun’s appearance. First, though, I present a very brief analysis of the imperfective particle *a’*. This is the particle that appears with the verbal noun forms of the ‘sit’/‘stand’/‘lie’ predicates in order to get a moving-into-position reading, as seen in section 4.3.1 above.

4.4.1 The particle *a’*

As mentioned in the introduction, Ramchand (1993) has an extensive analysis of the particle *a’* in SG. I generally follow her analysis, although my data lead me to a conclusion slightly different from hers. I discussed this previously in Reed (2011) (based on Reed (2009), so the data and analysis are drawn from that work. In essence, Ramchand argues from her data that while *a’* seems to be conveying more than just progressive aspect, it does not really participate in a Romance-like perfective/imperfective pair. What I claim here is that *a’* is best thought of as an imperfective particle. As there is no analytic present form for verbs (other than *bi* ‘be’) in SG, *a’* seems to take over several functions that such a form plays in English.

A’ is indeed the means by which progressive meaning is conveyed, as in (96); it is

also how present (and sometimes past and future) habitual meaning is conveyed (97):

- (96) *Tha Mòrag a' sgrìobhadh litir a-nis.*
 be.PRES Mòrag A' write.VN letter now
 'Mòrag is writing a letter now.'
 (Reed 2011, ex. 16)

- (97) *Tha Mòrag a' sgrìobhadh litrichean a h-uile latha.*
 be.PRES Mòrag A' write.VN letter.P every day
 'Mòrag writes letters every day.'
 (Reed 2011, ex. 24)

It also appears with stative predicates like 'believe', 'hear', and 'understand':

- (98) *Tha Mòrag a' creidsinn anns an fhirinn.*
 be.PRES Mòrag A' believe.VN in.the truth
 'Mòrag believes the truth.'
 (Reed 2011, ex. 18)

- (99) *Tha iad gar cluinntinn ach chan eil iad a' tuigsinn.*
 be.PRES 3P A'.1P hear.VN but not be.PRES.DEP 3P A' understand.VN
 'They hear us but they don't understand.'
 (Reed 2011, ex. 23)

Ramchand concluded from this kind of data that *a'* in SG clearly does not mark an English-like progressive, and I come to the same conclusion. Ramchand also notes that sentences with *a'* pass tests for imperfectives like compatibility with *in an hour* and *for how long*, and I replicate her findings in my data:

- (100) *Bha mi ag òl leann fad dà uair a thìde.*
 be.PAST 1S A' drink.VN beer for two hour.S time
 'I was drinking beer for two hours/I drank beer for two hours.'
 (Reed 2011, ex. 26, replicating Ramchand 1993, p. 53, ex. 12)

- (101) *Dè cho fada 's a bha thu ag òl leann?*
 what as long COP.PRESWH_COMP be.PAST 2S A' drink.VN beer
 'How long were you drinking beer for?'
 (Reed 2011, ex. 27, replicating Ramchand 1993, p. 54, ex. 13)

But she finds in her data that the simple past in SG patterns differently than the past in

French (or English), where the boundedness of the object affects the telicity of the predicate—so ‘Mary drank beer for an hour’ is fine, but ‘Mary drank the cup of tea for an hour’ is bad (or at least very highly marginal). Ramchand found that SG allows neither type of object with the simple past, but my data show a pattern parallel to French and English:

- (102) ✓*Dh’òl Màiri leann fad dà uair a thìde.*
 drink.PAST Mary beer for two hour.S time
 ‘Mary drank beer for two hours.’
 (Reed 2011, ex. 28, after Ramchand 1993, p. 54, ex. 14 (marked *))
- (103) **Dh’òl Màiri an cupa tè fad dà uair a thìde.*
 drink.past Mary the.SM cup tea for two hour.S time
 *‘Mary drank the cup of tea for two hours.’
 (Reed 2011, ex. 29)

Ramchand, based on her data, concludes that this particle is neither the marker of an English-like progressive, nor of a Romance-like imperfective. However, the data that suggest to her a difference from the Romance imperfective are not accepted by my consultant. For my consultant, at the very least, *a’* seems to be acting fairly straightforwardly as an imperfective marker. In an analysis like the one here proposed for the rest of the aspectual distinctions in SG, the imperfective would be an instantiation of the Asp head that binds an eventuality and says that RT is within ET:¹⁹

- (104) [ET [RT]]

¹⁹ The final moment of ET may better be characterized as being coextensive with the final moment of RT in many cases, e.g., *I was watching a movie when the power went off and the screen went dark*—here, you stop watching the movie (end of ET) when the power goes off (RT). However, it seems that this is not the only possibility; e.g., *I was running when the power went off at home, so I didn’t know what had happened until I got back to the house*—here, the ET (in which you are running) carries on past the RT. Demirdache and Uribe-Etxebarria’s various work characterizes progressives and imperfectives as conveying a relation of RT WITHIN ET, or possibly within/coincident with. Dowty (1979) says that the carrying on of ET past RT is an “invited inference”.

There is one more interesting contrast. I have been saying that *ann+pro* marks characterizing or situation descriptive nominal predicates, and that defining nominals get the copula *is*. However, there is one lexical item that appears with *ann+pro* that surprised us before, because of its seeming unrelatedness to the rest of the “verbs” that *ann+pro* appears with—namely, *ruith* ‘run’. Used with an animate subject, I showed that *ruith* can be used with either *a’* or *ann+pro*, but that if the action needed to be emphasized, *a’* had to be used, while *ann+pro* with *ruith* seemed to mean something like “on a run”. However, when we looked at data with inanimate subjects (51-52), we saw that *a’* marked, for instance, the typical flowing of a river, while *ann+pro* yielded a different interpretation (as if the river had overflowed its banks during a flood). In fact, it seems that this difference also applies to roads, as well:

- (105) *Thug sinn an rathad bho Port Rìgh gu Gleann Dail. Tha*
 take.PAST 1P the.SM road from Port Rìgh to Glendale be.PRES
e a’ ruith tro Dùn Bheagain’s stad sinn ann sin
 3SM A’ run.VN through Dunvegan and stop.PAST 1P in.3SM MED
airson dinnear.
 for dinner
 ‘We took the road from Port Rìgh to Glendale. It runs through Dunvegan and we stopped there for dinner.’

I claim that both with animate and with inanimate subjects, the contrast between *a’ ruith* and *ann+pro ruith* is describable in the same terms that we have been using up to this point. There seem to be three possible interpretations here—first, you have sentences describing situations (being on a run, a river flowing somewhere outside its usual path). Then you have a sentence describing an action (the action of a person running). And finally, you have the typical paths of a river and a road. The situation-descriptive

interpretations arise when *ruith* is under *ann+pro*, which fits with what we have been seeing with other predicates. The reading focusing on the action of running arises under the imperfective particle *a'*, as one might expect. But with the river and road, a problem arises. We want something like a defining sentence, but we don't want to equate the river or road with a run (as would result from use of the copular construction)—we want to say that it exists along a particular path. That is, we want to predicate a state of the river or road. In SG, as we have seen, stative predicates are formed in several ways; some use adjectival/prepositional predicates, but many use *a'* (see e.g. (98-100) above). This is what is happening in the path cases.

We have seen, then, that at least in my consultant's SG, *a'* is clearly marking imperfective aspect, and probably a very typical imperfective aspect. Furthermore, we now have a better understanding of the use of *ann+pro* and *a'* with *ruith*, which seemed less clearly connected to the other “verbal” predicates that take *ann+pro*. With this very short analysis of *a'* completed, I now move to the analyses of *ann+pro*.

4.4.2 *The syntax and semantics of ann+pro*

We now have all the tools we need to understand the syntactic and semantic story of *ann+pro*. This is really two interrelated stories: the syntax of how the pieces of this construction fit together, and the semantics of how the pieces involved (and not other pieces) get there in the first place. I outlined the analysis in section 4.1; here I go over important details as well.

We can start from the root and work our way up. There has been much discussion on the topics of lexical categories and roots. Marantz (1997), Borer (2005a, b), Baker

(2003), and Acquaviva (2009), just to name a few, have all proposed that at the very least lexical items are themselves acategorial; authors differ as to where and how this categorial information comes in. For instance, for Baker, category is a property of heads, while for Borer it is a property of phrases. I will assume here that there is indeed no actual syntactic category information attached to roots. However, I will also take it to be the case that roots are not completely void of meaning; rather, roots here will be assumed to contain at least some sort of conceptual atoms that lead to their being able to be used in certain ways and not others by speakers.²⁰ These atoms may well include semantic types.

What is easily noticeable once we are at the level of categories, however, is that roots inserted into P, A, and N/D material (if they can be predicates in a language) all end up as homogeneous descriptions of eventualities, while roots inserted into V material can end up as predicates that are either homogeneous to the moment level (e.g., statives) or not (e.g., activities, homogeneous to the interval level; achievements/accomplishments, heterogeneous). It also seems that some roots/lexical items cross-linguistically tend to be nouns, and some tend to be verbs, but that the lines are not in any way clear.²¹ Here I will assume that a root inserted into verbal syntactic structure gets a verbal interpretation, which can include heterogeneity (e.g., eventive verbs) or homogeneity (e.g., stative verbs); a root inserted into a nominal, adjectival, or prepositional syntactic structure gets

²⁰ I don't think that anything in this account actually hinges on this particular theoretical alignment, however. Regardless of how we do it, we eventually differentiate between lexical items, and the same effect will be achieved.

²¹ I am thinking along the lines of the following: roots with more heterogeneous meanings become verbal predicates, while less heterogeneous ones become other kinds of predicates. Then among those more homogeneous roots, descriptive roots tend to become adjectival predicates, predicative and equative roots tend to become nominal predicates (if possible), and locational roots tend to become prepositional predicates. Evidence for this in SG might be found in the stative "verbs" (in English) that are realized via adjectival or prepositional constructions (as in (65-67) above). This is obviously not precise enough to argue for cross-linguistically, but it is an interesting property of SG.

a nominal, adjectival, or prepositional interpretation, respectively, which can only be homogeneous.²² It is clear from data that test for eventiveness that PPs, NPs, and AdjPs are “stative” in this sense; this is the homogeneity I am referring to. So, for instance, Maienborn (2005) uses a test for eventiveness with “this happened while...” in German when looking at D-state verbs. Eventive VP predicates pass this test in SG, while stereotypical PP predicates and *ann*+pro predicates fail it:

- (106) a. EVENTIVE VERB
 ✓ *Rinn Scott bracaist. Thachair seo nuair abha mi na*
make.PAST Scott breakfast happen.PAST PROX when be.PAST 1S ANN
mo chadal.
 POSS.1S sleep.VN
 ✓ ‘Scott made breakfast. This happened when I was asleep.’
- b. PP
 # *Bha am babaidh air a’ bhòrd. Thachair seo*
 be.PAST the.SM baby on the.DAT.SM table happen.PAST PROX
fhad ’s a²³ bha mi muigh.
 while be.PAST 1S out
 # ‘The baby was on the table. This happened while I was out.’
- c. ANN+PRO
 # *Bha Màiri ’na cadal. Thachair seo fhad’s*
 be.PAST Màiri ANN.PRO.3SF sleep.VN happen.PAST PROX while
a bha mi muigh.
 WH_COMP be.PAST 1S out
 # ‘Màiri was sleeping/asleep. This happened while I was out.’
- d. # *Bha Iain ’na dhotair. Thachair seo nuair a*
 be.PAST Iain ANN.PRO.3SM doctor happen.PAST PROX when
bha mi ’nam chadal.
 be.PAST 1S ANN.PRO.3SM sleep.VN
 # ‘Iain was a doctor. This happened when I was asleep.’

²² This specification might come in at the head or the phrase level, I don’t make a commitment here.

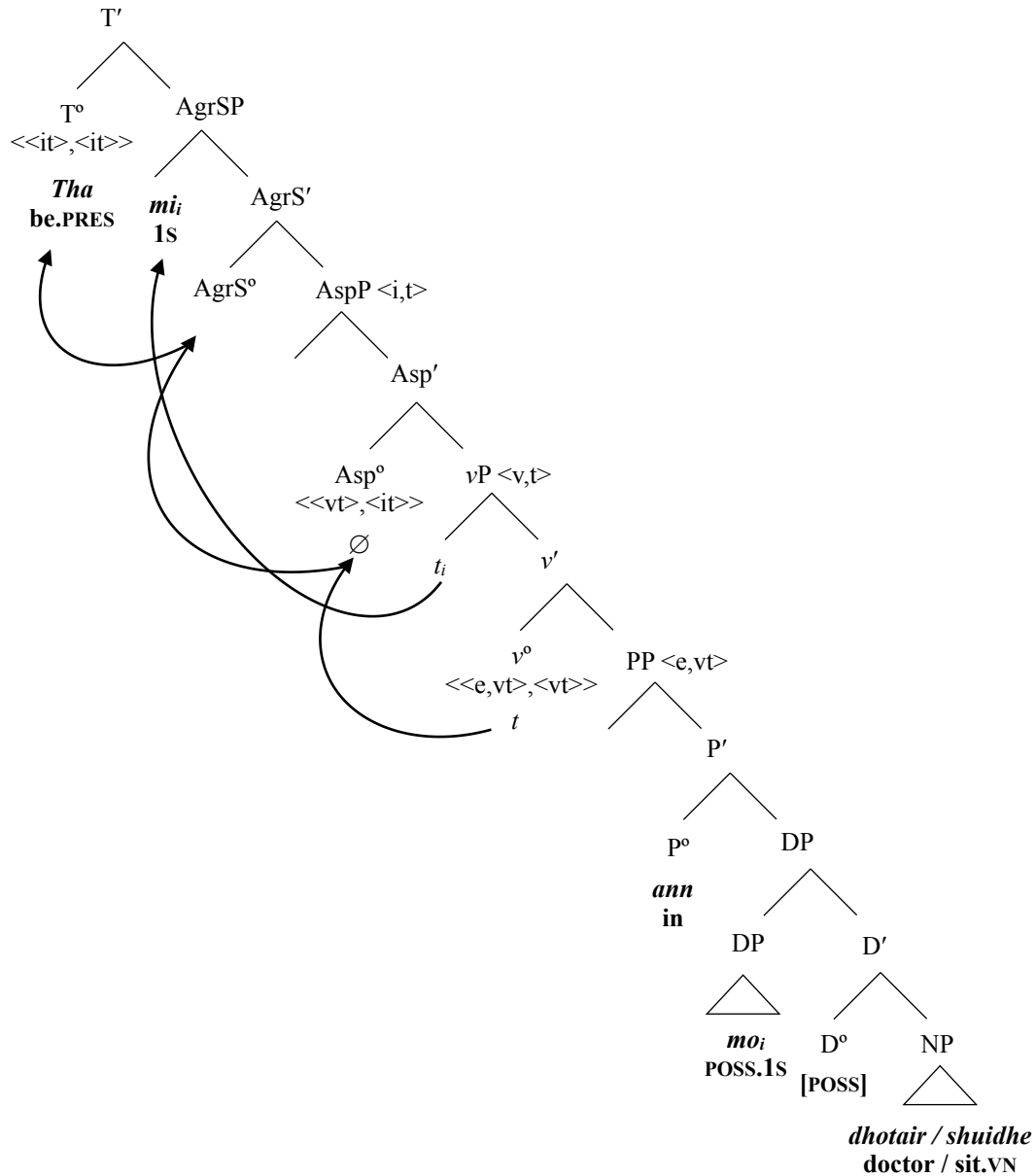
²³ *Fhad ’s a* is *fad agus a*, ‘duration and that’.

I take both VPs and PPs to be of type $\langle e, \langle vt \rangle \rangle$; v composes with this predicative phrase either way.²⁴ A VP like [hug John] entails the existence of an eventuality of hugging John; a PP like [in a bucket] entails the existence of an eventuality of being in a bucket. Sentences with the *ann*+pro construction are syntactically PPs, so the structure would be as in (107) for either a “noun” or “verbal noun” form (before fusion applies).²⁵

²⁴ As well as AdjPs. Since I am not much discussing adjectives here I will often not mention them, but I assume that they function the same way as PPs.

²⁵ We have seen that *'na* is derived from *ann a*. Operating within the Distributed Morphology framework, I assume that an operation of fusion would operate on the terminal nodes for the preposition and the pronoun, so that they are spelled out by the same morpheme.

(107)



In SG, then, predicates are formed in the following ways. I am assuming with Ramchand (1996) and Adger & Ramchand (2003) that verbal and prepositional structures introduce eventuality variables, while nominal structures do not. To form a verbal predicate in SG, the root is embedded under a VP, and an overt Asp will both bind the

eventuality and introduce a relation between reference and event time. To form a prepositional predicate, the root is embedded under a PP (adjectival predicate—under an AdjP); Asp is phonologically null and binds the eventuality but does not introduce a containment or precedence relation between RT and ET; instead, it equates the times (or perhaps coindexes them) so that there is a tense interpretation specified but no aspectual interpretation. (Of course, if there is another verb ‘be’, that will go under an overt Asp head, yielding sentences like *I have been in the house*, etc.). The null Asp head would have a denotation like that in (108):

$$(108) \llbracket \emptyset \rrbracket = \lambda P_{(vt)}. \lambda t_{(i)}. \exists e: [t = \tau(e) \ \& \ P(e)]$$

Then, to create a nominal predicate, the root is inserted in nominal (N) structure, but this structure does not introduce an eventuality, and thus a nominal predicate cannot result (Ramchand 1996, Adger & Ramchand 2003). This is resolved in one of two ways—the copula *is* can select for the (non-predicative) nominal structure, or else the verb *bi* can select for a prepositional predicate (details below). The copula *is* I take to be compatible with referential projections; if Roy (to appear) is correct, a maximal interpretation is achieved with *is* because there is further structure—among other things, a NumP whose head introduces a *max* operator to bind the eventuality variable (instead of Asp).²⁶ This matches the data with *is* in that there is no aspectual specification available in the sentences. In addition, as we have seen, sentences with the copula (which are mainly cleft constructions for my consultant) lead to maximal (defining) interpretations. The other strategy is for forming non-maximal predicates; the verb *bi* is used. However,

²⁶ Chung and McCloskey (1987) and Carnie (1995) also offer possibilities for why a similar phenomenon is found in Irish.

bi selects for predicates (Ramchand 1996), so nominals must be embedded under other structure before *bi* can select for them. SG uses embedding under a prepositional head (one of Roy's options) as a repair strategy. This kind of predication will yield either non-dense (characterizing) or dense (situation-descriptive) interpretations, as we have seen.

Turning to the “verbs” that appear with *ann+pro*, we have several questions: why (and how) are forms that seem verbal appearing under a prepositional phrase; why is it these roots and not others; and why do they get the interpretation that they do (i.e., the positional interpretation rather than the moving-into-position interpretation). I suggest that we again turn to a combination of acategorial roots, homogeneity, and nominal syntax. I propose that for this set of roots, there are two very natural and very different interpretations available, depending on whether the eventuality is taken to be homogeneous or heterogeneous (whether this dual meaning is in the root, or it is simply a cognitive fact that there are two ready interpretations, or what have you). So now we have a choice—if we embed such a root under verbal structure, it could in theory get either a heterogeneous or a homogeneous interpretation. In order to ensure a homogeneous interpretation, it needs to be a non-verbal predicate. Whether it gets inserted under adjectival or nominal material I assume depends on the language (note, for instance, that English uses adjectives for several of its “positional” variants of these roots—e.g., *asleep*, *awake*, *stretched out*, etc.). SG chooses nominal material, and this will lead to the desired homogeneous interpretation.

The question arises of why the “verbal noun” form appears in both the verbal and the nominal instantiations of the root. There is a long history of disagreement about the

category of the ‘verbal noun’ in both SG and Irish (see e.g. Borsley 1993, 1997; Guilfoyle 1990; Carnie 2005, 2011). I assume here that these forms are ambiguous between nominal and verbal forms, much like participial *-ing* forms in English, and that the morphology (*-amh*, *-adh*, etc.) can be the marker either of a tenseless verb, or of a nominalized form (see esp. Carnie 2011).

Now we have a root in nominal material, which of course leads to the same situation as with the (more prototypically nominal) roots—NPs cannot be predicates (at the very least, in SG). So now the same repair strategy occurs and we again have an NP being embedded under a PP. But we are still missing a piece—the possessive pronoun. There seem to be three questions here: why is there a pronoun at all, why is it subject-agreeing (recall that pronouns in this position with aspect particles are only ever object-agreeing, except for the case of obvious reflexives), and why is it genitive. I claim that the reason the pronoun is there (and subject-agreeing) is because there is need of an overt linker between the subject and the nominal. I take this to be parallel to reflexives like *crane one’s neck/hold one’s breath*, in which the coindexation with the subject is obligatory (**I held his breath*). The pronoun also distinguishes a proposition like *it is a desert* from one like *it is in a desert*:

- (109) a. *Tha e_k ’na_k fhàsach a-nis.*
 be.PRES 3SM ANN.PRO.3SM desert/wilderness now
 ‘It is a desert now.’
- b. *Tha e ann am fhàsach a-nis.*
 be.PRES 3SM in desert/wilderness now
 ‘It/he is in a desert now.’

So a pronoun is base-generated in [Spec, DP] and coindexed with the subject, and

genitive case (rather than accusative) is expected given its position.

The denotation for a sentence with *ann*+pro can now be given.

- (110) a. *Tha Iain 'na dhotair/sheasamh.*
 be.PRES Iain ANN.PRO.3SM doctor/sit.VN
 'Iain is a doctor/sitting.'

$$b. = \exists t': [t' = t_{\text{now}} \ \& \ \exists e: [\tau(e) = t' \ \& \ [[P \text{ doctor}](Iain)](e)]]$$

So we know why a prepositional embedding is required syntactically, but the question might be asked why the repair is done via prepositional (and not adjectival) means. Adger & Ramchand (2003) note that the fact that aspect heads are etymologically prepositions in the language suggests “the naturalness of this kind of diachronic reanalysis of preposition to event-structure functional head from a language-internal point of view” (p. 333 fn. 4). I would also suggest that prepositions have just the right amount and kind of lexical information to be reanalyzed in these ways—namely, fairly sparse semantics, but semantics which indicate position. Position can be interpreted in many ways, either metaphorically or more literally—for instance, as describing the relation between ET and RT (as mentioned in chapter 1). Then we might ask why the preposition *ann* ‘in’ is used, and not some other preposition. There are a number of well-developed theories of what *in* means in English and other languages (see e.g. the papers in Zelinsky-Wibbelt 1993; and Zwarts 1997, Zwarts & Winter 2000, a.o.). For my speculative purposes here, I will assume it conveys some notion of containment. It seems that *ann* ‘in’ is a very appropriate preposition to use when talking about states. Loosely, it seems representative of the concept of physical and/or cognitive embodiment; so for the “verbs” like ‘sit’, you are physically *in* a sitting position, for ‘sleep’ you are *in* a state of sleeping. For the

nouns, there is an interesting parallel with some English idioms about mental states with the construction *[subj] is in/out-poss.subj N* (i.e., the same basic pattern SG shows here).

I am thinking of idioms like the following:

(111) She is (not) in her/(**your/his/etc.*) right mind/in her element.

(112) She is out of her/(**your/his/etc.*) mind/head/gourd/depth/element.

Again we have the necessity of a subject-agreeing possessive pronoun, and we also have *in*. Obviously the constructions in the two languages are not entirely parallel, but it is interesting nonetheless.

The account presented here solves several issues with this construction. First, in a picture of the difference between the copular construction and this one that assumes the difference to be a question of stage-level vs. individual-level, predicates like ‘doctor’ have to be categorized as stage level along with predicates like ‘available’, which is not ideal since the two seem different in some way. In this account (after Roy) both are non-defining (non-maximal) predicates, but ‘doctor’ is (usually) “characterizing” while ‘available’ is (usually) “situation-descriptive”. Second, we have an account of why the “verbs” that participate in this construction, and not others, do so—these roots have two clear interpretations that hinge on whether the predicate is homogeneous or heterogeneous.²⁷ To ensure a homogeneous interpretation, these roots are embedded under nominal rather than verbal material. Third, we have an answer for why we see the subject-agreeing possessive pronoun. It is there and obligatorily agrees with the subject

²⁷ Placing this explanation in the root also allows for an explanation of why, for example, the verb *cónaí* ‘live’ in Irish participates in this construction, while *fuireach* ‘stay/wait/live’ in SG does not; and why *ruith* ‘run’ (*rith* in Irish) does, while it seems to fit less well (based on the English gloss) with the set of verbs.

for the same reason as in certain reflexives in English and SG: *I twisted his ankle* is fine, but **I held his breath* is out, due to the nature of what it means to hold breath in one's lungs (vs. twisting a joint, which is possible to do reflexively or to someone else):

- (113) *Tha mi a' cumail m'/(*d') anail.*
 be.PRES 1S A' hold.VN POSS.1S/POSS.2S breath
 'I'm holding my/*your breath.'
- (114) *Tha m' anail 'nam/(*'nad) uchd.*
 be.PRES POSS.1S breath ANN.PRO.1S/(*.2S) chest/lap
 'I am out of breath.'
 Lit.: 'My breath is in my/*your chest.'

This type of reflexive in both languages is differentiated from a more prototypically locational use of the preposition by this overt linking to the subject. So the pronoun is really the reflex of an Agree relation, and there is only one theta role present. This is supported by some slightly odd ungrammatical data with *a'* vs. *ann*+pro. First, the way to say 'I am sitting down [i.e., moving into a sitting position]' is in (115):

- (115) *Tha mi a' suidhe.*
 be.PRES 1S A' sit.VN
 'I am sitting down.'
 Lit.: 'I am at sitting.'

If *a'* is inflected to agree with the subject, the sentence becomes ungrammatical:²⁸

- (116) **Tha mi 'gam shuidhe.*
 be.PRES 1S A'.POSS.1S sit.VN
 *'I am sitting down.'
 Lit.: 'I am at my sitting.'

However, my consultant reported that if an interpretation were needed for the sentence, it

²⁸ The sentence is also ungrammatical if *a'* is inflected to agree with an intended object—that is, one cannot say 'I am at your sitting' to mean something like 'I'm sitting you down'. A similar meaning could be expressed with *cuir* 'put' (as to a small child):

i. *Tha mi gad chuir sios.*
 be.PRES 1S A'.POSS.2S put.VN down
 'I am putting you down.'

sounded like you were somehow outside yourself, picking yourself up and setting yourself on a chair—that is, the pronoun is interpreted as an object pronoun (something like “I am sitting me down”). The interpretation is of a transitive verb with two theta roles. With *ann+pro*, any agreement other than with the subject is ungrammatical:

- (117) **Tha mi 'nad/ 'na/ 'na/ 'nar/ 'nur/ 'nan s(h)uidhe.*
 be.PRES 1S ANN.PRO.2S/ 3SF/ 3SM/ 1P/ 2P/ 3P sit.VN
 Lit.: ‘I am in your/her/his/our/your/their sitting.’

In contrast to the situation with *a'*, this agreement cannot be interpreted as object agreement. There is no way to construe the sentence such that, for instance, there is some kind of other-worldly possession going on; my consultant reports that it simply sounds like you don’t know how to form your pronouns—it’s an agreement error. The fact that genitive case is assigned (i.e., that there is a possessive pronoun and not an object pronoun showing up) falls out from the position of the pronoun in the structure.

4.5 Conclusion

In this chapter I have provided an analysis of the construction *ann+pro* in its uses with both nominal and “verbal noun” forms. In the beginning of this chapter I said we were looking for the answers to several questions. I repeat them here with the answers I have presented. (1) What meaning does it contribute? *Ann+pro* is syntactically a preposition contributing fairly minimal lexical semantics, combined with a pronoun that is instantiating an Agree relationship with the subject. (2) Why does it appear where it does—with a small set of verbal nouns, and with nominal predication with *bi*—and not with other verbal nouns, adjectival predicates, or prepositional predicates? It is SG’s way

of forming nominal predicates that are non-defining/non-maximal. Roots inserted under N material get embedded under *ann*+pro when a characterizing or situation-descriptive reading is desired. This includes roots that typically become nouns, as well as a few roots that can easily become verbs as well—namely, verbs of bodily position or state. (3) Why does it occur with a subject-agreeing possessive pronoun? This pronoun links to the subject, as in certain bodily reflexives like *hold one's breath*. (4) What, if anything, do all the predicates it occurs with have in common, semantically and/or syntactically? All predicates formed with *ann*+pro are homogeneous and non-defining/non-maximal, and in all cases *ann* heads a prepositional phrase in which the lexical material is embedded (as an NP).

I leave for future work a few open questions, such as the exact semantics of *ann* 'in', a resolution to the question about perfective aspect with analytic verb forms, and where precisely in the syntax and semantics the homogeneity of PPs, AdjPs, and maybe NPs arises.

CHAPTER 5

CONCLUSION

Time forks perpetually towards innumerable futures.

–Jorge Luis Borges, “The Garden of Forking Paths”
Translated by Donald A. Yates

5.1 Summary

In this dissertation I have sought to answer two interrelated questions: what can our theories of aspect say about the data in SG, and how can those data inform our theories of aspect? Focusing on four particles in the language that seem to display aspectual semantics, we saw that three of them, *air* (perfect), *as dèidh* (restricted perfect) and *gu* (restricted prospective), also share a syntactic pattern, while *a’ dol do* (prospective) still acts syntactically as if it has *a’* (imperfective) functioning independently in it. I argued that overall there are four distinctions of *precedence* aspect in SG—i.e., aspects in which ET precedes RT or vice versa, rather than the two being in an inclusion relation. These were the two (retrospective) perfects, *air* and *as dèidh*, and the two prospectives, *gu* and *a’ dol do*. In each “direction”, there is an unrestricted and a restricted precedence aspect. I argued that the restricted versions place their limitation on the interval between ET and RT, an interval claimed by Iatridou, et al. (2001) to not have a “distinguished status” in the semantics of the perfect. I also investigated the extent to which perfects and prospectives display the same semantic phenomena, and proposed that many of the similarities could be explained by appealing to the precedence time relation and the

interval automatically created by that relation. Finally, I argued that another particle, *ann*, that at first seems to share characteristics with the aspectual particles, is in fact syntactically a preposition and contributes only sparse prepositional semantics. Instead, it is there for syntactic reasons, to “rescue” otherwise non-predicative material. Even in this case, though, the meaning of the preposition in general in the language does seem to correspond to the meaning in its (even) more functional/less lexical use.

5.2 Questions for future research

The data and analysis presented in this work point to a number of very interesting open questions, some relating to aspect and some relating to prepositions. Perhaps the most obvious remaining questions about aspect, both from a theoretical standpoint and from the perspective of SG, involve the perfective and the habitual. For theories of aspect in general, the perfective is fairly well understood, while many fundamental questions remain about the habitual. In the schema I have set up here, aspect sets up event and reference times in one of several precedence or inclusion relations. It is not clear to me how, if at all, habitual aspect could be included in either of these types of relation. Instead, we might need a separate kind of relation altogether. It seems that habitual might fit into a set of “repetition” relations, which could then also include aspects like iterative, frequentative, etc. It is also interesting that in a number of languages, habitual is expressed either via another morphosyntactic distinction of aspect (often imperfective), or as a phrasal aspect rather than with a separate functional morpheme (as past habitual is in English and SG—English *used to X*, SG *b'àbhaist do X* ‘was custom to X’). A

typological study of these phenomena would be very informative. If it is the case that certain aspects (say, “repetition” aspects) are less often grammaticalized as separate functional morphemes, we might ask why. We might also ask what we want our criteria to be for including a semantic distinction in the category of “aspect” (a question I have been pursuing here, in fact)—does grammatical aspect mean relation of ET to RT only? Or do we keep its broad definition of relating the “temporal constituency” of a proposition (Comrie’s 1976 wording)?

In SG, the semantics of the analytic verb forms is a logical next direction for study. As briefly mentioned, the analytic past forms in SG usually have a perfective reading, but they can also sometimes occur where English would use a perfect, and they might also be argued to be able to express habitual semantics (as the English simple past *He walked every day*). The analytic future form, as discussed in section 3.2.3, has both present and future habitual readings, as well as a ‘simple future’ or ‘future perfective’ reading. The multiple possibilities for conveying habitual semantics in SG is another potential direction for research—for instance, it is not yet clear to me whether the different ways of expressing a habitual actually convey slightly different meanings or not, and it is certainly not clear to me how a compositional semantics would work for these meanings.

We have also had a great deal of discussion about prepositions and their meanings, but I have not looked too deeply into their actual semantics. I mentioned in chapter 1 that the system for aspect proposed by Demirdache & Uribe-Etxebarria, in which aspects are spatiotemporal ordering predicates like WITHIN and BEFORE and AFTER, was supported by the SG data in that SG actually uses similar prepositions to mark its aspects (e.g. *as dèidh*

‘after’ for restricted perfect). However, there is not a one-to-one match. For instance, the regular perfect in SG is marked by *air* ‘on’, and the restricted perfect by *as dèidh* ‘after’. The other way around might make more sense, given the time relations involved. In the prospective direction, we see *gu* ‘to/until’ for restricted prospective, which might make sense, but we do not see *roimh* ‘before’ marking the unrestricted prospective (we get *a’ dol do* ‘going to’ instead). A study of the semantics of these prepositions in SG (throughout their various uses) would be very useful in helping to find answers to these questions.

Finally, it is interesting to note that the aspectual situation in SG is precisely what would be predicted by Coon’s (2010) hypothesis (building off of Demirdache & Uribe-Etxebarria 2000 and elsewhere) about perfective aspect—namely, that it is a “default” aspect that is cross-linguistically realized via non-periphrastic means precisely because there is no natural language preposition that describes the relationship between ET and RT found in the perfective (namely, RT outside of/surrounding ET). This is exactly the case in SG—the other aspects are realized by periphrastic constructions (all, with the exception of the regular prospective, with etymologically prepositional particles) while the perfective is realized synthetically. This may also be an interesting direction from which to approach the problem of the habitual—perhaps its behavior is seemingly so aberrant because it carries a fundamentally different kind of semantics from the other aspects.

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