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**Citation for published version:**

Ackema, P 2002 'A Morphological approach to the absence of expletive PRO' UCL Press, pp. 291-319.

**Link:**

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**Document Version:**

Early version, also known as pre-print

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# *A morphological approach to the absence of expletive PRO\**

PETER ACKEMA

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## **Abstract**

Whereas finite clauses can have impersonal readings, this possibility appears to be universally excluded for clauses headed by an infinitive. In other words, the understood subject of an infinitival clause must always be interpreted as an argument and can never be expletive. In this paper it is argued that this distinction between the two types of clause is ultimately caused by a purely morphological factor, namely whether or not the inflection on the verb that heads the clause is part of a paradigm or not. The analysis is based on the hypothesis that inflection can function as the subject argument of the verb. The account of the properties of infinitival clauses is extended to a particular class of languages in which the inflection on finite verbs is not part of a paradigm either.

## **1 Introduction**

In many languages, constructions appear in which no  $\theta$ -role is assigned to the subject position. In German, for example, passives can be made from verbs that do not have a logical object argument, resulting in a construction which may have an expletive in subject position but not an argument, as in (1). (The occurrence of an overt expletive depends on whether this element is necessary to satisfy the V2 constraint operative in German root clauses, see (1a) versus (1b)-(1c)). Likewise, there are certain ‘psych’ predicates in German that take an internal dative Experiencer argument but no external argument, as in the embedded clause in (2).

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\* For useful comments I would like to thank to Hagit Borer, Olaf Koenenman, Hans van de Koot Maaïke Schoorlemmer and Ildikó Tóth, as well as audiences at the Workshop on Optimal Interpretation of Words and Phrases at Utrecht University and the 4<sup>th</sup> International LEHIA Workshop at the University of the Basque Country at Vitoria-Gasteiz, in particular Helen de Hoop, Terry Langendoen, Ad Neeleman and Cecilia Poletto. This research was supported by the Dutch Organization for Scientific Research, grant no. 355-70-007.

- (1) a. Es wurde gestern getanzt  
*it was yesterday danced*  
 ‘There was dancing going on yesterday’  
 b. Gestern wurde getanzt  
*yesterday was danced*  
 ‘idem’  
 c. Es ist möglich [dass getanzt wurde]  
*it is possible that danced was*  
 ‘It is possible that people were dancing’
- (2) Er sagte [dass ihm kalt war]  
*he said that him-DAT cold was*  
 ‘He said he was cold’

I will use the cover term ‘impersonal construction’ for all clause types in which there is no argument as subject.

Safir (1985) observed that impersonal constructions universally seem to be limited to finite clauses. It is systematically impossible to construe an infinitival clause as such a construction. Put differently, the understood subject of the infinitival, usually assumed to be PRO in GB/P&P-theory, cannot be expletive. Consider the German impersonal passives and experiencer constructions again, for instance. As illustrated in (3a) and (4), these do not occur in infinitival clauses. In contrast, a personal passive (with a PRO as subject that receives the passive verb’s logical object  $\theta$ -role) is fine in an infinitival clause, as shown by (3b).

- (3) a. \*Es ist möglich [PRO<sub>expl</sub> getanzt zu werden]  
*it is possible danced to be*  
 ‘It is possible that there is dancing’  
 b. Es ist möglich [PRO<sub>arb</sub> geliebt zu werden]  
*it is possible loved to be*  
 ‘It is possible to be loved’
- (4) \*Es ist unangenehm [mir kalt zu sein] (Tóth 2000:148)  
*it is unpleasant me cold to be*  
 ‘It is unpleasant for me to be cold’

In fact, the restriction on what thematic properties the subject of an infinitival clause must have even is a bit stricter. In case no controller is present in the matrix clause,

the understood subject of an infinitive also cannot be interpreted as a quasi-argument like the subject of a weather-verb (compare (5a) with finite (5b)).

- (5) a. \*Es ist möglich [leicht zu regnen]  
*it is possible lightly to rain*  
 ‘It is possible that there is a light drizzle’
- b. Es ist möglich [dass es leicht regnet]  
*it is possible that it lightly rains*  
 ‘idem’

I will argue that this difference between finite and infinitival clauses follows from a basic morphological distinction between finite and infinitival inflection: whereas finite inflection is organized in a paradigm, there is only one infinitive ending.<sup>1</sup> In sections 2 and 3 I will establish a connection between the interpretation of empty subjects and the form of the inflectional paradigm. First I will discuss another recent account of the phenomenon (Tóth 2000). In this discussion I will look at the connection between the empty subject in infinitivals (PRO) and the empty subject in finite clauses in pro-drop languages (pro). I will adopt the hypothesis that there is no intrinsic difference between the two (Borer 1986, 1989). In section 3 I will argue that in fact neither PRO nor pro exists. Instead, inflectional affixes receive a verb’s subject  $\theta$ -role, with an overt subject DP acting either as syntactic specifier of the inflectional affix (in nonpro-drop languages) or as a left-dislocated topic (in pro-drop languages). In section 4 I will argue that, if these assumptions are correct, the impossibility of impersonal readings for infinitival clauses follows from the absence of a paradigm for infinitival inflection, in conjunction with a particular restriction on how affixes can be specified for featural content. In section 5 the consequences of the analysis are discussed for those languages in which there is no paradigm for finite inflection either.

## 2 The connection with pro-drop

In section 1 the central observation to be accounted for was given: the understood subject of an infinitival clause must be an argument. It is either controlled by an argument of the matrix clause or receives arbitrary interpretation, but it is never expletive. Safir (1985) proposed the principle in (6) to account for this:

- (6) An expletive empty category must be governed

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<sup>1</sup> Some languages, like Portuguese and Hungarian, have agreeing infinitives. These will be left out of consideration here. See Raposo 1987 and Tóth 2000 for relevant discussion.

Since the empty subject in infinitival clauses is supposed to be ungoverned in GB theory (the PRO theorem), (6) excludes this subject from being expletive. It seems clear, however, that (6) describes the attested state of affairs rather than providing an explanation of it.

A less stipulative account has recently been proposed by Tóth (2000). She shows how Speas's (1995) Principle of Economy of Projection can be invoked to account for data as in (1)-(4). This principle is given in (7).

- (7) *Principle of Economy of Projection* (Speas 1995)  
 Project XP only if XP has content, where a node X has content only if X dominates a distinct phonological matrix or a distinct semantic matrix

Tóth's analysis is as follows. In contrast to the  $I^0$  head of a finite clause, the  $I^0$  head of an infinitival clause has no independent tense or agreement content. Therefore, its specifier must have independent content, or the infinitival IP would not be licensed at all according to (7). A nonexpletive PRO in this specifier position provides distinct semantic content. An expletive PRO, however, does not. It does not provide any phonological content either of course. This means that an IP with infinitival I as head and expletive PRO as specifier fails to meet the licensing condition on projections in (7).

Although this provides an elegant account for the observations in (1)-(4), it is, as noted by Tóth herself, not compatible with the original object for which Speas proposed (7). Speas invokes (7) to account for the relation there seems to be between the possibility of pro-drop (in finite clauses) and the form of the verbal agreement paradigm in a language. In brief, her account goes as follows. In languages with verbal agreement an AgrP must be projected, a projection in which this agreement is 'checked' in a specifier-head relation with the subject, either overtly or covertly (compare Chomsky 1995).<sup>2</sup> In languages in which the agreement paradigm is 'rich', in the sense that it contains a lot of different affixes for its various cells, the affixes are listed as independent items in the lexicon and can be generated directly in the head position of the AgrP (Rohrbacher 1999). This means AgrP is licensed in accordance with (7). No overt specifier is therefore required to license AgrP, so that the subject can remain empty. If the agreement paradigm is not rich enough, however, the affixes are not listed as distinct items in the lexicon and can only be merged as part of the

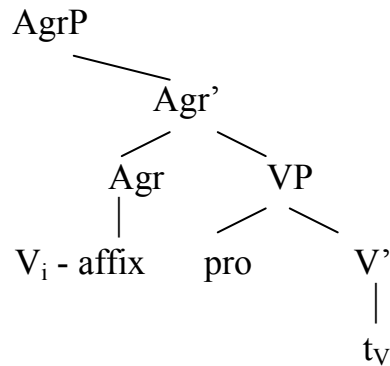
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<sup>2</sup> An implicit assumption here is that checking cannot take place between verb and subject in a spec-head configuration within VP. This follows Chomsky's (1995) assumption that feature checking cannot be satisfied by merger, but it remains something of a stipulation (see for instance Bobaljik & Thráinsson 1998 and Chomsky 2001 for approaches in which checking does not necessarily entail movement).

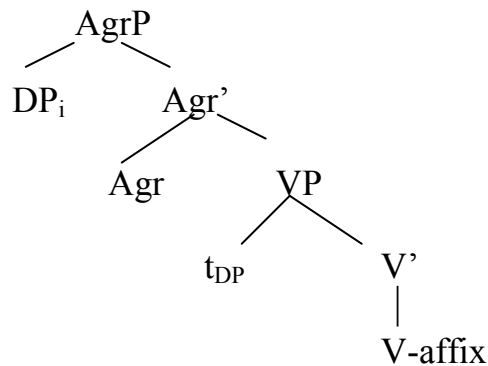
verb, which heads VP. Consequently, the necessary AgrP can only be licensed by giving it an overt specifier. This means a lexical subject must move to this position in overt syntax; pro-drop is impossible.

An attractive feature of this analysis is that it provides an explanation for why (at least some) languages without any agreement morphology at all, like Chinese and Japanese, do allow pro-drop (compare Jaeggli & Safir 1989). If there is no agreement, no checking is required. Therefore, in such languages there is no need for an AgrP, so no need for licensing such a projection either. Hence, nothing stops the subject from being empty. The various possibilities are illustrated in (8) (compare Speas 1995:13).

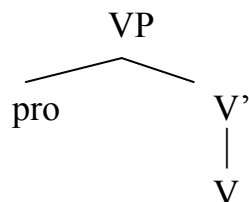
(8) a. pro-drop language with rich agreement (for example, Italian)



b. nonpro-drop language with poor agreement (for example, English)



## c. pro-drop language without agreement (for example, Japanese)



Suppose now that a nonexpletive PRO in the specifier position of a infinitival IP can license this projection in accordance with (7), as proposed by Tóth (2000). In that case, a nonexpletive pro in a finite clause should license AgrP as well, regardless of the richness of the agreement morphology in the language. In other words, pro-drop should always be possible. Precisely for this reason Speas explicitly denies that empty subjects can fulfil the ‘independent semantic content’ part of (7): “the apparently special properties of null arguments follow from the fact that they lack independent content, and hence cannot suffice to license the projection of an AGR phrase” (p.14). Although this statement is about pro, it holds for PRO as well, since PRO arguments do not have independent content either but receive their interpretation via control.

In order to maintain that the licensing principle in (7) is responsible for the absence of expletive PRO, in the way briefly outlined above, Tóth therefore must reject Speas’s account of the relation between pro-drop and the form of the agreement paradigm. Whether a language allows pro-drop or not must then be stipulated, by listing which heads in the language formally license the occurrence of pro (as in Rizzi’s (1986) original proposal).<sup>3</sup>

Listing per language which heads license pro, apart from being stipulative, has a particular disadvantage. It is attractive to let the different behaviour of understood subjects in finite and nonfinite clauses follow from the difference in the type of clause in which they occur, rather than ascribing it to inherently different properties of the empty categories functioning as subject. Borer (1989), for example, argues that an empty subject in both finite clauses and infinitivals is pro. The only difference is the way the inflectional I node, which identifies pro’s content, receives its content: it has

<sup>3</sup> Tóth notes that Speas’s analysis of the relation between the possibility of pro-drop and the form of the agreement paradigm cannot immediately account for languages that allow for nonreferential pro but not referential pro. (In Icelandic, for example, the quasi-argumental subject of a weather verb can be empty, but a referential subject cannot; Speas quotes similar data from German). Speas suggests that, when the subject is nonreferential, the verb carries default agreement which need not be checked (so no AgrP is required, so no licensing of AgrP either). She must then stipulate, however, that in a language like English, which does not allow any kind of pro argument, even default agreement must be checked, so the problem seems to remain. The alternative approach to pro-drop I will adopt does not seem to face the same problem, however, as indicated below.

inherent content in finite clauses (in languages with rich agreement), but it is anaphoric in infinitivals. In the latter case it must be bound by an argument from the matrix clause, resulting in the phenomenon usually known as control. Now, if it must be listed per language which heads license pro, the hypothesis that PRO = pro has the consequence that the head of an infinitival clause must occur on this list in every language, which would be a coincidence under this approach. In other words, it becomes unclear why there are no languages with obligatorily overt subjects in infinitivals, just as there are languages with obligatorily overt subjects in finite clauses.<sup>4</sup>

In short, the situation can be summarized as follows. Speas's implementation of (7) makes possible a satisfactory account of the relation between the form of the agreement paradigm in a language and the possibility of empty subjects. Tóth's implementation of (7) makes possible a satisfactory account of the impossibility of an expletive understood subject in an infinitival. But both implementations are incompatible.

I will argue that yet another implementation of the Speas's general idea, similar to what Davis (2000) proposes, not only accounts for the relation between properties of agreement morphology and pro-drop, but also for the absence of impersonal readings in infinitivals.

### 3 Inflection as argument

The analysis will be based on the idea that the inflectional morphology on a verb is pivotal in realizing the verb's argument structure, as expressed by the following hypothesis:

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<sup>4</sup> Note that it is unlikely that this is related to Case (as was assumed in GB-theory), for two reasons. First, the subject in control infinitivals is not *obligatorily* null in every construction in every language. Borer (1989) discusses a number of cases in which an overt nominative subject can appear (see also Barbosa 1996; another case which has been argued to involve an overt subject in an infinitival is that of 'backward control', as discussed in Polinsky & Potsdam 2002 and Cormack & Smith 2002). Borer assumes that there is a parameter that determines whether or not infinitival I can assign nominative. Nonetheless, in the languages in which this parameter is set positively, null subjects are possible in infinitivals just as well. Second, lack of Case as a reason for why PRO is null is unsatisfactory as such. When a lexical DP fails to get Case the structure is simply ruled out, and cannot be rescued by leaving the DP phonologically unrealized. Non-pro-drop languages cannot suddenly resort to pro for arguments that cannot get Case. It is likely, therefore, that the null status of the subject in infinitivals does not follow from Case considerations. (Compare also the discussion in Chomsky & Lasnik 1993, where it is assumed that PRO does get Case, but that it is null since this is a special 'null Case').



## (9) Inflectional affixes on a verb can represent arguments of this verb

This hypothesis as such is not new. It seems to be rather well-established that something like (9) holds for all the verb's arguments in polysynthetic languages (see Jelinek 1984, 2002 and references cited there). Such languages have very rich inflectional morphology, including both subject and object agreement. Another property of them is that, in general, NPs do not occupy a fixed position in the clause, can be freely omitted, and can occur as a split constituent. In other words, these languages are nonconfigurational. Jelinek argues that these two properties can and should be connected. This connection is established by the assumption that in the relevant languages the arguments of a verb are represented by its agreement affixes. NPs that are present are optional adjuncts that double these arguments.<sup>5</sup>

Suppose we extend the domain of application of (9) to languages with subject agreement but no object agreement, meaning that the subject  $\theta$ -role is assigned to agreement inflection, whereas the object  $\theta$ -role is assigned to a DP in syntactic object position. For languages that have rich subject agreement and that allow the syntactic subject position to be empty, i.e. pro-drop languages, this idea does not seem far-fetched (compare Alexiadou & Anagnostopoulou 1998, Ordoñez & Treviño 1999; see below). But let us take the implementation of (9) one step further still: assume that in all languages with subject agreement inflection, this inflection is the realization of the verb's subject argument.

The question then is what the difference between pro-drop and non-pro-drop languages is, in particular, how this difference can be related to the richness of the agreement paradigm. In approaches adopting empty pro subjects, it is usually assumed that the content of pro can be recovered by rich agreement, but not by poor agreement. If the agreement is itself the verb's subject argument, an approach to the difference between pro-drop or no pro-drop is possible that does without pro. Instead of assuming that there is a pro the content of which needs to be identified by rich agreement, one can assume that it is the content of poor agreement that needs identification, namely by an overt subject (Weerman 1989, Davis 2000).<sup>6</sup> The content

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<sup>5</sup> Baker (1996), while agreeing that the overt NPs are not the arguments of the verb, assumes that all arguments are represented by pros in syntactic argument positions and that these must be connected to an inflectional affix on the verb. This maintains the idea that arguments are always realized by syntactic elements, not by morphological ones. This formal distinction between Jelinek's and Baker's, otherwise not unlike, approaches to the issue of polysynthesis parallels the distinction between assuming pro subjects in pro-drop languages and assuming the subject agreement on the verb represents the relevant argument already (see below).

<sup>6</sup> Note that this idea is logically independent from the idea that the inflection functions as the verb's subject argument; Davis in fact still assumes there is a pro subject. However, the idea that poor but not rich agreement needs to be licensed by an overt subject DP fits particularly well in an approach in

of rich agreement need not be identified (it is rich enough to identify its own content as it were), hence there is no need for a syntactic antecedent in this case and the clause can do without a syntactic subject (pro-drop).

So both in pro-drop languages and in non-pro-drop languages subject agreement on the verb, if present in the language, represents the verb's subject argument. In case the agreement paradigm is poor, in the sense that it shows syncretism, this argument must be specified by an overt subject to be unambiguously identifiable. If the agreement paradigm is rich enough, argumental agreement can stand on its own.<sup>7</sup>

If this hypothesis is correct, overt subjects in pro-drop languages do not have the same status as overt subjects in non-pro-drop languages. The latter are obligatory, identifying poor agreement's content in a local (spec-head) relation with it. In contrast, the former are optional, doubling an agreement affix that can function as subject argument on its own. Hence, overt subjects in pro-drop languages should be much more like the overt NPs in polysynthetic languages: they should be in an A'-rather than an A-position. A string of recent literature has provided evidence that this is in fact so. The gist of most of the arguments is that preverbal subjects in pro-drop languages show behaviour that is like the behaviour of other, non-subject, left-dislocated constituents, in contrast to preverbal subjects in non-pro-drop languages. I will not repeat these arguments here; for relevant discussion see Borer 1995, Barbosa 1996, 2000 Alexiadou & Anagnostopoulou 1998, Ordóñez & Treviño 1999, Poletto 2000, Costa & Galves 2000 and Alexiadou 2002.

The difference between the two types of languages is depicted in (10).<sup>8</sup> (For concreteness, I depict a left-dislocated overt subject DP in a pro-drop language as being adjoined to the top node of the clause. The authors just cited make different proposals as to what the precise position of such a DP is, some of them arguing that

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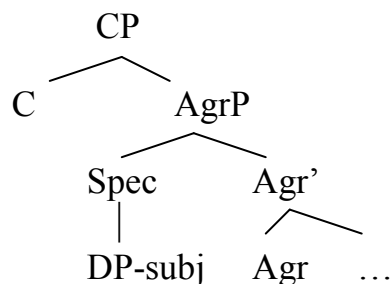
which this agreement and not the DP is the verb's argument, making the assumption of pro superfluous.

<sup>7</sup> This brings up the question of where the dividing line between rich and poor paradigms lies. In the ideal case specification by an overt subject would be necessary in all cases where an affix is identical to another affix in the paradigm. The issue is complicated by the possibility of specifying for individual affixes, rather than for complete paradigms, whether or not they need a syntactic antecedent. Hence, there may be a person split with regard to pro-drop possibilities. Such a split is attested in for example Finnish (Vainikka & Levy 1999) and Hebrew past and future tense (Borer 1989), where pro-drop is possible for first and second but not third person subjects. I will leave the matter open here.

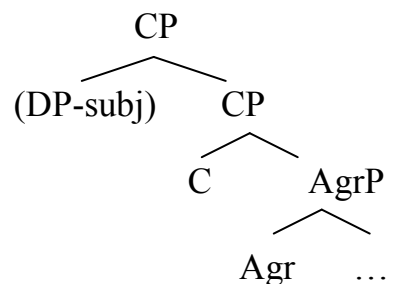
<sup>8</sup> I have labelled the projection in which the subject DP in non-pro-drop languages occurs AgrP for convenience; I assume that in fact there is a difference between languages with V-to-I movement, in which there is such a distinct AgrP, and languages without V-to-I, in which there is not (compare Bobaljik & Thráinsson 1998, Koenenman 2000, Ackema 2001), but this is not relevant for the discussion below.

there is language variation in this respect as well. This is of no consequence for what follows.)

(10) a. (nonpro-drop)



b. (pro-drop)



Overt preverbal subjects thus do not provide evidence for a specific structural subject position in pro-drop languages. It seems relatively uncontroversial to assume that overt postverbal subjects are in a designated focus position and not in a spec-AgrP either (see for instance Samek-Lodovici 1996, Pinto 1997, and references cited there). Given also that no *pro* subject is needed to receive the verb's subject argument if this is carried by the agreement inflection, there seems little reason left to assume that the projection headed by the inflected verb has a specifier position at all in pro-drop languages. In other words, sentences without an overt DP subject do not contain a syntactic subject at all.

In the next section I will discuss the consequences of this implementation of the hypothesis in (9) for the problem at hand, concerning the properties of understood subjects in infinitival clauses. First, I will end this section with a short discussion of two potential problems for the idea that agreement functions as the subject argument and that we can dispense with *pro*, one empirical and the other one of a more technical nature.

The first potential problem, which is a general problem for approaches to pro-drop along the lines of Speas or Davis, concerns languages that allow pro-drop with arbitrary, nonreferential, subjects, but do not allow it with referential subjects (compare Tóth 2000:135 ff.; see also footnote 3). An example is Icelandic. This language in general does not allow pro-drop, but subjects with arbitrary interpretation can be dropped:

- (11) Hér á ad byggja hús  
*here shall to build house*  
 'People will build a house here'

Tóth (2000) argues that, since referential pro-drop is impossible, agreement affixes apparently cannot act as arguments in Icelandic. If that is so, however, there must be a syntactic pro subject in (11) to which the verb's subject  $\theta$ -role is assigned.

This becomes much less of a problem, however, when the general 'agreement as argument' idea is implemented in the way described above, where it was assumed that the agreement affix is *always* the verb's subject argument, also if no pro-drop is possible and an overt DP must appear to identify this argument.<sup>9</sup> That is to say, agreement affixes do function as arguments in Icelandic, under all circumstances. The problem then reduces to the question when the content of this argument must be identified by a syntactic antecedent and when this is not necessary. It is quite conceivable that this can depend on whether or not the argument has arbitrary interpretation or not. Tóth (2000:139) argues that an arbitrary pro gets its content via a default content assignment rule, which assigns the feature [+human] to it. In the present approach, it is the agreement affix itself that can be an arbitrary argument, which may receive an interpretation as [+human] by default rule. Now, given the existence of split pro-drop languages (see footnote 7), it must be possible anyhow that the rules that determine whether or not an argumental agreement affix needs a syntactic specifier can refer to individual affixes, as well as to complete paradigms. This means that in a particular language these rules can also state that all agreement affixes that are specified for person and/or number features must have a syntactic antecedent, whereas an affix that is only specified as [+human] need not. This is the situation in Icelandic (see also Weerman 1989:211-212). In a language like English all agreement affixes must have a syntactic specifier; in a full pro-drop language such a specifier is never required.

The second, more conceptual, problem is how to deal with constructions involving raising verbs. Consider (12), for example.

(12) Mary seems to disagree with the proposal

If (9) is correct, how is it possible that in (12) the 3<sup>rd</sup> person singular affix appears on the raising verb *seems*, whereas it is the subject argument of the embedded verb *disagree* that is realized by this affix (specified by a syntactic antecedent *Mary*)?

This problem has in fact been discussed before in connection with the idea that inflection realizes a verb's subject argument, namely by Evers (1988) and Borer (1989). They argue that in raising contexts the lower verb has a 'defective Agr' (Borer) or no argumental inflection at all (Evers), with the consequence that, in the words of Evers, the subject  $\theta$ -role 'leap frogs' to the inflection of the higher verb. This

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<sup>9</sup> See section 5 for a class of exceptions in which the verb's subject  $\theta$ -role is assigned to a syntactic subject DP, instead of to the agreement affix.

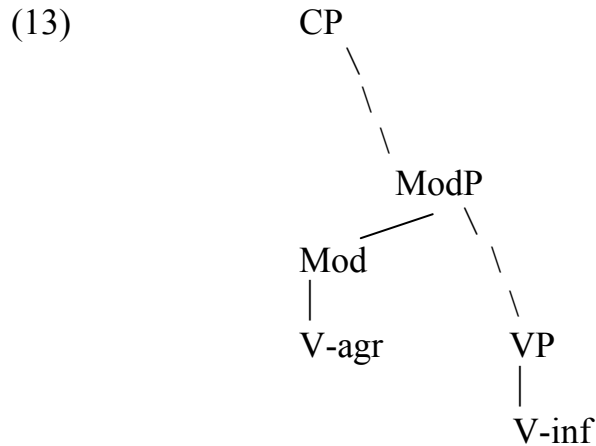
contrasts with what happens in control structures, where the inflection on the lower verb, although it may be bound by an argument of the matrix verb, receives its own  $\theta$ -role and hence cannot be ‘defective’.

Obviously, it would be desirable if this difference with respect to the status of the inflection on the lower verb in complements to raising verbs and complements to control verbs need not be stipulated but follows from the structural differences between the two types of clause. A general idea that seems promising in this respect is that raising complements involve less structure than control complements, so that the relation of the infinitive with the matrix verb is tighter. There are various approaches to raising in which it is assumed that the two verbs together head one clause (so they form a complex predicate), in contrast to what is the case in biclausal control structures. The constituent members of such a complex predicate arguably share one argument structure (compare Grimshaw & Mester 1988, Rosen 1990, Neeleman 1994).

The idea that raising constructions are monoclausal can be technically implemented in diverse ways. For concreteness, I will assume that the raising verb occupies a functional head position in the extended projection of the lexical verb (see Cinque 2000 and Wurmbrand 2001 and for discussion).<sup>10</sup> For example, if the raising verb is an (epistemic) modal, the construction has a structure as in (13) (dotted lines indicate that more structure may be present, irrelevant for present purposes).

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<sup>10</sup> Wurmbrand and Cinque make this assumption not just for raising verbs, but for some, respectively all, so-called restructuring verbs in languages like German and Italian. These also include a number of verbs traditionally classified as control verbs. Wurmbrand argues a distinction between two types of control can be made, syntactic and semantic control, where only the former involves a biclausal construction with a PRO subject in the complement clause. The argument in section 4 concerns this type.



Crucially, there is no clausal barrier between the two verbs. In that case the possibility of  $\theta$ -role sharing between the inflectional affixes on the verbs becomes understandable as an instance of lexical chain formation. The higher inflectional affix in (13) arguably c-commands the lower one and there is no barrier to block chain formation. (This process of lexical chain formation can be reiterated, leading to composed chains in case the complex predicate consists of more than two verbs).

The upshot of this is that the idea that ‘the’ inflection on ‘the’ verb expresses the highest argument in ‘the’ verb’s argument structure can now be formulated more precisely as follows:

- (14) Given a (complex) predicate with argument structure  $(\theta_1 (\theta_2, \dots))$ ,  $\theta_1$  is realized by the inflection on the highest inflected head in the extended projection of this (complex) predicate

In case the predicate consists of just one verb, the highest inflected head in its extended projection is obviously this verb itself, so that its subject  $\theta$ -role is realized by its own inflectional affix. But in cases of verbal complex predicates, the monoclausal character of such structures has the effect that the agreement on the highest auxiliary realizes the main verb’s highest  $\theta$ -role.<sup>11</sup>

Let us now consider the main issue, the lack of impersonal readings for infinitival clauses, from the perspective that inflectional affixes can function as argument, i.e. that (9) in its specific formulation as in (14) holds.

#### 4 Infinitival inflection and the lack of impersonal infinitivals

<sup>11</sup> The highest role available for morphosyntactic projection, that is. This is usually a subject  $\theta$ -role, but in cases of passives and unaccusatives it is an object  $\theta$ -role.

Consider then infinitival complements, in nonrestructuring contexts (cf. footnote 10), like German (15) for instance.

- (15) a. Alina versucht [zu tanzen]  
           *Alina tries to dance*  
       b. Es ist möglich [zu tanzen]  
           *it is possible to dance*

Here the infinitive heads a clausal projection on its own, rather than sharing one with the higher verb. Consequent application of (14) implies that the infinitive's subject  $\theta$ -role is realized by its own inflectional ending in such contexts – as already proposed by Evers (1988).<sup>12</sup> In this section I will argue that, given this state of affairs, the impossibility of impersonal readings for infinitival clauses follows from a fundamental morphological difference between infinitival and finite inflection: for infinitives only one inflectional ending is available. In other words, the crucial difference between finite clauses and infinitival ones is that finite inflection is organized into a paradigm whereas infinitival inflection is not (barring agreeing infinitives).

The first consequence of this difference is that infinitivals will always allow 'pro-drop', that is, empty subjects. Consider why. In section 3 it was argued, following Weerman 1989 and Davis 2000, that it is not pro but argumental agreement that needs its content to be identified. This is achieved either morphologically, via a rich paradigm, or by an overt syntactic antecedent, a DP subject. However, if the inflectional affix on the verb is not in opposition to other affixes with different content (if there is no agreement paradigm in the first place), identification of the affix's content is superfluous. In that case, there can be no need for an overt subject. An overt subject must identify the content of an argumental inflectional affix in case this affix can be confused with another one that has different phi-features. In case the paradigm for finite agreement inflection has distinct affixes in each cell, such ambiguity does not arise and argumental inflection need not have an overt DP antecedent that identifies its content. But the same is true if there is no paradigm at all. If there is only

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<sup>12</sup> Evers argues that this  $\theta$ -role is assigned to the infinitival marker *zu* in German (*te* in Dutch, *to* in English), which might explain the obligatory presence of this marker in nonrestructuring contexts and its possible absence in restructuring contexts (although there are also restructuring contexts with *zu*, which hence must be a kind of dummy in that case). For the analysis below it does not really matter whether it is the ending on the infinitive that acts as inflectional subject argument or the *te/zu* particle that acts as such. The crucial thing, namely that this element is not in paradigmatic opposition to other affixes (or to other particles), holds under both views.

one inflectional affix available, this affix cannot possibly be confused with a different affix from the same paradigm – there are no such different affixes. Infinitival inflection thus is uniquely identified by morphology. A syntactic subject therefore is unnecessary.<sup>13</sup>

The second consequence of the infinitival inflectional argument not being in paradigmatic opposition to other affixes is that its specification for person and number features must be maximally underspecified. Infinitival inflection must have phi-features in order to function as an argument, but given that there are no opposing affixes in this case, these features will never be split and distributed across different cells of a paradigm by the language learning child (compare Pinker 1984). The infinitival inflectional affix thus remains maximally underspecified; it is stored in the lexicon with the feature content in (16).

(16) infinitival Infl: [ $\alpha$  person,  $\beta$  number]

The specification in (16) is compatible with both obligatory control and ‘arbitrary control’ readings for the infinitive’s subject argument. In cases of obligatory control, infinitival Infl is anaphoric and is bound by an argument (possibly another inflectional argument) of the matrix clause, thus receiving a full specification for person and number. Otherwise, a default rule applies which assigns the content [+human] to the infinitival Infl argument.<sup>14</sup> Clearly, this feature too is compatible with the affix’s

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<sup>13</sup> A different matter is why the subject of an infinitive often *must* be null (though not always, see footnote 4). Overt pronominal subjects in pro-drop languages occur only when they fulfill a certain discourse function. They either explicitly mention the topic of the sentence (like left-dislocated subjects in Spanish and Greek), or they are in focus (like postverbal subjects in Romance languages). Now, if the subject of an infinitive is controlled by an argument of the matrix verb it obviously cannot itself introduce the topic of the sentence; moreover, focus for this argument can be realized on the matrix controller. If the infinitival’s subject is an arbitrary ([+human]) argument, using this argument as topic or focus does not make sense. Note in this respect that topicalization or focussing of overt counterparts of such arb arguments, impersonal pronouns like *one*, is also impossible. Compare *as for Mary, she has written a new book* with *\*as for one, s/he should write more books*, and compare *MARY has written a new book* with *\*ONE should write more books*.

<sup>14</sup> Usually the infinitive’s subject must also be [+human] in cases of obligatory control. Presumably this indicates that what matters in determining the choice of controller is the lexical semantics of the matrix verb, rather than some purely syntactic principle of locality, as argued by Chierchia (1984), Farkas (1988) and others. As discussed by some of these authors, there are cases of object control that show the controlled subject argument can be [-human], for instance in purpose clauses: *John designed a battery to operate at high temperatures* (example from Whelpton 1996). Be this as it may, the fact that when the infinitival clause has a subject argument this might necessarily have certain semantic properties does not entail that there necessarily is such an argument, so it does not account



lexical specification in (16). The German examples in (15) illustrate both options, and thus are analyzed as in (17). (The superscripts in (17) just indicate which  $\theta$ -role is assigned to which element and have no further theoretical significance).

- (17) a. Alina<sub>i</sub> versuch-t<sub>i</sub><sup>1</sup> [zu tanz-en<sub>i</sub><sup>3</sup>]<sup>2</sup>      -en [ $\alpha$  person,  $\beta$  number] gets content  
 $\theta_1 \theta_2 \quad \quad \quad \theta_3$                                     [3,sg] by being bound by -t [3,sg]  
*Alina try-s                                    to dance-INF*
- b. Es ist möglich [zu tanz-en<sub>i</sub><sup>1</sup>]                                    -en [ $\alpha$  person,  $\beta$  number] gets content  
 $\theta_1$     [+human] by default  
*it is possible                                    to dance-INF*

If the infinitive's subject argument is indeed realized by its inflectional affix, the absence of impersonal readings for infinitivals can now be explained as a result of the following universal restriction on the possible feature specification of affixes:

(18) *No disjunctive specification*

The feature specification of an inflectional affix may not contain a disjunction

In other words, an affix may not be specified as expressing, say, first person singular *or* second person plural. This means that in cases in which it seems two different feature bundles are realized by the same form, we must be dealing either with neutralization of some dimension of the paradigm within some other dimension of the paradigm (e.g. there are distinct forms for gender in the singular but not in the plural), or just with accidental homonymy of two or more affixes. The reason why (18) must hold is precisely because, if it did not, the distinction between these two fundamentally different situations would be blurred.

This issue is extensively discussed by Blevins (1995), in his account of syncretism in paradigms. An example Blevins uses to illustrate the problem of allowing disjunctive specification concerns the German determiner paradigm.<sup>15</sup> Consider the distribution of the determiner *die*. It occurs with feminine singulars nouns, and with plural nouns of any gender, in the nominative and accusative. Karttunen (1984)

for why an impersonal reading, with *nonargumental* inflectional Infl, is never possible – the issue addressed here.

<sup>15</sup> A determiner is of course not an 'inflectional affix' as mentioned in (18), but (18) is meant to be generally valid for all elements that are organized into paradigms according to their feature specification.

proposed a disjunctive specification like (19) for the feature make up of *die* to account for this.

- (19) AGR: (NUM sg, GEND fem)  $\vee$  (NUM pl)  
CASE: nom  $\vee$  acc

The disjunction in the specification of AGR states that *die* is used, in nominative and accusative, in both the singular feminine and in general in the plural. Clearly a linguistically significant generalization can, hence must, be made here, namely that the dimension ‘gender’ is neutralized in the plural in the German determiner system. (The genitive and dative determiners in the plural do not depend on gender either). However, the disjunction in AGR features makes this case equivalent to cases of accidental homonymy (such as the one expressed by the disjunction in the specification for CASE features in (19)). As Blevins (1995:124) puts it, “the sheer generality of feature structure disjunction also contributes to linguistically unrevealing descriptions, as disjunction permits the amalgamation of essentially arbitrary formal specifications”. For example, the German determiner *der* also occurs in more than one cell of the paradigm, namely in the masculine nominative singular, the feminine dative and genitive singular, and the genitive plural. Blevins (1995:124-125) notes that “this convergence of distinct forms cannot be described as the partial neutralization of particular features, as it encompasses all three genders, both numbers and three of the four cases. Nevertheless, as [(20) below] shows, it is straightforward to provide a disjunctive entry that consolidates these disparate specifications. While it might be possible to distinguish [(19)] from [(20)] in terms of relative complexity, it is clear that disjunctive feature specifications, like disjunctive extensions generally, do not support a distinction between linguistically significant generalizations, neutralizations in this case, from random assemblages of feature specifications”.

- (20) (NUM sg, (GEND masc, CASE nom)  $\vee$  (GEND fem, CASE dat  $\vee$  gen))  
 $\vee$  (NUM pl, CASE gen)

Returning now to infinitival inflection, recall that infinitival Infl’s feature specification must be as in (16), which is compatible both with controlled and default [+human] readings. However, the one thing that [ $\alpha$  number,  $\beta$  person] is not compatible with is absence of these phi-features, so with a dummy nonargumental reading for Infl. Moreover, given (18) an extension of infinitival Infl’s lexical feature specification as in (21) is not allowed, as it involves a disjunction.

- (21) \* infinitival Infl: [ $\alpha$  person,  $\beta$  number]  $\vee$  [ $\emptyset$ ]

As a consequence, if the infinitival verb does not assign a  $\theta$ -role to its Infl, so that it should function as a phi-feature-less dummy, the result is incompatible with the lexical feature specification of this affix.

Consider for instance the difference between (3a) and (3b) again, repeated here in (22).

- (22) a. \*Es ist möglich [getanzt zu werden]  
*it is possible danced to be*  
 ‘It is possible that there is dancing’  
 b. Es ist möglich [geliebt zu werden]  
*it is possible loved to be*  
 ‘It is possible to be loved’

The infinitival complement is headed by a complex predicate here, consisting of main verb participle and auxiliary infinitive. In accordance with (14), the highest  $\theta$ -role of this predicate that is available for morphosyntactic projection is realized by the inflection on the highest inflected head in the extended projection of this complex predicate, so by infinitival *-en* in (22). The passive participle of the main verb somehow absorbs this verb’s external  $\theta$ -role (cf. Williams 1981 and others). Transitive *lieben* ‘love’ in (22b) then has its internal  $\theta$ -role left as a role that is available for morphosyntactic realization. Consequently, this role is realized by *-en* on *werden*. In the absence of a controller in the matrix clause in (22b), this inflectional argument receives an interpretation as [+human] by default (so the sentence means ‘it is possible for people in general to be loved’). This interpretation is consistent with the lexical feature specification in (16) for the infinitival affix.

However, the passive participle of intransitive *tanzen* ‘dance’ in (22a) has no  $\theta$ -role left after absorption of the external  $\theta$ -role. This means that the inflectional affix of the highest inflected head of the verbal complex should be a dummy expletive. So *-en* in (22a) should get an interpretation as not having person/number features. That is inconsistent, however, with the lexical specification of this morpheme in (16); recall that extending this specification as in (21) is ruled out by (18). The absence of impersonal readings in infinitives, as in (22a), is thus accounted for.

The impossibility of assigning a quasi-argumental role to the subject of an infinitival clause, as in (5a), repeated here as (23a)) receives a slightly different account. A different account is called for anyway, since in this case the presence of a matrix controller for the quasi-argumental subject can save the structure ((23b), see Chomsky 1981, Bennis 1986, and others).

- (23) a. \*Es ist möglich [leicht zu regnen]  
*it is possible lightly to drizzle*  
 ‘It is possible that there is a light drizzle’  
 b. Es regnete leicht [ohne zu schneien]  
*it drizzled lightly without to snow*  
 ‘It drizzled lightly without snowing’

In (23b) infinitival Infl receives the specific content and features of a quasi-argument of a weather verb (presumably 3sg) by being controlled by the subject argument of the matrix weather verb. This is of course consistent with this Infl being assigned the subject  $\theta$ -role of the infinitive *schneien* ‘to snow’, since that is just such a quasi-argument. In (23a), however, no controller is present in the matrix clause. In that case the Infl argument, being lexically underspecified as [ $\alpha$  person,  $\beta$  number], receives the specific content [+human] by default rule, as indicated above. That content, however, is incompatible with the  $\theta$ -role Infl receives from the weather verb in (23a), as humans do not drizzle.

In short, the absence of impersonal readings in infinitives is accounted for by a universal condition that forbids lexical feature disjunctions. It might seem at this point that this account creates a problem by solving another, since it seems that by the same reasoning impersonal readings in finite clauses should be impossible just as well. The question is why there can be such a thing as default agreement in finite impersonal constructions like (24b). The feature specification of affixes that can act as default agreement would seem to involve precisely the kind of disjunction that is not allowed by (18): the affix is either [ $3^{\text{rd}}$ , sg] (in (24a)) or [ $\emptyset$ ] (in (24b)).

- (24) a. Es ist möglich [dass der Czardas getanzt wurde]  
*it is possible that the Czardas danced was*  
 ‘It is possible that the Czardas was danced’  
 b. Es ist möglich [dass getanzt wurde] (= (1c))  
*it is possible that danced was*  
 ‘It is possible that there was dancing’

Again, however, the fact that finite inflection is usually organized into a paradigm whereas infinitival inflection usually is not makes it possible to account for this contrast. The paradigmatic organization of finite inflection makes it possible to specify a particular affix as an elsewhere form (cf. Kiparsky 1973), which is compatible with both the relevant readings. Consider how.

Let us adopt the traditional conjecture that features must have binary values. This means there cannot be a three-valued person feature. Instead, there are two features

[speaker] and [addressee], which define first and second person respectively. The use of these features, rather than some feature specifically indicating third person, is based on traditional observations concerning asymmetries between first and second person agreement and pronominal forms on the one hand and third person forms on the other (Forchheimer 1953, Benveniste 1971; see also Anderson 1977, Kerstens 1993 and Harley & Ritter 1998).

Given these features, the affixes in a finite agreement paradigm can be specified as in (25) (ignoring the plural ones, for which an extra feature [+plur] is necessary). (Note, incidentally, that paradigmatic organization of course does not imply that one of the affixes *must* be specified as an elsewhere form.)

- (25)     affix x     [+speaker]  
           affix y     [+addressee]  
           affix z     elsewhere

The specification of affix z as an elsewhere form makes this affix compatible with all readings in which it does not realize a [+speaker] or [+addressee] role, without having to give it a disjunctive specification (see Blevins 1995 on the fundamental distinction between disjunctive specification and designation as an elsewhere form). This includes readings in which affix z realizes a [–speaker, –addressee] (third person) argument. But it also includes readings in which this affix does not represent an argument at all, that is, impersonal readings. In that case, the affix acts as ‘default agreement’.

Crucially, such an elsewhere strategy is impossible with infinitives because there is only one affix available for them. An ‘elsewhere’ specification implies an opposition of at least two affixes, as a form cannot be its own elsewhere case. In other words, a set of spell out rules consisting of only (26a) is uninterpretable. Moreover, it was already noted that a specification like in (26b) is disallowed because of the disjunction it contains. Hence, only something like (26c) is allowed in case there is only one affix and no paradigm. Consequently, the infinitival affix cannot act as a default ending that does not express speaker/addressee features, as is required in impersonal constructions.

- (26) a. # affix x elsewhere  
       b. \* affix x [ $\alpha$ speaker,  $\beta$ addressee]  $\vee$  elsewhere  
       c. affix x [ $\alpha$ speaker,  $\beta$ addressee]

In conclusion, under the ‘inflection as argument’ view the difference between finite and infinitival clauses with respect to impersonal readings follows from a basic

morphological distinction between finite and infinitival inflection, namely that the former is organized in a paradigm whereas the latter is not. Whether or not it is a coincidental lexical property that a paradigm contains an elsewhere form or not is an issue I will leave open. What is relevant here is that in the absence of a paradigm there is not even the option of having such a form. This leads to the question of what happens in languages that do not even have paradigms for finite inflection. This question will be addressed in the next section.

## 5 Languages without agreement paradigms

A recurring problem for accounts that relate the possibility of pro-drop to the richness of the agreement morphology in a language is the existence of pro-drop languages that lack agreement altogether, like Chinese (Huang 1984, 1989). Jaeggli & Safir (1989) try to unify the ‘pro-drop with rich agreement’ and ‘pro-drop with no agreement’ cases, and to distinguish them from the ‘no pro-drop with poor agreement’ case, by proposing that the agreement paradigm must be ‘morphologically uniform’ in order for pro-drop to be possible. A paradigm is morphologically uniform iff either all its cells contain an overt inflectional affix or none does. Apart from some empirical problems, the question remains why such a condition should hold. The type of approach to pro-drop adopted here, based on that of Speas and Davis, can account for this.

Recall that an overt subject is necessary to identify the content of an inflectional argument in case the morphology does not unambiguously indicate which affix we are dealing with. This is the case when there is syncretism in the paradigm. It is not the case if all cells of the paradigm are filled with a distinct affix. However, neither is it the case if there is no paradigm. If there is only one form, morphology uniquely distinguishes this form from any opposing forms, trivially: there are no opposing forms. As a consequence, no overt specifier (syntactic subject) is necessary under such circumstances. This holds for (nonagreeing) infinitives in all languages, as argued in the previous section. However, it also holds for finite clauses if the paradigm for finite verbs contains only one form, as is the case in a language like Chinese.

The inflectional affix on finite verbs in Chinese (a zero affix) hence has the same lexical feature specification that infinitival affixes have in general, namely the maximally underspecified one in (26c) (see also Hermon & Yoon 1990). This argument receives specific content either by being controlled by an argument in the matrix clause or by being bound by a zero topic (see Huang 1984; the latter option is of course the only possibility if the underspecified Infl is the argument of the matrix verb itself).

The analysis above of the absence of impersonal readings in infinitivals is based on the absence of a paradigm for infinitival inflection. If correct, this means that the same observations should hold of finite clauses in a language like Chinese. In other words, it is predicted that in languages in which pro-drop is licensed by the absence of an agreement paradigm, constructions in which the subject argument is nonthematic are ruled out altogether. This seems to be a correct prediction for Chinese, where apparently no impersonal constructions are attested (Huba Bartos and Rint Sybesma, personal communication).

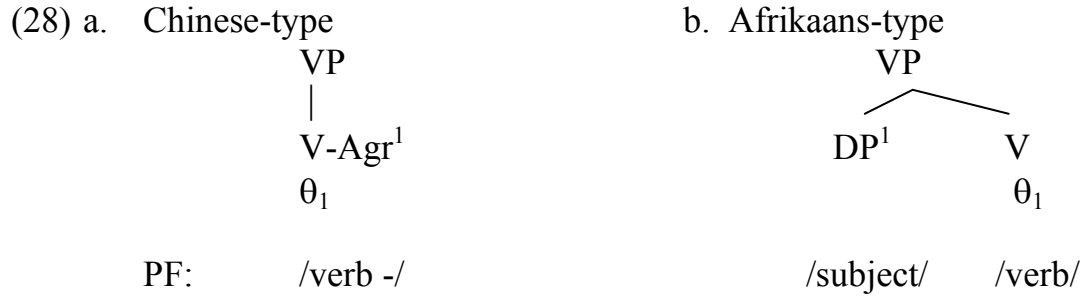
However, the prediction that in languages lacking an agreement paradigm finite clauses should behave like infinitivals in allowing pro-drop but not allowing impersonal readings is not always borne out. Consider for instance Afrikaans. Like Chinese, this language does not have any agreement inflection. Nevertheless, in contrast to Chinese, it does not allow pro-drop in finite clauses (see (27a)), whereas it does have impersonal passives (see (27b), from Ponelis 1979:408).

- (27) a. \*(ek/jy/hy/ons/julle/hulle) loop  
*I/you/he/we/you/they walk*  
 b. Daar word gegroet/gelag/gedans/gewerk  
*there is greeted/laughed/danced/worked*  
 ‘There is greeting/laughing/dancing/working’

There must be a difference between languages like Chinese and languages like Afrikaans, then, despite the fact that in neither is there any overt sign of agreement inflection.

I would like to propose that the difference is that, whereas Chinese-type verbs contain a null affix as inflectional ending, Afrikaans-type verbs truly lack inflectional endings altogether. In other words, in Chinese there is an affix present in the morphosyntactic structure but this affix is not spelled out, whereas in Afrikaans the morphosyntactic structure of finite verbs does not contain any affix position.

If Afrikaans finite verbs really lack an inflectional affix not only phonologically but also syntactically, they cannot assign their subject  $\theta$ -role to such an affix either. Consequently, in this type of language it is the syntactic subject DP after all that by necessity receives this role. The difference between the two types of language is illustrated in (28).



If this is on the right track, overt preverbal subjects in Chinese should behave like the overt subjects in other pro-drop languages (as being in an A'-position, compare section 3), whereas overt subjects in Afrikaans should not. There is evidence that indicates this is correct. One of the things in which overt preverbal subjects in pro-drop language differ from those in non-pro-drop languages is their scope properties. In particular, like other left-dislocated phrases, they obligatorily have wide scope over VP-internal arguments. Alexiadou (2002) illustrates the point for Greek: the sentence in (29b) does not show the same scopal ambiguity between the two quantifiers as does its English counterpart in (29a). Crucially, whereas Afrikaans behaves on a par with English in this respect, the quantified subject in Chinese (29c) has obligatory wide scope, as noted by Aoun & Li (1993).<sup>16</sup>

- |   |               |
|---|---------------|
| (29) a. Some student filed every article  | E > A, A > E  |
| b. Kapios fititis stihiothetise kathe arthro<br><i>some student filed every article</i> | E > A, *A > E |
| c. (Yaoshi) yige ren piping meigeren...<br><i>if someone criticized everyone</i>        | E > A, *A > E |

The ‘radically agreement-less’ analysis of Afrikaans in (28b) explains that the language allows impersonal constructions. If the verb does not have any subject θ-role available for projection this does not lead to any problems, since nothing forces a DP argument to be merged in subject position. It also explains that Afrikaans does not allow pro-drop. Since a sentence like \*loop ‘walk’ does not contain either a syntactic

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<sup>16</sup> It should be noted that Aoun & Li’s account of this is based on the opposite assumption as the one made here, namely that Chinese does not have agreement affixes at all. They argue that as a result of this the subject stays within VP (as what is assumed here for Afrikaans (28b)) and propose a principle which has the result that nonmoved subjects can only have wide scope. It seems difficult to generalize this account to pro-drop languages with rich agreement, however.



subject DP or a morphological inflectional ending on the verb, there is no element at all to which the subject  $\theta$ -role of the verb can be assigned here.<sup>17</sup>

Note that, in contrast to this, infinitivals in Afrikaans behave like infinitivals in any language. They do allow null subjects and do not allow impersonal readings, as illustrated in (30) ((30a) is from Ponelis 1979:583; (30b) constructed):

- (30) a. Ek het vir Annelie belowe [om - te kom]  
*I have for Annelie promised for to come*  
 ‘I promised Annelie to come’
- b. \*Dit is moontlik gedans te word  
*it is possible danced to be*  
 ‘It is possible that there is dancing’

Given the reasoning above, this implies that Afrikaans infinitives have a null inflectional ending. The same overt form of the verb thus contains a null affix in infinitivals but no affix in finite clauses in Afrikaans, whereas in Chinese it contains a null affix in both finite and infinitival clauses. In other words, in Afrikaans but not in Chinese there is a fundamental syntactic distinction between finite verbs and infinitives, although in neither type of language is there an overt morphological sign of such a distinction.

This supposed difference between these languages probably is not as awkward as it may seem at first sight. For Chinese it has in fact been argued that there is no syntactic motivation to distinguish between finite verbs and infinitives, see for instance Jiang 1990 and Xue & McFetridge 1998.<sup>18</sup> Afrikaans, on the other hand, definitely has a

<sup>17</sup> It would seem to follow that if a language has no agreement paradigm but has one *overt* inflectional ending on all finite verbs, it should be of the Chinese type (by assumption Chinese has one finite inflectional affix, null) and cannot be of the Afrikaans type (which by assumption lacks finite inflectional affixes altogether). This prediction is hard to test, however. This is because, if there is one uniform overt affix on all finite verbs, it may be that this affix expresses something other than maximally underspecified speaker/addressee features and hence might not function as inflectional argument. For instance, in Swedish finite verbs have an *-ar* ending, whereas this language is not of the Chinese type (there is no pro-drop). Plausibly, however, *-ar* is a suffix that expresses present tense: it stands in opposition to past tense *-ade*. If so, there is no argumental affix, so that the language is of the Afrikaans type.

<sup>18</sup> Huang (1984:555-556) notes that there is a distinction qua control between the Chinese counterpart of a finite complement to a verb like *say* and the Chinese counterpart of an infinitival complement to a verb like *try* in English. An empty subject in the complement of ‘say’ can either be controlled by the matrix subject or by a discourse topic, whereas the empty subject in the complement of ‘try’ must necessarily be controlled by the matrix subject. Huang assumes there is a syntactic distinction between finite and infinitival clauses in Chinese which has the effect that in finite complements the empty subject can either be a null pronoun (the content of which is identified by control by the

syntactic property that distinguishes finite and nonfinite verbs, namely the verb second property that it inherited from Dutch. Just as in Dutch, only finite verbs undergo V2 (in main clauses), nonfinite verbs remain in their base position. This is illustrated in (31) (adapted from Robbers 1997:29-30). The idea that Afrikaans makes a morphological distinction, be it not a visible one, between finite and nonfinite verbs but Chinese therefore does not appear to be ad hoc.

- (31) a. dat hy altyd daardie liedjie sing  
*that he always that song sing*  
 ‘that he always sings that song’  
 b. Daardie liedjie sing hy altyd  
*that song sing he always*  
 ‘That song he always sings’  
 b’. \*Daardie liedjie hy altyd sing  
*that song he always sing*  
 c. Hy kan daardie liedjie sing  
*he can that song sing*  
 ‘He can sing that song’  
 c’. \*Hy kan sing daardie liedjie  
*he can sing that song*

So in languages that lack any agreement affixes, a syntactic subject DP must be present to receive the verb’s subject  $\theta$ -role. However, nothing said so far excludes that languages that do have agreement optionally make use of this possibility as well. The option of assigning the subject  $\theta$ -role to a syntactic DP may exist side by side with the option of assigning it to an agreement affix (after all, the  $\theta$ -criterion is satisfied in either case). This may account for the occurrence of a particular type of construction in some languages with agreement, involving a non-nominative subject and default agreement.

Consider for instance the following examples from Middle Dutch (see Van den Berg 1985 and Weerman 1988 for data and discussion):

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matrix subject) or a null variable (the content of which is identified by being bound by a null topic operator) whereas in infinitivals only the former option is possible. However, given semantic theories of control like those alluded to in footnote 14, it seems plausible that this difference is caused by the different semantics of the matrix verbs, rather than by the finite or nonfinite status of the complement clause. The semantics of a verb like *try* is such that it imposes obligatory subject control on its complement (see also Cormack & Smith, this volume)), whereas the semantics of a verb like *say* plausibly does not impose such obligatory control. An analysis for the Chinese data along such lines is given in Xu 1986.

- (32) a. Ons lanct na di  
*us-DAT longs to you*  
 ‘We long for you’
- b. Mi wondert des  
*me-DAT wonders that-GEN*  
 ‘I wonder about that’
- c. Hem verdrietet des  
*him-DAT pities that-GEN*  
 ‘He is sorry about that’

This construction is traditionally called ‘impersonal’, but arguably the dative DP here is a subject, not an internal argument (see Van Gestel et al. 1992:72). However, although the DP is a subject, it nevertheless is not the specifier of an argumental agreement affix (as nominative DPs are in Middle Dutch – it is not a pro-drop language). This is indicated by the fact that there is default agreement in (32): the verb carries a *-t* ending regardless of the person and number features of the dative subject. In the present view this means that an affix lexically specified as ‘elsewhere’ is used, compatible with readings in which it does not express speaker/addressee/number features. Arguably, then, the subject DP itself receives the subject  $\theta$ -role here and agreement is nonargumental in this case.

If (32) does indeed involve nonargumental inflection, the analysis proposed here predicts that this construction should be impossible in infinitival clauses, just like real impersonal constructions like the impersonal passive. As argued in section 4, the lexical feature specification of the infinitival affix is necessarily incompatible with a phi-feature-less dummy reading for it. This prediction appears to be correct: sentences like (33) are not attested in Middle Dutch (compare Van Gestel et al. 1992:72).<sup>19</sup>

- (33) a. \*Hi dacht hem na di te langen  
*he thought him-DAT to you to long*  
 ‘He thought he longs for you’
- b. \*Het en is geen verrassing mi des te wonderen  
*it NEG-is no surprise me-DAT that-GEN to wonder*  
 ‘It is no surprise that I wonder about that’

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<sup>19</sup> The impersonal verb does occur as an infinitive in restructuring contexts, as in (i). This is as expected since here it is the ending on the higher, finite, verb that expresses whether a subject  $\theta$ -role is or is not assigned by the complex predicate to the inflection that is present, see section 3.

- (i) Haer sal verlangen dan na u  
*her-DAT will long to you then*  
 ‘She will long for you then’

## 6 Conclusion

In approaches in which understood subjects in finite and nonfinite clauses are represented by empty pronominals, different behaviour of such subjects in both types of clause is rather awkward. It is desirable to unify both types of empty subject. At least, it seems somewhat arbitrary to assume that there are two fundamentally distinct types of empty pronominal and then assign each type to one type of clause. In contrast, if subject arguments are realized by the inflectional affixes on the verb, this provides a natural basis for an account of the different behaviour of finite verbs and infinitives, since with respect to these affixes there is a clear difference between the two.<sup>20</sup> The affixes on finite verbs are in paradigmatic opposition to each other, the affix on an infinitive is not part of a paradigm. I hope to have shown that the distinctive behaviour of understood subjects in infinitivals, in particular their incompatibility with a ‘dummy’ expletive reading, can be made to follow from this morphological difference alone.

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<sup>20</sup> A comparable argument is made by Manzini & Savoia (1997) and Manzini & Roussou (2000); they too conclude from this that both pro and PRO should be dispensed with, although the assumptions on which their analysis of pro-drop and control is based are rather different from those adopted here.

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