Three Domains of Finiteness: A Minimalist Perspective

David Adger

1 Introduction

This paper[1] examines the role that the traditional notion of finiteness has played in analyses of clause structure and argument licensing in the development the Minimalist Program. I focus on three broad domains: the upper, middle and lower areas of clause structure which roughly correspond to the A-bar, A, and theta-positions of Government and Binding theory, and their corresponding heads, C, T and V. Following the general format of this volume, the initial sections are intended as a (selective) reading of recent work on this topic, and I use and extend the conclusions from this in the final section.

It is important, at the outset, to emphasize that there is no guarantee that the traditional notion of finiteness will find any place in a theory of language: it names a possibly open ended set of phenomena and may very well have no satisfactory definition (see Cristofaro, this volume, for a similar point in a very different framework). Within generative grammar, the question is not what finiteness is, but whether providing an insightful account of the phenomena requires such a notion in the first place. If it does, then there is no expectation that the notion will be unitary or that it will correspond in any deterministic way to the traditional idea. In this paper, I'll argue that there is a particular structural position which often hosts elements which have been traditionally categorized as marking finiteness; I'll further suggest that this position hosts a feature whose interpretation has to do with dependence on the speech event. Finally I'll argue that this same position may host information about tense and agreement which is essentially parasitic on information elsewhere in the clause, and this tense and agreement information impacts upon the kinds of subject that are licit in an embedded clause. In this way the notion of finiteness is deconstructed into antecedent notions that do have a definition within the theoretical system. The question is then to what extent these notions themselves are required,

and if so, whether their definitions are correct. These deeper questions, I will not tackle here.

2 Background concepts

Traditional grammatical categories such as tense, case, number etc. are usually conceptualized, within current approaches to generative grammar, as properties of lexical items (almost all of these approaches take the lexical item as the basic unit of syntax). Within the Principles and Parameters framework, and more specifically within the research programme which goes under the rubric of the Minimalist Programme (Chomsky 2000; Chomsky 2001; Chomsky 2004), lexical items are taken to be no more than sets of such properties. We will assume that these properties can be notated as feature–value pairs of the form [feature:value]. For example, we will assume that a first person singular pronoun in a language like English has something like the structure in (1):

(1) [person:1, number:sing, case: , ...]

Here we have **valued** person and number features, which contribute to the semantic interpretation of the item. Features which contribute to semantic interpretation are called **interpretable features**. We also have an **unvalued** case feature, notated [case:]. This case feature does not contribute to the interpretation, and is said to be **uninterpretable**. Such uninterpretable features receive a value during the course of the syntactic derivation by **matching** with another instance of the feature, and thereby receiving a value. Once valued, such features are removed from the syntactic representation (they **delete**)—see Chomsky (2001).

Lexical items can be fairly abstract, and need not correspond to the classical major categories of N, V, A and P. In fact, much of the syntactic 'work' in this framework is done by abstract lexical items called **functional categories**, which combine with projections of the lexical categories to create a fairly rich architecture above them. These functional categories host semantic information which is traditionally associated with the 'minor' categories of traditional grammar: tense, definiteness, aspect, number etc. The extent to which these minor categories are represented as features bundled in lexical items with other features, or, on the other hand, the extent to which they project independent syntactic structure, is an open question, and possibly an area of parametric variation.

A lexical item, then, will be affected by a syntactic derivation in a way that is determined by how its features interact with the features of other lexical items.

If, for example, (1) combines with a preposition bearing the valued case feature [case:acc], its own case feature will be valued as [case:acc]:[2]

(2) P[case:acc] ... [person:1, number:sing, case:] → P[case:acc] ... [person:1, number:sing, case:acc]

Neither case feature is interpretable, and so both delete from the syntactic representation, deletion marked here with a strikethrough, following Pesetsky and Torrego (2001):

(3) P[~~case~~:acc] [person:1, number:sing, ~~case~~:acc]

However, the case features can be accessed by the morphophonological component which will ensure that the output has the appropriate morphological case form (i.e, in English *me* rather than *I*). This same technology is intended to encompass all other syntactic dependencies.

Within such a framework a number of questions arise about finiteness. Firstly, is finiteness a feature? If so, is it an interpretable feature, and what is its interpretation? How does the finiteness property relate to other features such as tense and agreement (is it derivable from them, or does it enter into valuing-style dependencies with them?). Does finiteness project independently in clausal structure? If so, what is its distribution. What kind of a role does it play in the argument licensing dependencies of case and selection?

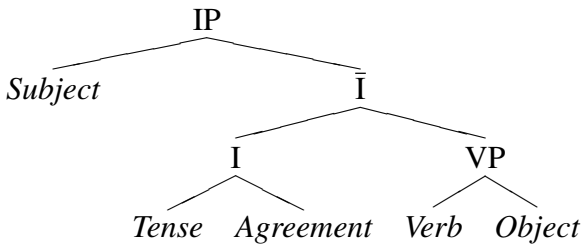
The rest of this paper addresses these questions, via an examination, synthesis and extension of recent work on these topics. Following Bianchi (2003), I'll suggest that there is a functional category which expresses whether certain aspects of the semantics of a clause are temporally anaphoric or not, and it does so by means of a feature, which we might call [finite:±], giving a semantic interpretation to this traditional idea. This functional category is responsible for manifestations of what we commonly think of as finiteness, as it may bear uninterpretable features of tense and agreement which are parasitic on specifications which arise elsewhere in the sentence. I'll argue that this functional category does project independently in a particular position in the clause, following Rizzi (1997), and will follow him in terming this category Fin. I combine these ideas with a suggestion of Landau (2004), that the relation of subject licensing and finiteness is one which ties together the possibility of independent temporal reference with the possibility of independent nominal reference.

It follows from this set of ideas that, although there is just one way to be finite (which is to be specified as [finite:+]), there is more than one way to be nonfinite.

The clause could have a Fin projection with the specification [finite:–]; alternatively, it could lack the Fin projection altogether: that is, the clause could be **truncated** below this position because of the properties of the selecting predicate (Rizzi 1994;Wurmbrand 2003). The clausal level at which truncation takes place leads to different kinds of nonfiniteness—nonfinite TP vs. nonfinite VP, for example. For both types of construction, the question of subject licensing arises. If the possibility of a referentially independent subject depends on independent temporal reference, how do languages license subjects in these domains? One familiar example comes from ECM constructions, which are truncated at T and where the licensing of the subject is clause-external. I provide new data from Scottish Gaelic where clauses are truncated at the VP layer, and the licensing of the subject has to be VP-internal, with concomitant effects on the temporal interpretation of the construction.

As discussed in the introduction to this volume, and in Kornfilt (this volume), generative grammar took traditional ideas of morphosyntactic finiteness and reified them as structures where finiteness is a property of an independently projecting functional category and is only secondarily realized on the verb itself. Although the idea has much earlier roots, since the late 70s, transformational grammar has assumed that the head of the clause is a syntactic element capable of bearing tense and agreement features. This syntactic element was originally termed INFL, later shortened to just I. Under the assumption that this element is the head of the clause, and the notion that syntactic phrases are endocentric, we are led to the following type of structure:

(4)



This approach allowed analysts at the time to treat finiteness as a general clausal property which is related to the richness of specification of tense and/or agreement properties on the clausal head I. The fact that these properties are morphologically manifested on verbal elements can be dealt with by the idea that certain verbs move to I (in English, just the topmost auxiliary, but in other languages also main verbs), or alternatively, that I lowers to the verb. A nonfinite clause would then be one

where, rather than Infl being specified for tense and agreement features, it is either unspecified or negatively specified for these features.

This treatment of finiteness as richness of specification of tense and agreement on a clausal head essentially deconstructs the notion of finiteness and renders the idea of a finiteness feature irrelevant. Unlike some other traditional grammatical properties which were reified as features, finiteness is, from this theoretical perspective, simply an epiphenomenon arising from the presence or absence of other features.

This approach allowed a fairly successful implementation of an important generalization about finite and nonfinite clauses in many languages: overt subjects with nominative case are restricted to finite clauses. In terms of the theoretical viewpoint just outlined, the relation between nominative case and finiteness is natural since the element bearing nominative case (the subject) is in a special structural relation (specifier) with the element bearing the features related to finiteness (I). However, a new question then arises as to whether nominative case is associated with a positive specification for tense features or for agreement features.

We can see the evidence for the nominative-finiteness correlation quite directly. The structure of finite clauses clearly shows that, when a clause bears tense and agreement information, a nominative subject is licensed:

(5) He leaves early every day.

However, in an infinitive, a nominative subject is impossible:[3]

(6) *I planned he to leave early every day

Theorists working within the Government and Binding framework captured this idea by something like the following (see Kornfilt, this volume, for discussion):

(7) I[tense:+, Agr:+] assigns nominative case to its specifier

This proposal now extends naturally to a potential challenge for the original generalization which is raised by languages like European Portuguese, where a nominative subject is, in fact, possible in an infinitive just when the infinitive is inflected for agreement (see Raposo 1987 for Portuguese and George and Kornfilt 1981 for similar data from Turkish inflected gerunds):

(8) É correto nós ignor-ar-mos isto.
Is right us.NOM ignore-INF-1.PL this
'It is right for us to ignore this.'

We can capture the data by assuming that universally the following holds:

(9) [Agr:+] assigns nominative case to its specifier

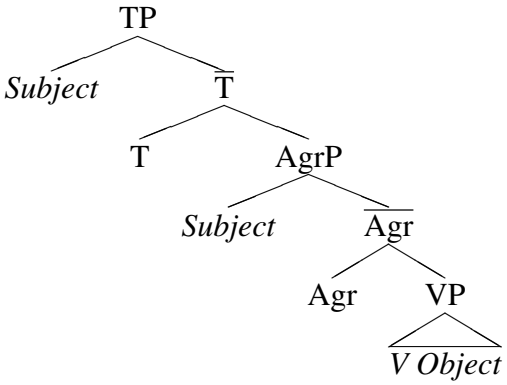
In addition we have the following parametric difference:

(10) [tense:–] implies [Agr:–]

(10) would be inactive in European Portuguese, Turkish, etc. but would constrain the featural composition of I in English, French etc.

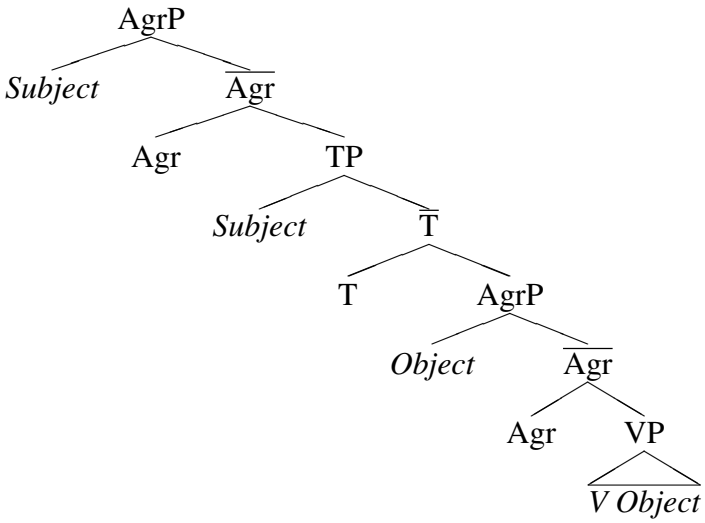
From the late 80s, a number of arguments appeared, most famously those in Pollock (1989), which pointed towards splitting up previously atomic syntactic categories into their constituent features and allowing these features themselves to project as heads (essentially an extension of the proposal that inflectional features on the verb were actually hosted by an independently projecting I node). Pollock's contribution was to argue that the constituent parts of I (tense and agreement) should themselves both be allowed to project as headed phrases, part of clause structure. His specific proposal was that the tense features project a head (let us term it T) which selects an AgrP. The basis of this suggestion was essentially that it provided extra positions which acted as landing sites for verb movement:

(11)



Belletti (1990), on the basis of pursuing a transparent relationship between the internal morphological structure of words, and the syntactic structure of clauses (the Mirror Principle of Baker 1988), suggested that AgrP selects TP rather than the structure in (11), while Chomsky (1989) suggested that there were two AgrPs, one below T, which is associated with object agreement, and one above, associated with subject agreement:

(12)



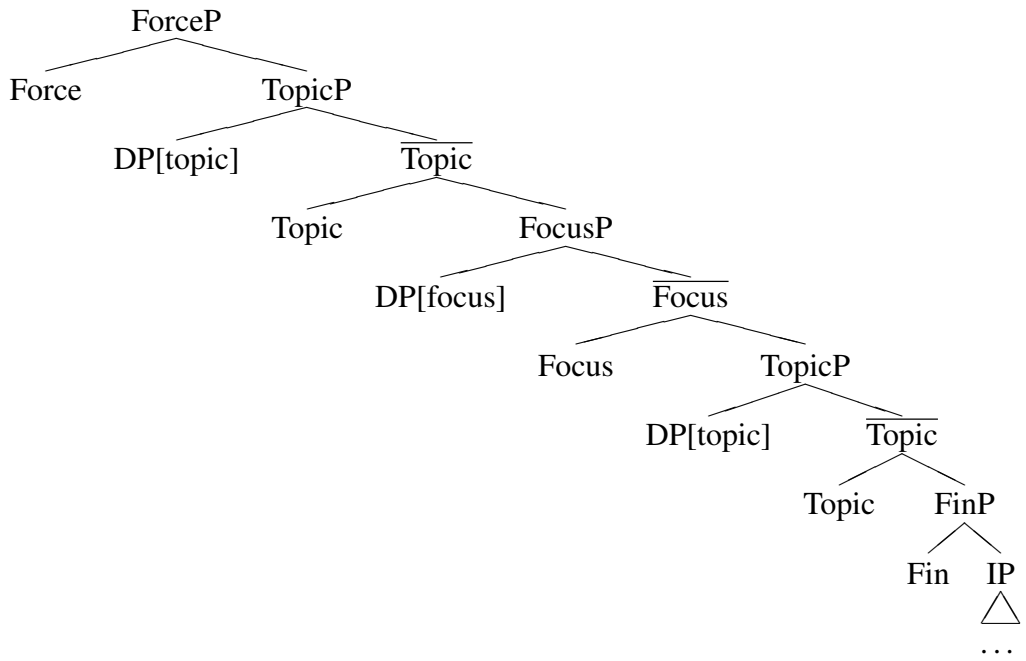
If we assume that a negative specification for tense is what is at the core of an infinitive, then the parametric difference between European Portuguese and other languages can now be thought of in two different ways: either as negative specification for Agr features when Agr is selected by T (in Pollock's system), or simply as truncation of the clause at the T level in infinitives (in Belletti or Chomsky's systems). We return later to the possibility that these two ways of creating a nonfinite clause (negative specification vs. truncation) are both realized in language.

So far we have looked at finiteness only within the IP layer of the clause. However, over the past decade or so, researchers working within the Minimalist programme have tended to think of the clause as consisting of three different domains: the IP domain, which is the primary locus of tense, agreement and case; the VP domain which is mainly concerned with relating arguments to the lexical properties of the verb (such as theta-role assignment, aspectual structure etc.); and the CP layer which is concerned with the 'edge' of the clause, where topic, focus, wh-movement and other (quasi)-quantificational notions are canonically expressed (see especially Rizzi 1997 and, for a good overview, Haegeman 1997).

3 Finiteness and the CP domain

Rizzi (1997) proposes that the CP domain of clause structure is configured in the following fashion:

(13)



The topmost projection, ForceP, is where features related to the semantic force of the clause (as an assertion, an order, a question etc.) reside. The lowest projection within this domain, FinP, is the one most closely related to the IP layer of clause structure, and it is the most relevant for us here. The head Fin encodes whether the clause is finite or not. For Rizzi, finiteness is to be understood as a more rudimentary specification for mood, tense and agreement than is found in the IP domain. Rizzi does not provide an independent semantics for the Fin head, endowing it with essentially formal (uninterpretable) features.

Of the remaining projections, Focus does not mark a property of the clause as a whole, but rather serves as a landing site for focalized phrases. The Topic projections, between which FocusP is sandwiched, host backgrounded or topicalized XPs.

If we accept Rizzi's proposals for the position of topics and focalized XPs, we then have an argument that the complementizers usually analysed as finite and non-finite in Italian are actually realizations of Force and Fin. Consider the following examples:

(14) Credo che, il tuo libro, loro lo apprezzerebero molto.
I.think that[+fin] the your book them it will.appreciate much

'I think that they will appreciate your book very much.'

(15) *Credo, il tuo libro, che loro lo apprezzerebero molto
I.think the your book that[+fin] them it will.appreciate much

Here we see that it is impossible to topicalize to a position to the left of the complementizer *che*, leaving a clitic within the lower domain, but it is possible to topicalize to its right. This contrasts with the behaviour of the nonfinite complementizer *di*:

(16) *Credo di, il tuo libro, apprezar-lo molto
I.think that[-fin] the your book appreciate-it much
'I think that they will appreciate your book very much.'

(17) Credo, il tuo libro, di apprezar-lo molto.
I.think the your book that[-fin] appreciate-it much
'I think that they will appreciate your book very much.'

In these examples, topicalization is impossible in the latter case. If *di* is in the same structural position as *che*, this is mysterious. However, if *di* is a realization of Fin, then we immediately rule out (16), since there is no topic position to the right of Fin, only one to the left:

(18) Credo [$_{ForceP}$ [$_{TopP}$ [$_{FinP}$ di [$_{TP}$ ...

There is an interesting contrast between these cases in Italian and topicalization in nonfinite clauses in English, which seems to be generally barred (Hooper and Thompson 1973; Haegeman 2004):

(19) a. I decided that, your book, we should all read first.
b. *I decided, your book, to read first

Emonds (2004) points out that the same effect holds for Negative Preposing:

(20) a. I promised that only until five would we work.
b. *We will propose only until five to work

One plausible analysis is that, since the higher verb selects a nonfinite verb form in this case, it selects Fin directly. This would capture the idea that infinitival clauses, which require special selection, are structurally reduced (as first proposed in this context by Hooper and Thompson 1973):[4]

(21) ... propose [$_{FinP}$ [$_{T}$ to work ...

What of *for* in English? This complementizer rejects topics completely:

(22) a. *I propose, these books, for John to read
b. *I propose for, these books, John to read

Our explanation can be directly extended to this case. The (b) example is ruled out on the assumption that *for* is Fin. If Fin is selected directly by the higher clause, then, once again, no topic projection can intervene.[5]

This explanation also extends to the fact that topicalization in Italian is degraded in raising infinitivals, in contrast to the control cases we saw above. Rizzi gives:

(23) *?Gianni sembra, il tuo libro, conoscer-lo bene
Gianni seems, the your book, know-it well
'Gianni seems to know your book well.'

In this case the higher predicate directly selects IP, so there is no CP domain, no nonfinite C, and no position for a fronted topic. The data seem to be replicated with raising predicates in English:

(24) *John seems, your book, to like best

This argument, then, suggests that the CP layer above Fin can be truncated. The question that still needs to be answered is why (17) is grammatical in Italian. We return to this directly below.

There is further evidence from Welsh for a split between the Force and Fin heads in CP. Tallerman (1996) provides examples where a topicalized XP is sandwiched between two complementizer like elements (marked in bold here), and she treats these as examples of CP recursion (see also Rouveret 1994; following Tallerman I have glossed the particle that occurs after the topic simply as PRT):

(25) a. Dywedais i **mai** ['r dynion **a** fuasai'n gwerthu'r ci]
Said I MAI the men PRT would-Asp sell-the dog
'I said that it's the men who would sell the dog.'
b. **Ai** [ceffyl **a** fuasai hi'n gwerthu]
AI horse PRT would she-Asp sell
'Is it the horse that she'd sell?'
c. **Nid** [y dyn **a** ddaeth]
NEG the man PRT came
'It wasn't the man who came.'

Roberts (2001) reanalyses these examples as having the higher particle being Force, followed by a Topic, with the lower element (*a*) being Fin.

We have now seen some evidence for a specialized position in clause structure in the C domain which hosts a head which marks nonfiniteness (e.g. *di* in Italian, *for* in English). There also appears to be a case where we see both Force and Fin projections realized at the same time in Welsh. The obvious follow-on question is what features characterize the Fin head.

Looking first at English, the embedding complementizers *that* and *for* mark whether the IP domain is tensed, or non-tensed:

(26) a. I said that he was ungrateful.
b. *I said that he to be ungrateful

(27) a. I asked for him to be there.
b. *I asked for he was there

This seems to be the most rudimentary finiteness distinction made in the C-system: [tense:+] or [tense:-]. Interestingly, the semantic interpretation of the non-tensed cases is, in some sense, modal. For example, Stowell (1982) argues that certain infinitives express an 'unrealized future', accounting for the contrast below:

(28) a. I remembered today that I locked the door yesterday.
b. *I remembered today to lock the door yesterday
c. I remembered today locking the door yesterday.

The (b) example here is ruled out as the infinitive expresses an unrealized future which is incompatible with the adverbial. One might adopt the idea that the interpretation of some feature on Fin is some kind of modal anchoring to the higher tense so that the event of locking is understood to be future with respect to the event of remembering. This would allow us to associate an interpretation with the Fin head for which we have so far just given positional argumentation.

In fact such an interpretation has been proposed for Fin by Bianchi (2003). Bianchi argues that the meaning of finiteness relates to the way that both the tense and the logophoric center of the clause are identified. The logophoric center of the clause is to be understood as involving the relation between the speaker and the subject of the clause (so that, for example, whether the subject is first, second or third person specifically depends on whether the referent is identical to the speaker, addressed by the speaker, or neither). Bianchi suggests that in nonfinite clauses the identification of the temporal and logophoric centers of the clause must be determined anaphorically (that is, via the temporal and logophoric centers of another

clause). In the finite case, they can be independently specified. The specific idea is that Fin, which syntactically identifies this area of clause structure, is semantically interpreted as introducing a variable for the speech event which is identified deictically (finite) or anaphorically (nonfinite). Bianchi ties in this idea to the licensing of nominative case, which for her depends on the person features which provide the logophoric center in Fin.

If Bianchi is right, we can conclude that Fin contains an interpretable feature which we can call [finite:±] and which provides these meanings, in much the same way that T bears an interpretable feature that marks semantic tense. We can then ask the question of whether Fin bears other (perhaps uninterpretable) features.

Evidence that it does comes from languages which seem to express more than a simple tensed/non-tensed distinction in C. Cottell (1995) argues that, in Irish, richer temporal information than just finiteness can be expressed in the C-domain. She gives the following examples:

(29) Deir sé go dtógfaidh sé an peann.
say.PRS he that take.FUT he the pen
'He says that he will take the pen.'

(30) Deir sé gur thóg sé an peann.
say.PRS he that.PST take.PST he the pen
'He says that he took the pen.'

Here we see that the verb inflects for future versus past, and we can also see that the complementizer marks for past or non-past. This distinction can be seen across a whole range of complementizer-like elements in the language, including relative particles, negative complementizers and complementizers signaling temporal relations like *sula*/*sular*, 'before':

(31) Rith leat sula bhfeicfear tú.
run with-you before see.PASS you
'Run along before you are seen.'

(32) D'éag sé sular thánig an sagart.
die.PST he before-PST come.PST the priest
'He died before the priest came.'

What we seem to have here is a tense feature on the complementizer, which, interestingly, still marks a more rudimentary distinction than that seen on the finite verb: rather than past, present and future, we simply have a past/non-past distinction. The

feature on C is dependent on the interpretable tense feature hosted by T.

There is good evidence that the tensed complementizers in Irish are actually lower than one might expect. McCloskey (1996) provides the following kind of example:

(33) Deiridís [an chéad Nollaig eile [go dtiocfadh sé aníos]]
they.would.say the first Christmas other that would.come he up
'They used to say that next Christmas he would come up.'

Note the difference between the English translation and the structure of the Irish sentence. In English the adverbial *next Christmas* appears after the complementizer *that*, while in Irish the corresponding adverbial appears before the complementizer. McCloskey argues, on the basis of the assumption that adjunction to a CP argument is impossible (Chomsky 1986a), that the adverb in Irish is actually adjoined lower than the outermost layer of CP, and that the complementizer subsequently lowers. As pointed out by Ian Roberts (Roberts 2001) this can be elegantly updated in Rizzi's system by assuming that the complementizer here is in Fin, rather than Force. Putting this together with Cottell's suggestion of tense features on the complementizer, we see, once again, the expression of some tense related feature on Fin.

Tense is not the only I-system feature that has been argued to appear on Fin. It has long been observed that agreement features also appear on C (Bayer 1983–84). The following examples are from West Flemish Haegeman (1992):

(34) a. dan-k (ik) goan
that-1.SG (I) go
'that I go'
b. da-se (zie) goat
that-3.SG.F (she) goes
'that she goes'
c. dan-ze (zunder) goan
that-3.PL (they) go
'that they go'

Haegeman (2004) suggests that the existence of these φ-features on Fin provides the answer to the question we left open above: why is topicalization possible in Italian control structures while it is not in English control structures? Note that the kind of topicalization involved in Italian requires a clitic element which doubles the features of the argument. Moreover, this clitic appears as part of the I-system

(highlighted here in bold):

(35) Credo **il tuo libro** di apprezar-**lo** molto.
I.think the your book that[-fin] appreciate-it much
'I think that they will appreciate your book very much.'

Since features of the I system can be replicated on Fin, the features of this clitic can appear on Fin. Haegeman tentatively proposes that the topicalized element is licensed by being in a relation with these features. In contrast, Topicalization in English does not involve a clitic, and so no copying of features to Fin is possible, hence topicalization in control clauses is ungrammatical.

Finally, let us turn to how to capture the relationship between the featural specification of Fin and that of the I domain. Assuming that the interpretation of the Fin head is as discussed above, we can capture the (cross-linguistically variable) duplication of I-system features on Fin by endowing it with unvalued tense and agreement features:

(36) Fin[Tense: , Agr: , finite:$\pm$]

When Fin Merges with the highest element in the I domain, its unvalued features Agree with the features of the lower heads, and are valued. They do not contribute to the interpretation, but they allow particularized morphological expression of the features of the I-domain on C.

What we have seen in this section is evidence for a functional category in a position in the highest layer of clause structure which is associated with a particular kind of semantic force (essentially whether it links anaphorically or deictically to the speech event). In some languages this functional category may also bear features which derive from elsewhere in the clause (specifically, tense and agreement features). I also argued, on the basis of possibilities for topicalization, that clauses could be truncated when the higher predicate selects Fin directly. In the next section we will explore what happens when Fin itself is absent.

4 Finiteness and subject licensing in TP

We have just seen that there is a relationship between the Fin head and the agreement features which appear in the T domain. This brings us back to the generalization, briefly discussed in Section 2, that nominative case licensing for the subject seems to depend on finiteness, however construed. In nonfinite clauses, the subject apparently cannot receive nominative case, and may, in fact, be null. We saw how

this had been attributed to the nominative case assigning properties of Agr. In this section we will explore how this idea has been updated to deal with the concerns of the minimalist programme, and how its relevance to null subjects in infinitives has been challenged.

Before we address examples with null subjects, let us briefly consider how case checking of the subject works in finite clauses.

4.1 Case licensing and finite T

In Section 2, we proposed that nominative case was checked by agreement features. Early versions of minimalism adopted this idea, endowing Agr heads with both uninterpretable agreement features (to be checked with the interpretable agreement features on argument DPs) and with valued uninterpretable case features. The latter check with uninterpretable case features on the DP. Updating this slightly, we have a derivation like the following:

(37) a. Agr[agr: ,case:nom] ... DP[agr:3pl, case:] →
b. Agr[~~agr~~:3pl,~~case~~:nom] ... DP[agr:3pl, ~~case~~:nom]

The Agr features on the Agr head are checked and deleted (since they are semantically uninterpretable), as are all the case features. These features, however, are interpreted by the morphology, and may then determine the particular morphological form of the morphemes once they are spelled out.

4.2 Licensing subjects in infinitives

Within Government and Binding theory (see, e.g., Chomsky 1981; Chomsky 1986b), the null subject of certain nonfinite clauses is termed PRO. The distribution of PRO is restricted to nonfinite clauses by a constraint known as the PRO-theorem, which requires PRO to be ungoverned. The only syntactic position where arguments can appear and which is ungoverned is the subject position of nonfinite clauses, hence we rule out examples where PRO is the subject of a finite clause:

(38) *Zelda believed PRO was unhappy

Moreover, since Case is assigned under government in this theory, and since the subject position of infinitives is ungoverned, overt case marked DPs cannot appear as the subject of an infinitive (unless there is some other governor):

(39) *Zelda tried her to be happy

However, the theory of Case in later GB tied case marking to theta-role assignment using the notion of **visibility**: a DP is only visible for theta-role assignment if it is case marked. This notion of visibility played an important explanatory role in the theory (see Chomsky 1986b), but is clearly incompatible with the theory of PRO just outlined: PRO is an argument, and so must receive Case to be visible for theta-role assignment. However, PRO's distribution precisely depends on it being ungoverned, and hence, unmarked for Case (see Martin 2001 for discussion).

Moreover, the notion of government in the Minimalist programme is, as Chomsky (1993) pointed out, problematic. It is an extra concept defined over and above the basic phrase structural relations of specifier and complement.

Chomsky and Lasnik (1993) solve these problems by the suggestion that the element in the subject position of nonfinite T could indeed be assigned case, but the particular case assigned had the property of realising the case marked DP as null (that is, as PRO). Chosmky and Lasnik term this case **null case**.

Of course, as pointed out by Watanabe (1993) and by Martin (2001), this theory now predicts that all infinitives will allow PRO and that overt DPs will never be allowed in an infinitive. This is clearly incorrect. (40) is an example of a so-called raising infinitive, while (41) is the construction usually termed an ECM-infinitive:

(40) *It seems to Naomi PRO to be happy

(41) Naomi believes Zelda to have eloped.

In (40) we have a nonfinite clause with a PRO subject, but the sentence is ungrammatical; in (41) we have a nonfinite clause with an overt subject. Martin (2001) proposes to solve this problem by the idea that T in raising clauses (40) cannot check any case, while null case is checked in control clauses. On the assumption that PRO is endowed with null case lexically, this case will never be checked in an example like (40), but it will be in cases like (42) (so-called control infinitives):

(42) Naomi tried PRO to be happy.

Martin bases this distinction on the fact, noted by Stowell (1982), that raising and control infinitivals appear to have a different kind of specification for tense. Matrin proposes that T in control infinitivals is [tense:+] and that this can check null case on PRO in (42). Exceptional Case Marking examples like (41) can then be dealt with by assuming that verbs like *believe* can directly select TP rather than CP and that the accusative case of the subject is then derived by movement to a higher position (Martin's suggestion, following Lasnik and Saito 1992), or via Agree (see, e.g. Adger 2003).

Note that this discussion is predicated on the idea that T (or perhaps C) bears a valued case feature ([case:null]). However, this proposal turns out to be empirically problematic and well as conceptually weak—null case clearly has no interface motivation. As has been known for some time, languages with case concord show that PRO bears case (see Sigurðsson 1996):

(43) Strákarnir vonast til að PRO vanta ekki alla í skólann
boys.NOM.DEF hope for PRO to.lack not all in school
'The boys hope not to all be absent from school.'

In this example, the floating quantifier *alla*, 'all', agrees in case with the subject of the clause, as is usual for such quantifiers. However, the subject is non-overt PRO. Note that PRO does not bear the same case as its controller (the boys, which is nominative), so this cannot be a situation involving case transmission of some kind. The only non-stipulative explanation for accusative case on the quantifier is that PRO bears accusative case and the quantifier agrees with it. Similar examples have been found in Russian, Hungarian and Greek (see Landau 2004 for examples and references). This kind of data strongly suggest that a null case approach to the distribution of PRO is incorrect.

Landau (2004) proposes an alternative that is worth exploring. He derives the licensing of PRO vs. overt NPs in embedded finite and nonfinite clauses from the interaction of semantically interpretable features on the NP and on the clausal heads. His main suggestion is that, if the clausal heads C or T bear positive specifications for tense and agreement features (which he notates as [T] and [Agr]), then they become instantiated with an uninterpretable feature [R], which needs to be checked by an interpretable [R] feature on an NP. The function of this feature is to mark an NP as independently referential [R:+] or obligatorily anaphoric [R:–]. Following an old insight of Borer (1989), PRO is taken to be a sort of anaphor, and is hence [R:–].

With this in place, and simplifying considerably, the following analysis is possible: finite clauses contain an inflectional head (I) with a positive specification for the T and Agr features. It follows that this head is endowed with the uninterpretable feature [R:+] which has to be checked by an interpretable feature [R:+]. This forces an independently referential subject to appear, and rules out PRO (which would have an [R:–] feature).

(44) a. *Anson said that PRO left
b. Anson said that *I[T:+, Agr:+, R:+] PRO[R:–]

A control clause, on the other hand, has a specification for a C bearing uninterpretable [T:–] (this derives from the requirements of the selecting predicate). This must check with an interpretable [T:–] on I, and it follows that I will bear an uninterpretable [R:–]. From this, it follows that only PRO is possible as a subject.

(45) a. Anson would prefer PRO to leave.
b. Anson would prefer C[T:–] I[T:–, Agr:–, R:–] PRO[R:–]

In a raising or ECM infinitive, there is no C layer. Landau argues on the basis of the semantics of these clauses that they do contain a positive specification for T, but that they lack Agr. It follows that there is no uninterpretable [R] feature to be checked at all, so an overt subject is possible in an ECM clause.

(46) a. Anson believed [Jill to be a producer]
b. Anson believed I[T:+] Jill[R:+] ...

Whether this overt subject remains in situ or raises depends upon the case marking potential of the higher verb: if the verb assigns accusative, then an ECM structure will result, as above, if it lacks accusative, then a raising structure will be generated:

(47) a. Jill seems [*t* to be a producer]
b. Jill[R:+] seems I[T:+] *t* ...

Landau's system also extends to control into subjunctives in a range of different languages in a way that is not directly relevant here. What is important for us is the fact that the system is consistent with the conclusions we have come to so far: we can take Landau's C to be Fin, and we have already motivated the idea that Fin can contain uninterpretable tense and agreement features. The notion that the tense feature on Fin is a simple binary [T] feature captures the reduced temporal distinctions that can be made at this position in the clause. The crucial intuition about subject licensing is that the anaphoric nature of the subject (whether it is PRO or not) does not depend on the interpretable feature [finite:$\pm$] on Fin, but rather on the interplay of interpretable and uninterpretable features of tense, agreement and referentiality. Unlike in earlier approaches, finiteness is not necessarily reduced to just tense and agreement, but just tense and agreement are relevant for the licensing of different kinds of subjects. Which features are available for licensing subjects depends on the presence of the Fin head, and the specifications of the I head. If the Fin head is absent, then what matters is just the specification of I. In the next section we will explore what happens when we truncate the clause lower than I, and we will see that the mechanisms for argument licensing in this kind of nonfinite domain are

just the same: the presence of both T and Agr is required.

5 Finiteness and subject licensing in the absence of T

We have seen that tense and agreement features appear on Fin and on T. These features seem to be implicated in the selection of the clause and in the licensing of the subject. Landau's system ties down the possibility of having a referential subject to the presence of both tense and agreement features. In this section I'll present some new data from Scottish Gaelic, a language which lacks infinitives. I'll argue that the distribution of overt and PRO subjects in this language provides some further motivation for Landau's approach to subject licensing.[6]

5.1 Finite and nonfinite clauses in Scottish Gaelic

Finite clauses in Scottish Gaelic are VSO in structure. This order is usually assumed to derive from an underlying SVO order, with raising of the verb to some functional position above the position of the subject—we'll assume to T (See McCloskey 1996 and references therein for Irish, and Adger 1994 for Scottish Gaelic):

(48) Bhuail$_j$ mi t$_j$ an cat
strike.PST I the cat
'I struck the cat.' (SG)

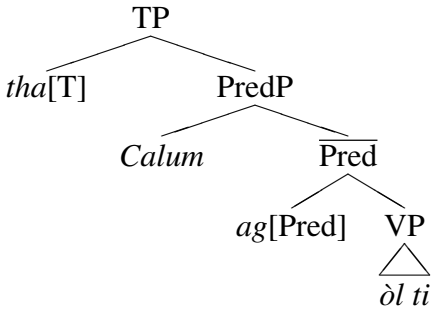
Finite tense can also be marked by the auxiliary *bith*, 'be', which appears in its suppletive present form in the next example (se below for the VN gloss of verbal nouns in Gaelic):

(49) Tha Calum ag òl an ti.
be.PRS Calum PROG drink.VN the tea
'Calum is drinking the tea.' (SG)

Following Adger and Ramchand (2003), I'll assume that in such examples the auxiliary is in T; that is, it bears a categorial T feature and is Merged in this position to satisfy the requirement that the T projection in clausal structure be instantiated. I'll also adopt their position that the subject is introduced by a predicative head, Pred, which can be null, but here marks for aspect (roughly, but not quite, progressive). See also Bowers (1993) and Svenonius (1994). This gives us the following structure, with T selecting a PredP with an internal subject (this is parallel to the standard

VP-internal subject structures motivated by Koopman and Sportiche (1991) among many others):

(50)



The nonfinite form of the verb here consists just of the **verbal noun** (VN), a nominalized verb form.

Subordinate clause types come in a variety of forms. Focussing our attention on argument clauses, finite subordinate clauses are obligatorily headed by a complementizer, which triggers a particular morphological form (the dependent form) of the finite verb, marked in the example below with the past dependent particle *do*:

(51) Thuirt mi gun do bhuail mi an cat.
Say.PST I that strike.PST I the cat
'I said that I struck the cat'

(52) Dh'fhaighnich mi an do bhuail thu an cat.
Ask.PST I if strike.PST you the cat
'I asked if you struck the cat.'

There is just one major type of nonfinite subordinate argument clause, which is headed by the verbal noun. At its simplest, this clause consists just of the verbal noun:

(53) a. Tha mi airson ithe.
Be .PRS I for eat.VN
'I want to eat.'

b. Dh'fheuch sinn ri coiseachd.
Try.PST we to walk.VN
'We tried to walk.'

c. 'S fhearr do dh'Anna seinn.
Is better to Anna sing.VN

'Anna prefers to sing.'

d. Bu toigh leum falbh.
be.COND liking with-me leave.VN
'I'd like to leave.'

e. Dh'iarr e orm leumnaich.
Ask.PST he on-me jump.VN
'He asked me to jump.'

A wide range of structures take these verbal nouns as complements. The examples in (b) and (e) show cases where finite verbs have a VN complement (the verb having raised to T). The (c) and (d) examples show adjectival and nominal heads, respectively, taking VN complements; we assume that these too are dissociated from their VN argument by some movement process. The (a) example shows a preposition taking a VN complement.

The examples above are all interpreted in the following way: one of the DPs in the higher clause is interpreted as the 'subject' of the VN, giving a classic case of a control structure.

If the verbal noun is transitive, then the object appears in a position preceding the verbal noun and the verbal noun itself is prefixed with a particle, glossed here as just PRT; we will see immediately below that this particle can inflect for agreement features.

(54) a. Tha mi airson cèic agus aran ithe.
Be.PRS I for cake and bread eat.VN
'I want to eat cake and bread.'

b. 'S fhearr do dh'Anna òran Gàidhlig a sheinn.
Is better to Anna song Gaelic PRT sing.VN
'Anna prefers to sing a Gaelic song.'

Adger (1996) argues that these structures involve movement from a post VN position into the specifier of an Agr head, which is realized by the particle *a* in (54) (b). The arguments for this analysis come from the behaviour of pronominal objects with emphatic particles in these constructions. Emphatic particles usually attach directly to a pronoun, as in (55):

(55) Bhuail mi iad-fhèin.
Strike.PST I them-EMPH
'I struck THEM.'

If we examine the behaviour of pronominal objects in VN constructions, we see that the particle which precedes the VN inflects for person, number and gender features. The full pronoun itself does not appear, rather we have a null pronoun occurring with rich agreement:

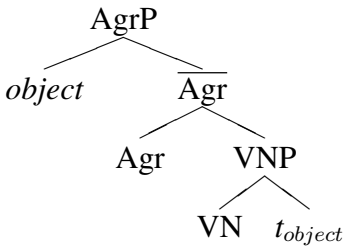
(56) ‘S fhearr do dh’Anna an seinn.
Is better to Anna PRT.3.PL sing.VN
‘Anna prefers to sing them.’

If we combine these two constructions, we find the following:

(57) ‘S fhearr do dh’Anna an seinn-fhèin.
Is better to Anna PRT.3.PL sing-EMPH
‘Anna prefers to sing THEM.’

Here, the emphatic particle is stranded in a position to the right of the VN. This gives us evidence that the base position for the object is to the right of the VN, and that argument DPs (and perhaps pronominals) move from there to a leftwards position. More concretely, we have the following structure:

(58)



Full nominal arguments, as opposed to pronouns, trigger a default particle, with no agreement:

(59) ‘S fhearr do dh’Anna òrain Gàidhlig a/*an sheinn
Is better to Anna song.PL Gaelic PRT.3.SG.M/*PRT-3.PL sing
‘Anna prefers to sing Gaelic songs.’

The different behaviour of pronouns and full DPs is a well known characteristic of the Celtic languages (see Adger 2000 for Gaelic and Hale and McCloskey 1984 for Irish)—descriptively, rich agreement occurs with null pronominals, while overt NPs occur with a default form of agreement.

In SG, subjects are not allowed in VN-clauses, except in one specific case:[7]

(60) *Bu toigh leam sibh/Màiri an doras a dhùnadh
be liking with.me you/Mary the door PRT shut.VN
'I'd like you/Mary to shut the door.'

(61) Bu toigh leam sibh/Màiri a bhith a' dùnadh an dorais.
be liking with.me you/Mary PRT be.VN PROG close.VN the door.GEN
'I'd like you/Mary to be shutting the door.'

(62) *Bu toigh leam sibh/Màiri a dhùnadh an dorais
be liking with.me you/Mary PRT close.VN the door.GEN
'I'd like you/Mary to shut the door.'

One way of just describing what is going on is the following: in a structure like (61), a subject may be inserted only if the sequence *a bhith* follows it, in which case the form of the verb also changes in that it is inflected with an aspectual particle *a'* (which sometime surfaces as *ag*) giving rise to a progressive construction.[8] Other aspectual particles are possible here too, with a different interpretation:

(63) Bu toigh leam sibh/Màiri a bhith air an doras a dhùnadh.
be liking with.me you/Mary PRT be.VN PRF the door PRT close.VN
'I'd like you/Mary to have shut the door.'

Note that with the perfect particle seen in (63), the object moves into [Spec, AgrP], rather than remaining post-VN. This also holds for other aspectual particles, such as prospective *gu(s)*, and true progressive *ri(s)*.

The same descriptive characterization about the ability of *a bhith* to license subjects also captures the behaviour of intransitives:

(64) *Bu toigh leam sibh/Màiri (a) choiseachd don sgoil
be liking with.me you/Mary (PRT) walk.VN to.the school
'I'd like you/Mary to walk to the school.'

(65) Bu toigh leam sibh/Màiri a bhith a' coiseachd don sgoil.
be liking with.me you/Mary PRT be.VN PROG walk.VN to.the school
'I'd like you/Mary to walk to the school.'

The collocation of elements *a bhith* appears to select an aspectually headed phrase (the PredP discussed above). It cannot be followed by a simple AgrP:

(66) *Bu toigh leam sibh/Màiri a bhith an doras a dùnadh
be liking with.me you/Mary PRT be.VN the door PRT close.VN

The question we would like to answer is what the syntax of this construction is and why it licenses subjects.

Morphologically, *a bhith* consists of the verbal noun form of the tense bearing auxiliary *bith* 'be', preceded by a particle which appears to be the same as the agreement particle discussed above. We will see that, following Landau's intuition, a referential subject is licensed here because we have both a T feature contributed by the auxiliary, and an Agr feature contributed by the particle. First, however, we will see that VN-clauses in general, lack a T projection.

5.2 Are verbal noun clauses infinitives?

What distinguishes an infinitival from a finite clause? In familiar languages like English the answer seems to be fairly clear. There are at least the following diagnostics:

1. Infinitival clauses are often marked by special morphology (non-affixal *to* in English, or nonfinite inflection on the verb in, for example, Romance languages)

2. The verb form (and indeed the clause) is invariant for agreement and tense distinctions (putting aside infllected infinitives—see Section 2)

3. Infinitival clauses may have a special complementizer (Fin—see Section 3)

4. The subject position is restricted in form–it cannot be a nominative NP.

5. At least some infinitival clauses (controil clauses) may be questioned, relativized, passivized etc. in much the same way as finite clauses, because they have much the same functional structure, differing mainly in the featural specification of heads. However, some nonfinite clauses (ECM/raising constructions) have a reduced structure, lacking the projections associated with the C layer.

6. Infinitival clauses are either selected or permitted in particular syntactic contexts: control predicates; raising predicates; ECM; certain clausal subjects.

In what follows, I will argue that there is no T position in verbal noun clauses so they are truncated, in much the same way as raising and ECM complements. The question then arises as to how they license overt subjects in the restricted environment discussed above. However, while ECM and raising clauses are truncated just below Fin, I will argue that VN-clauses are truncated below T.

5.3 Verbal noun clauses lack T

There seems little prima facie evidence that VN-clauses are infinitives. Firstly, there is no special infinitival form for a verb in SG, unless one counts the VN form itself as such. But the VN form is used in a number of other contexts, most importantly as the nominalization of the verb, and in such contexts it behaves entirely like a noun, with gender and number features and case requirements (see, e.g. Calder (1990)).

Secondly, there appears to be no infinitival complementizer in Scottish Gaelic, at least none that plays the role of a simple subordinator. The translation of a nonfinite clausal subject in English must be a finite clause in SG (usually in a morphological paradigm called the conditional in traditional grammars):

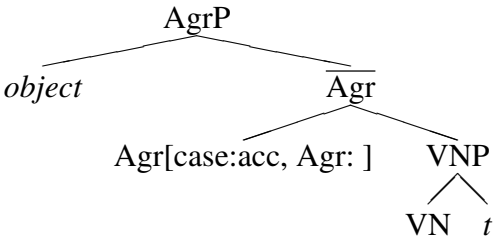
(67) Biodh snog nam phòsadh Iain Màiri.
Be.COND nice if marry.COND Iain Mary
'For Ian to marry Mary would be nice.'

Related to this, VN complement clauses never have a complementizer, while finite ones always do.[9]

It appears, then, that simply identifying VN-clauses in Gaelic with infinitival clauses in English is not helpful. They have no dedicated morphological marking, there does not seem to be a nonfinite subordinating complementizer in the language, and, as we saw in the previous section, the restrictions on overt subjects seem to be rather different for those on overt subjects in English.

What, then, are VN-clauses? I would like to propose that they are simply untensed verb phrases, and so they do not contain T, or C or any other functional head associated with these domains of clause structure. This view is compatible with the observations made above, since if a clause lacks T (and hence C) there can be no [Spec, TP] to receive case, no head to host an infinitival marker, no tense related agreement marking and no subordinating complementizer. I do however assume that the arguments offered above are correct and that these VNs may project a case licensing Agr head. The distinction between this head and the other functional heads which cannot appear in a VN clause, is that the Agr head has no semantic effect on the projection it combines with. So whereas T might be seen as binding an event variable, and C as introducing a propositional variable, Agr behaves simply as a case licenser:[10]

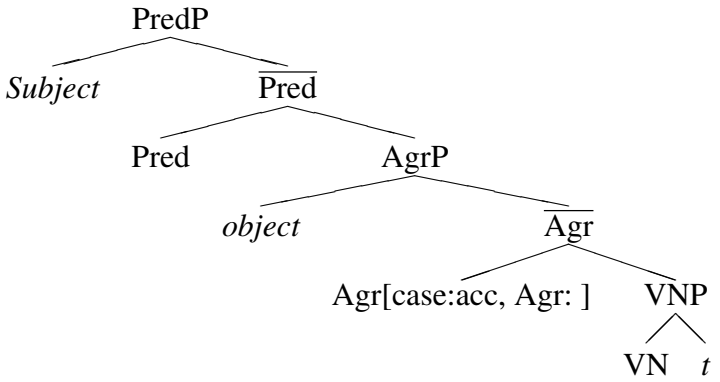
(68)



Agr has its unvalued agreement features valued by the features of the object, and the object moves to the specifier of Agr. Agr also Matches in case features with the object, valuing the object's case feature as accusative.

I proposed above that verb phrases were actually PredPs, so we can extend (68) to (69):

(69)



Note that this analysis extends the 'truncation' perspective on the selection of nonfinite clauses discussed in previous sections of this paper. Rather than truncating at Fin (Control clauses) or just below (raising and ECM clauses), we truncate at the VP (PredP) level. In terms of their broad semantics, VP/PredP and CP are both propositional, so it should come as no surprise that languages differ in whether s-selection for a proposition is met by either of these two categories (in Minimalist terms, they are both **phases**, and Pred is a generalized version of the 'little v' of Chomsky 1995, Kratzer 1996 and many others).

5.4 Consequences of lack of T

This view of the status of VN-clauses has a number of immediate predictions. Firstly, it predicts that VN-clauses in SG will be unable to undergo syntactic pro-

cesses that require TP or CP. If our hypothesis is correct, there should be no 'infinitival' constituent questions (movement to/A-bar binding from [Spec, CP]) and no 'infinitival relatives' (ditto). The question of passivization is slightly more complicated, since there are a number of passive forms in SG, some of which involve T while others don't. I will show that precisely the former group are disallowed in VN-clauses, while the latter group are well-formed. This is further evidence for the hypothesis described above.

Taking constituent questions first, (70) and (71) show that it is impossible to extract to a position at the start of a VN-clause; the only possibility is a paraphrase with a finite clause:

(70) *Cha robh fhios agam dè a dheànamh
NEG was knowledge at.me what PRT do.VN
'I didn't know what to do.'

(71) Cha robh fhios agam dè dhèanainn.
NEG was knowledge at.me what do.COND.1.SG
'I didn't know what to do.'

The same pattern is observed with adjunct questions.[11] This data is replicated with relatives (I give non extraposed relatives for ease of exposition; Gaelic speakers prefer to extrapose relative clauses in general, but this does not affect the judgments reported here) :

(72) *Tha am bord air an t-seacaid agad a chur a-muigh
Is the table on.it the jacket at.you PRT put.VN outside
'The table to put your jacket on is outside.' (pied-piped version)

(73) *Tha am bord an t-seacaid agad a chur air a-muigh
Is the table the jacket at.you PRT put.VN on.it outside
'The table to put your jacket on is outside ' (non-pied-piped version)

These data strongly argue for the lack of at least a CP projection in VN-clauses, which follows from the idea that these clauses are truncated below TP.

There are a number of different types of passivization in SG which provide further evidence that the view we are taking here of VN-clauses is the correct one. We will concentrate on three types of passivization i) morphological ii) the *rach*-passive and iii) A-movement passives.

i) Each verb in SG has a tensed passive form. For example, corresponding to the active:

(74) Dhùin Dàibhidh an doras.
Shut.PST David the door
'David shut the door.'

we have

(75) Dhùineadh an doras.
Shut.PST.PASS the door
'The door was shut.'

On the well-motivated assumption that the finite verb here is in T, this suggests that there is a passive form of T to which the finite verb raises.

All verbs in SG have a VN form, but there is no "passive " VN form. That is, although there is a VN clause corresponding to (74) (e.g. (76)), there is no morphologically distinct form corresponding to (75) (e.g. (77)).

(76) Feumaidh Dàibhidh an doras a dhùnadh.
Must David the door PRT close.VN
'David must close the door.'

(77) *Feumaidh an doras a dhùnadh
Must the door PRT close.VN
'The door must be closed.'

A number of verbs do have a passive participle type form, which is used with the auxiliary:

(78) Tha an doras duinte.
Is the door closed.PST.PTCP
'The door is closed.'

However, the *-te* morphology is fairly unproductive, so while *duinte*, 'closed' is fine, similar formations on other verbs are extremely awkward and speakers much prefer to use the passive formation discussed below in (iii). Moreover such examples look like adjectives in undergoing comparative formation and modification by intensive particles:

(79) Tha an doras nas duinte.
Is the door more closed
'The door is more closed.'

(80) Tha an doras glè dhuinte.
Is the door very closed

'The door is very closed.'

This gap in the paradigm falls out of our claim that VN clauses lack functional structure from T up.

ii) An alternative passive form is the *rach*-passive. This is formed from the verb *rach* 'go' plus a VN-clause. The *rach*-passive counterpart of our example is:

(81) Chaidh an doras a dhùnadh.
go.PST the door PRT shut.VN
'The door was/got shut.'

where *chaidh* is the suppletive past of *rach*. Note that once again the passivization takes place in T (there is immediate morphological evidence for this in the past tense form of the verb). Our hypothesis that there is no T in VN-clauses predicts that *rach*-passives are not possible in VN-clauses. This turns out to be the case.

Firstly a brief comment about the structure of examples like (81). There are three possibilities: either i) the apparent subject *an doras* is in the [Spec, AgrP] position in the lower VN clause with a null expletive as the subject of the matrix verb *chaidh*:

(82) Chaidh *expl* [$_{AgrP}$ an doras a dhùnadh]

Another possibility is that the subject has raised into a specifier position in the upper clause (perhaps [Spec, TP] and the verb has raised further into AgrS as in the system of (Bobaljik and Carnie 1996)) or perhaps into Fin in a system like that argued for in previous sections of this chapter:

(83) [$_{AgrSP/FinP}$ chaidh [$_{TP}$ an doras [$_{AgrP}$ t a dhùnadh]]]

Finally, it could be the case that the VN-clause itself is the subject of *chaidh*:

(84) [$_{TP}$ chaidh$_i$ [$_{VP}$ [an doras a dhùnadh] t$_i$]]

So, depending on the right analysis the subject is either i) a null expletive; ii) *an doras* or iii) the VN clause itself.

Let us briefly recapitulate on what we have discovered about the descriptive relationship between finite clauses and VN-clauses. Essentially, in a VN-clause, the subject appears before *a bhith*, then there is an aspectual particle and the verb appears in its VN form. The position of the object with respect to the verb is determined by the aspectual particle. The simple aspectual particle *a'* (sometimes realized as *ag*) has no effect on VO order, while other aspectual particles like the

perfect particle *air* cause the object to front, giving an OV order.

Given this discussion, our hypothesis that VN clauses lack T predicts that none of the following should be grammatical, no matter what the right analysis of (84) is:

(85) *Bu toigh leum a bhith a' dol an doras a dhùnadh
be.COND liking with.me PRT be.VN PROG go.VN the door PRT shut.VN
(expletive subj)

(86) *Bu tough leum an doras a bhith a' dol a dhùnadh
be.COND liking with.me the door PRT be.VN PROG go.VN PRT shut.VN
(*an doras* subj)

(87) *Bu toigh leum an doras a dhùnadh a bhith a'
be.COND liking with.me the door PRT be.VN PROG go.VN PRT
dol (VN-clause subj)
shut.VN

In each of these examples, we have taken a construction which selects a VN-clause and attempted to create a passive using the *rach* passive strategy. As is obvious from the grammaticality judgements shown, our hypothesis makes the correct prediction. There is simply no VN version of the *rach*-passive, since the *rach*-passive makes crucial use of T and there is no T in a VN clause.

iii) The aspectual passive: another commonly used passive form in SG is one where an aspectual particle signalling perfect aspect is followed by an agreement particle, inflected for φ-features agreeing with the (surface) subject. This type of example typically is ambiguous between a passive and an active reading:

(88) Tha Dàibhidh is Màiri air am marbhadh
Is David and Mary PRF PRT.3.pl kill.VN
'David and Mary have murdered them.' **or**
'David and Mary have been murdered.'

I'll assume that the active reading arises when the structure involves a *pro* in the specifier of AgrP, while the passive reading arises when there is a DP trace of the surface subject in this specifier:[12]

(89) Tha [Dàibhidh is Màiri]$_i$ air pro$_j$ am marbhadh (active)

(90) Tha [Dàibhidh is Màiri]$_i$ air t$_i$ am marbhadh (passive)

Note that this type of passive does not involve TP at all. The auxiliary verb *tha* is not affected by the operation. Our current hypothesis therefore predicts that this type of passive should be available in VN clauses, an indeed it is:

(91) Bu toigh leum Dàibhidh is Màiri a bhith air am
be.COND liking with.me David and Mary PRT be.VN PRF PRT.3.pl
marbhadh
kill.VN
'I would like David and Mary to be murdered.'

In summary then, we have seen that when passive is an operation that crucially relies on T, it is not available in a VN clause, whereas, when it does not involve T it is available. This is strong evidence for the view that VN-clauses are truncated at T, evidence which is backed up by the lack of CP-processes like constituent question formation and relativization.

Let us finally turn to the main problem at hand: the licensing of subjects in VN-clauses. Recall that an overt subject is barred in a simple VN-clause:

(92) *Bu toigh leam Màiri an doras a dhùnadh
be.COND liking with.me Mary the door PRT shut.VN
'I'd like Mary to shut the door.'

(93) *Bu toigh leam Màiri (a) falbh
be.COND liking with.me Mary (PRT) leave.VN
'I'd like Mary to leave.'

(94) Bu toigh leam falbh
be.COND liking with.me leave.VN
'I'd like to leave.'

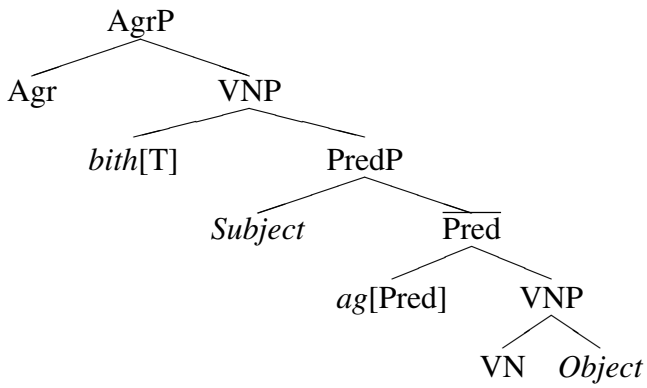
One simple possibility is that this effect is due to case. On a classical GB account, there is no case governor, hence only PRO is available. A null case story is rather less plausible; we could say that Pred bears a null case feature forcing a PRO to appear in a PredP, but since Pred also appears in finite clauses, we'd have to tie the absence of null case on Pred to the absence of T (or else we would have a case conflict between the nominative case of T and the hypothesized null case on Pred). This is certainly doable, but is rather an odd stipulation.

Futhermore, neither approach gives us any immediate insight into why a subject is licensed in a clause with *a bhith*.[13]:

(95) Bu toigh leam Màiri a bhith a' dùnadh na dorais.
be.COND liking with.me Mary PRT be.VN PROG shut.VN the door.GEN
'I'd like Mary to shut the door.'

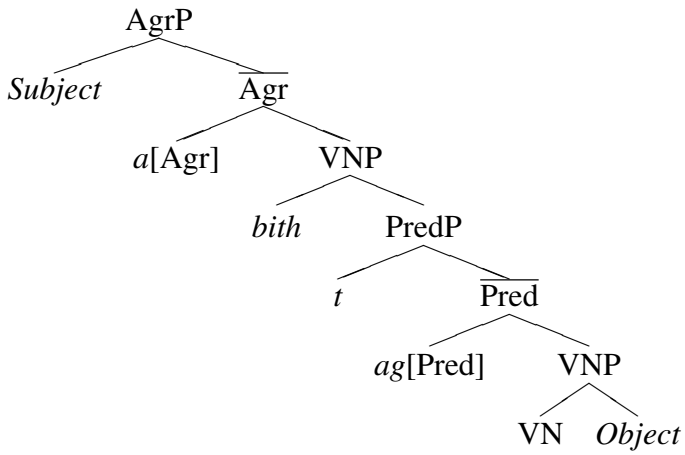
However, Landau's proposal, that presence of both T and Agr features is required to license a referential subject allows us to predict exactly this result. Recall that the auxiliary *bith* is a realization of T (that is, it bears a categorial T feature). Moreover, it is a verbal noun form of the T auxiliary. As we have seen, verbal nouns allow the projection of an Agr node for case licensing purposes; it follows that we can project an AgrP structure above *bith*. Since *bith* is T, it selects PredP directly. This gives us the following structure:

(96)



We now have both a T feature and Agr features immediately above the subject. On the assumption that both have a positive specification, the presence of both T and Agr features instantiates an uninterpretable [R] feature on the VN. This feature requires a referential NP argument, if it is to be eliminated, predicting the presence of an overt subject. The usual mechanism for case licensing the subject causes raising to the specifier of Agr, in a parallel fashion to raising of the object to the specifier of Agr:

(97)



We then correctly derive VNPs with subjects as in (98)

(98) Bu toigh leam Màiri a bhith a' dùnadh an dorais.
be.COND liking with.me Mary PRT be.VN PROG shut.VN the door.GEN
'I'd like Mary to be shutting the door.'

This analysis also predicts the impossibility of an overt subject in the absence of *a bhith* in a verbal noun clause. Since VN-clauses lack T, there is no higher case assigner for such a subject:

(99) *Bu toigh leam Màiri a' dùnadh an dorais
be.COND liking with.me Mary PROG shut.VN the door.GEN
'I'd like Mary to shut the door.'

Notice that we also predict that these cases will have a different temporal interpretation from the simple VN-clauses which lack *a bhith*, since *a bhith* clauses have an extra (interpretable) T feature. This is correct: these are only clauses which license subjects and they are the only nonfinite clauses which have a special temporal interpretation (this is the 'progressive' interpretation we remarked on earlier.)

We now need to inquire about the status of cases where there is no overt subject:

(100) Bu toigh leam an doras a dhùnadh.
be.COND liking with.me the door PRT close.VN
'I'd like to shut the door.'

These constructions could plausibly involve either control or raising, with a PRO or a trace in the PredP subject position. The proposal defended here allows either

a control or a raising analysis (or indeed more radical alternatives) and I will not choose between them here.[14]

Interestingly, the Agr head that appears above *b(h)ith* cannot have rich agreement. When a pronominal subject appears in this construction, it cannot appear as *pro* and trigger rich agreement, in contrast to the object of a VN-clause:

(101) Tha e doirbh bhur glacadh.
Is it difficult PRT-2.PL catch.VN
'It is difficult to catch you.'

(102) *Bu toigh leam bhur b(h)ith a' dùnadh an dorais
be.COND liking with.me PRT-2.PL be.VN PROG shut.VN the door.GEN
'I'd like you to be shutting the door.'

Instead, pronouns appear in their overt form with a default agreement:

(103) Bu toigh leam sibh a bhith a' dùnadh an dorais
be.COND liking with.me you PRT be.VN PROG shut.VN the door.GEN
'I'd like you to be shutting the door.'

What this suggests is that the Agr which projects above *bith* here is not fully specified for its agreement features: it does not have the full set of phi-features needed to license *pro*. Let us assume that the Agr head here bears only a default specification for agreement features [Agr:3s]. This is not enough to license a *pro*, ruling out (102). However, an overt full pronoun is case licensed in such a structure, since it bears interpretable agreement features, just like an overt DP.

What will such a default value mean for Landau's proposal as applied here? We have already proposed that [Agr:–] triggers the appearance of [R:–] and that [AGR:+] (in combination with [T:+]) triggers the appearance of [R:+]. A plausible extension of this idea is that Agr bearing a default specification triggers the appearance of an uninterpretable *unvalued* R feature [R:]. This is then compatible with either a fully referential NP, or an anaphoric one, that is PRO.

If this is correct then we expect to see an unusual situation: there should be no complementarity between full DP and PRO in these structures. This turns out to be correct:

(104) Bu toigh leam a bhith a' dùnadh an dorais
be.COND liking with.me PRT be.VN PROG shut.VN the door.GEN
'I'd like to be shutting the door.'

This final section has extended the ideas discussed in the previous sections to cases

where nonfinite structures arise via truncation of T. We saw, however, that in Gaelic the T feature could be reintroduced in a verbal noun structure, and the featural configurations for subject licensing reconstituted within the truncated structure.

6 Conclusion

This paper has surveyed some recent literature within the Minimalist Programme which has been concerned with the notion of finiteness and extended these ideas to a new domain. I have suggested that there is good positional evidence for a low complementizer position Fin. I have also argued that there are reasons to associate this position with a feature and that this feature determines the interpretation of the lower clause as anaphoric to the speech event of the higher clause (following Bianchi). I proposed that we call this feature [finite:$\pm$]. It is akin, but not identical to the notion of S-finiteness discussed by Gretsch and Perdue (this volume).

There is also evidence that Fin may bear uninterpretable tense and agreement features. Landau suggests that it is the behaviour of these features that is responsible for subject licensing, and the effects of this can be seen when the C layer is removed, truncating the clause at TP. I showed a particularly radical case of this kind of truncation in Gaelic, where the clause can be truncated at the VP level, thus removing not only Fin but T as well. In this case too, though, subjects can be licensed in a way that depends on the formal features T and Agr. This strongly argues for divorcing subject licensing from the interpretable feature [finite]. These uninterpretable features might be thought of as an execution within current syntactic theory of the structural correlates of M-finiteness, as also discussed by Gretsch and Perdue.

The distinction between the uninterpretable features [T] and [Agr] on Fin and the interpretable [finite] feature also argues for a divorce between the clausal expression of finiteness and its morphological expression as tense and agreement features (see Sells, this volume). The [T] and [Agr] features, we have seen, are not confined to the Fin projection, and in fact may appear very low down in the clause.

I have argued, in line with expectations, that there is no clear mapping from the traditional notion of finiteness to the categories of formal grammar. There are phenomena, and there are attempted explanations of those phenomena which are embedded within a theoretical system. Typically the terms in which the explanation is couched will be far removed from the terms in which the original phenomenon was described, and I believe this is the case for finiteness.

Notes

[1]I would like to thank the participants of the Celtic Linguistics Conference in Dublin 1995 for comments on a very early version of the last sections of this paper. Many thanks also to Gillian Ramchand for comments on a previous version of those sections, and to two anonymous referees for comments on the paper as a whole.

[2]I follow, here, the implementation of Adger (2003). Chomsky has proposed that case valuation is a sort of side effect of the checking of person and number features Chomsky (2001). We return to this in Section 4.1.

[3]We leave aside accusative subjects in infinitives. See Section 4.2 for discussion.

[4]Note that the higher predicate can select a full CP which allows both finite and infinitive CP, as happens in wh-questions:

(105) a. I decided who I should invite.
b. I decided who to invite.

Clearly, then, some infinitives have higher structure than just Fin, since wh-movement presumably targets FocusP.

[5]This is not what Rizzi suggests: he proposes that *for* is syncretic for both Force and Fin, and that the (b) example is ruled out because of a case adjacency effect between *for* and the accusative subject.

[6]The idea of truncation at this lower level is also implicated in the analysis of restructuring verbs in Germanic and Romance. See especially Wurmbrand (2003) and references there.

[7]The preferred alternative is to use a finite clause with a conditional verb form.

[8]I have translated this construction with an English progressive, which here has a slightly awkward feel. There is no such awkwardness in the Gaelic case as the interpretation of *ag* is not quite progressive. See Ramchand (1997) and Adger (1996) for discussion.

[9]Temporal adjuncts do have a subordinating element that appears with a VN-clauses, suggesting that perhaps they could be taken as nonfinite subordinating complementizers:

(106) An dhèidh do Dhàibhidh na leabharaichean a leughadh, chur e
after to David the books PRT read.VN, put.PST he
sios iad
down them
'After David read the books, he put them down.'

Importantly, the case licensing of the subject here has a special syntax involving the insertion of a prepositional element *do*.

[10]In fact, it would be possible to combine the Agr features with the VN itself, either lexically, or via head movement of the VN to Agr. I know of no evidence that suggests that this occurs, but it is a theoretical option. If Agr is just adjoined to the VN lexically (that is, it is not a separate syntactic head), then the selected projection is, of course, just VN. See Sells and McCloskey 1988 for some discussion.

[11]Jim McCloskey has pointed out to me that in some dialects of Irish, some adjunct questions are well formed with VNs. I have no explanation for this as yet.

[12]Of course this analysis of passive leaves open the question of why this A-movement takes place, given that a *pro* can occur here, and so this is presumably a case position. We leave this problem aside, since, for the current argument, what is important is that this version of passive does not involve the T node, but rather structure below T.

[13]There is a complex set of data concerning when overt subjects are licensed in various dialects of Irish. In Ulster Irish examples like (105) and (106) are well formed, while in Munster Irish only (106) is well formed. I take the latter fact to indicate that the Agr node is Merged higher than the base subject position, and that the subject may therefore be licensed by it (correctly predicting accusative case). Any object will then be forced to be licensed in another fashion, which appears to be correct (such objects receive genitive case). In Ulster Irish, it may be the case that a full TP structure is generated.

[14]McCloskey (1984) argues that in corresponding Irish cases the subject has raised to the complement of the higher preposition. The arguments he uses for the most part do not extend to the Gaelic constructions, and, in fact, the syntax of the two languages is rather different in this area (Irish allowing a variety of overt subject in the analogous constructions).

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