

# Agreement, PRO and Imperatives

Hans Bennis

## 1. Introduction: the *pro*-drop parameter<sup>1</sup>

In the literature the occurrence of an empty subject in finite clauses is generally related to a parametric choice in the grammar of the language in question. The well-known and much debated *pro*-drop parameter is taken to be the relevant principle that determines whether a language does or does not allow for empty subjects in non-infinitival clauses. These empty subjects are called *pro*-subjects or simply *pro*. The occurrence of *pro* is often related to the nature of the verbal inflectional paradigm of the language, in such a way that a 'rich' inflectional paradigm allows *pro* to appear, whereas languages with 'poor' inflectional systems do not allow for *pro*-subjects. The *pro*-drop parameter is thus related to the morphosyntactic specificity of the inflectional system in a particular language. For instance, in a language such as Italian the verbal inflectional paradigm is fully specified for all relevant pronominal subject properties. It is specified for the features [person], [number] and [gender] (the so called *φ*-features), and the specification of this feature set gives rise to a unique morphosyntactic realization. In an intuitive way it makes sense that Italian allows a lexical subject pronoun to be absent, due to the fact that the subject properties can be recovered through the verbal inflection. In languages such as English and Dutch the inflectional paradigm is much less specific. It is impossible to recover the pronominal subject features through the morphosyntactic properties of the inflection. There is no morphosyntactic gender distinction and the person distinction is far from optimal (e.g. in the plural the person distinction is absent). In this way the occurrence of subject *pro* is directly related to the nature of subject-verb agreement in finite clauses.

On the other hand, it has been observed that *pro*-drop phenomena not only show up in languages with rich inflectional systems such as Spanish and Italian, but also in languages with no verbal inflection, such as Chinese (cf. Jaeggli and Safir 1989, Huang 1989). So it appears to be the case that both rich inflectional verbal paradigms and the poorest inflectional systems (i.e. no verbal inflection) allow *pro*-drop, whereas poor paradigms with an underspecified inflectional system require the subject to be lexical. It is not immediately evident that a *pro*-drop parameter can account for such a distribution of *pro* other than by stipulating that a particular language is either *pro*-drop or non-*pro*-drop.

In the early days of the *pro*-drop parameter (cf. Chomsky 1981, Rizzi 1982) it was argued that the occurrence of *pro* correlates with other systematic syntactic properties of the subject. If correct, it corroborates the parameter approach to the occurrence of *pro*. If a number of specific properties in a language can be reduced to one by the postulation of a general parameter that is claimed to be part of Universal Grammar, the parameter provides insight in the systematic correlations within the grammar and, as a consequence, it strengthens the

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<sup>1</sup> This article is closely related to Bennis (2001). The general idea, however, differs. I thank Sjef Barbiers, Johan Rooryck, Wim van der Wurff and the audiences of the Workshop on Agreement (Utrecht; August 2001) and the Linguistics Colloquium Groningen (January 2002) for comments.

UG-approach. It has been argued that the presence of *pro*-subjects is related to two other properties of the grammar: the occurrence of complementizer-trace phenomena and the availability of subject inversion. Although the idea that one parameter may account for a number of different, but related properties has been very inspiring, the empirical justification for the *pro*-drop parameter proves to be weak. For instance, the complementizer trace phenomenon, i.e. the possibility to extract a subject from a finite subordinate clause that is introduced by a lexical complementizer, can easily be found in a non-*pro*-drop language such as Dutch, whereas subject extraction from a position right adjacent to the complementizer has been shown to be impossible in a *pro*-drop language such as Italian. This has weakened the *pro*-drop parameter approach. If there is no uniform correlation between the occurrence of empty subjects and the specificity of the inflectional paradigm, and there is no correlation between the occurrence of *pro* and other subject properties such as complementizer trace phenomena and subject inversion, it seems to be the case that the *pro*-drop parameter is a descriptive statement, rather than a grammatical principle.

In this article I will adopt another approach to the occurrence of empty subjects in non-infinitival clauses. First I will show, as many others have done before, that the availability of *pro* is not language specific, but rather construction specific. The presence of empty subjects depends to a large extent on the type of construction. In this article I will concentrate on the imperative construction. This construction clearly allows *pro*-subjects in 'non-*pro*-drop' languages such as Dutch and English.

We could adopt an approach in which for each construction type in each language the *pro*-drop parameter is implemented, for instance as a *pro*-drop feature [+/- *pro*-drop]. Such an approach might be empirically correct, it would however increase the purely descriptive, ad-hoc status of the *pro*-drop parameter. In order to understand the occurrence of empty subjects as a grammatical property, we have to look more closely at the properties that determine the occurrence of *pro*. I will argue that there are two factors involved in the determination of *pro*-subjects: the nature of subject-verb agreement and pronominal properties in terms of -features.

The basic idea is quite simple. The hypothesis that I will try to substantiate in this article is given in (1).

- (1) *pro*-subjects in non-infinitival clauses may appear if
  - (i) the relevant interpretable -features of the empty subject can be recovered through agreement;
  - (ii) the uninterpretable -features on the non-infinitival verb can be deleted through agreement.

Intuitively speaking, this hypothesis claims that empty subjects are possible only if we are able to recover the interpretation of the empty subject by other means, and secondly, that the verb may not carry additional pronominal information, i.e. information that is not or cannot be interpreted as part of the interpretation of the (empty) subject.

## 2. PRO in imperatives

### 2.1 The imperative verb

In this paper I will concentrate on simple imperatives in Dutch. What I call 'simple imperatives' are those imperatives that have a more or less specialized verb form which shows up in the first position of the clause, in a position that is normally restricted to finite verbs, i.e. the landing site for finite verb movement in root clauses (Verb Second).<sup>2,3</sup> These imperative verbs are generally considered to be verbs that are inflected for second person. Standard Dutch has different realizations of the imperative inflection: the usual form corresponds to the stem of the verb, but in special cases we find an inflected form in which *-t* or *-en* is added to the stem. Examples are given in (2) and (3).

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<sup>2</sup> There are various other construction types that may acquire imperative force. There are imperative V2 clauses (i), imperative infinitive constructions (ii) (cf. Den Dikken 1992), and imperative participial constructions (iii) (cf. Rooryck & Postma 2001). Examples are given in (i)–(iii).

- (i) Jij gaat nu maar eens naar huis!  
you go now PRTs to home  
'You should go home now!'
- (ii) Ophoepelen jij/jullie!  
away-go[INF] you [±plu]  
'You go away!'
- (iii) Opgehoepeld jij/jullie!  
away-gone[PART] you [±plu]  
'You go away!'

<sup>3</sup> It is not the case that the phenomenon of V1, i.e. a finite verb in first position of a root clause, can unambiguously be related to imperative constructions. A variety of functionally marked constructions is characterized by 'verb first'. It concerns construction types such as joke introduction, narrative V1, yes/no question and topic drop. Examples are given in (i).

- (i) a. Zitten twee mannen in de kroeg. *joke-introduction*  
sit two man in the pub  
'There are two men in the pub.'
- b. Zegt die een tegen de ander: *narrative V1*  
says that one to the other  
'The one says to the other.'
- c. Ga je met mij mee? *yes/no-question*  
go you with me PRT  
'Do you come with me?'
- d. Wil ik wel doen. *topic drop*  
want I PRT do  
'That is ok with me.'

We thus observe that there is no unique relationship between imperative force and the syntactic implementation of imperatives. On the one hand imperative force can be expressed by various constructions, as we saw in footnote 2; on the other hand, the typical imperative construction (simple imperatives) is characterized by V1, which also characterizes various other construction types such as yes/no questions and narrative V1. The often expressed idea that there is a one-to-one relation between pragmatic function and syntactic construction should obviously be abandoned in the domain of V1 and imperatives.

- (2) a. Hoepel(-∅) nu maar op!  
go now PRT away  
'Go away!'
- b. Loop(-∅) naar de maan jij/jullie!  
walk to the moon you[±plu]  
'You, go away!'
- c. Wees(-∅) (jij) maar niet bang!  
be (you[-plu]) PRT not afraid  
'Don't be afraid!'
- (3) a. Kom-*t* allen tezamen!  
come all together  
'Come together'
- b. Wees-*t* U maar niet bang!  
be you[+polite] PRT not afraid  
'Don't be afraid!'
- c. Wez-*en* jullie maar niet bang!  
be you[+plu] PRT not afraid  
'Don't be afraid!'<sup>4</sup>

## 2.2 Subject pronouns in imperatives

In imperative constructions the subject is generally absent. However, it can be added as a second person pronoun, as in (4).

- (4) a. Ga jij maar weg!  
go you[-plu] PRT away  
'You, go away!'
- b. Gaat U maar weg!  
go you[+polite] PRT away
- c. Gaan jullie maar weg!  
go you[+plu] PRT away

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<sup>4</sup> The occurrence of the verb form *wees(t) / wezen* in (2c) and (3b/c) indicates unambiguously that these sentences are imperatives, since these forms of the verb *zijn* ('to be') show up in imperatives only. In yes/no-questions for instance, we find different verb forms: *ben*, *bent* or *zijn*, as in (i).

- (i) a. Ben/\*Wees je bang voor slangen?  
are you[-plu] afraid for snakes
- b. Bent/\*Weest U bang voor slangen?  
are you[+polite] afraid for snakes
- c. Zijn/\*Wezen jullie bang voor slangen?  
are you[+plu] afraid for snakes

The stem *wees* also appears in other forms of the irregular verb *zijn* 'to be', such as the infinitival form *wezen* 'to be' — which is in most environments an alternative to the infinitive *zijn* —, the participle *geweest* 'been' and the past tense *was* 'was'. However, the verb forms *wees* and *weest* are exclusively reserved for imperative use in standard Dutch, and thus constitute an interesting test to decide whether a particular construction can be taken to be imperative.

In (4) the imperative inflection agrees with the lexical subject. It is interesting to observe that the non-inflected (or  $\emptyset$ -inflected) imperative may cooccur with a singular or a plural second person subject pronoun when this pronoun occupies a right-peripheral position, as in (5a). This is not the case for *t*-inflected or *en*-inflected imperatives, as is clear from (5b/c).

- (5) a. Ga maar weg *jij, jullie!*  
 go PRT away you[± plu]  
 b. \*Gaat maar weg *jij, jullie!*  
 go PRT away you[± plu]  
 c. \*Gaan maar weg *jij, jullie!*  
 go PRT away you[± plu]

A more detailed discussion of pronouns in subject position and subjects in right-peripheral position in imperatives will be presented below.

### 2.3 The occurrence of *pro* in imperatives

It is possible to leave out the subject in case the imperative verb is uninflected. If the imperative verb has *t*-inflection or *en*-inflection, the subject *U* resp. *jullie* has to be present (6b/c). In older varieties of Dutch (7a) and in regional varieties (7b) we find the *t*-inflected verb without a lexical subject, but in modern standard Dutch this is no longer acceptable.

- (6) a. Kom (jij) eens hier!  
 come (you) PRT here  
 'Come here!'  
 b. Kom-*t* \*(U) eens hier!  
 c. Kom-*en* \*(jullie) eens hier!
- (7) a. Kom-*t* allen tezamen!  
 come-*t* all together  
 'Come together!'  
 b. Kom-*t* (gij) eens hier!  
 come-*t* (you[regional]) PRT here

It is well-known that the absence of a lexical subject in imperatives does not imply that the subject is absent (a.o. Beukema & Coopmans 1989, Potsdam 1998, Rupp 1999). First of all, the non-lexical subject in imperatives is necessarily interpreted as the addressee. It seems to be most efficient to relate the interpretation of the subject to the non-lexical subject position. Moreover, the non-lexical subject can generally be replaced by a lexical pronominal subject (*jij*) without substantial differences in interpretation. The major interpretive difference is that a lexical subject in imperatives is stressed. We thus may assume the non-lexical subject to be the weak variant of the lexical subject. Confirmation for an analysis along these lines comes from the fact that weak subject pronouns do not occur in imperatives. Whereas strong and weak subject pronouns generally show an identical distribution, in imperatives *jij* cannot be replaced by its weak counterpart *je*, as is shown in (8).

- (8) a. \*Ga *je* maar weg! (cf. Ga *je* nu al weg?)  
 go you[weak] PRT away  
 'Go away!'  
 b. \*Wees *je* eens niet zo stoer! (cf. Ben *je* altijd zo stoer?)  
 be you[weak] PRT not so brave  
 'Don't be so brave!'

In this respect the imperative subject behaves like a subject in a *pro*-drop language, such as Italian or Spanish, where the strong lexical pronoun has the empty pronoun *pro* as its weak correlate. The only difference between imperatives with a lexical subject (*jij*) and imperatives without (*pro*), is the emphatic nature of the lexical pronoun.

Another argument to claim that an empty subject has to be present in imperatives comes from the fact that the empty subject is syntactically active in binding and control. This is shown in (9).

- (9) a. Geef *jij<sub>i</sub>/pro<sub>i</sub>* jezelf<sub>i</sub> nu eens wat rust! (reflexive)  
 give you yourself some rest  
 'Give yourself some rest!'  
 b. Herinner *jij<sub>i</sub>/pro<sub>i</sub>* je<sub>i</sub> dit gesprek nog maar eens! (inherent reflexive)  
 remember you you this conversation PRTs  
 'Remember this conversation!'  
 c. Beloof *jij<sub>i</sub>/pro<sub>i</sub>* mij nou maar [om PRO<sub>i</sub> op tijd thuis te zijn]! (control)  
 promise me PRTs for on time home to be  
 'Promise me to be home on time!'  
 d. Kijk *jij<sub>i</sub>/pro<sub>i</sub>* niet [PRO<sub>i</sub> zo dom]! (adjunct control)  
 look you not so stupid  
 'Don't look so stupid!'

We conclude that standard Dutch shows *pro*-drop phenomena in uninflected imperatives. The questions arise why *pro* is allowed in imperatives in Dutch, and why *pro* occurs in uninflected imperatives only.

## 2.5 The interpretation of *pro* in imperatives

As is clear from the preceding sections the *pro* subject in imperative constructions can be interpreted as second person singular. This interpretation corresponds to the interpretation of the lexical pronoun *jij*. However, *pro* can also be interpreted as a plural element corresponding to the pronoun *jullie*. We can force a plural interpretation of the empty subject by introducing a plural anaphor or quantifier that has *pro* as its antecedent. This is illustrated in the examples in (10).

- (10) a. Geef *pro<sub>i</sub>* elkaar<sub>i</sub> de hand!  
 give each other the hand  
 'Give each other a hand!'  
 b. Herinner *pro<sub>i</sub>* jullie<sub>i</sub> het gesprek van vorige week!  
 remember yourselves the conversation of last week  
 'Remember last weeks' conversation!'

- c.      Belooft *pro*<sub>i</sub> mij om PRO<sub>i</sub> het probleem samen<sub>i</sub> op te lossen!  
promise you me for the problem together to solve  
'Promise me to solve this problem together!'
- d.      Ga *pro*<sub>i</sub> allemaal<sub>i</sub> in the rij staan!  
go all in the line stand  
'Stand in line!'

The *pro* subjects in (10) must be plural due to the fact that the anaphor (*elkaar* or *jullie*) or the quantifier (*samen* or *allemaal*) requires a plural antecedent.

*Pro* in uninflected imperatives can also be interpreted as the polite pronoun *U*, as is demonstrated in (11).

- (11) a.      Let *pro*<sub>i</sub> goed op Uzelf<sub>i</sub>! (reflexive)  
watch good on yourself[+polite]  
'Watch yourself carefully!'
- b.      Vergis *pro*<sub>i</sub> U<sub>i</sub> niet! (inherent reflexive)  
mistake yourself[+polite] not  
'Don't make mistakes!'
- c.      Probeer *pro*<sub>i</sub> [PRO<sub>i</sub> U<sub>i</sub> die gebeurtenis te herinneren]! (control+inh.refl)  
try you[+polite] that event to remember  
'Try to remember that event!'

As was shown above, *t*-inflected and *en*-inflected imperative verbs do not occur with a *pro* subject in modern standard Dutch; the polite pronoun *U* / *jullie* must be present. *Pro* appears in uninflected imperatives only. Interpretatively it may occur as the non-lexical counterpart to *jij*, *jullie* and *U*.

## 2.6 Lexical subjects in right-peripheral position

A somewhat unexpected fact is that we find postverbal subjects in Dutch imperatives. In other sentence types in Dutch, the subject has to appear left- or right-adjacent to the finite verb in root clauses. In imperatives it appears to be the case that adjacency to the verb is not required. In imperfect imperatives this can be observed in clauses in which the nominative subject follows a verbal particle (such as *weg* in (12a)). In perfect imperatives we may find the subject following the participle.<sup>5</sup> This is demonstrated in (12b).<sup>6</sup>

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<sup>5</sup> As has been observed in the literature, imperatives do not occur with past-tense marking. Relevant examples from Dutch are given in (i).

- (i) a.      \*Ging dan maar weg!  
went PRTs away
- b.      \*Was maar niet bang!  
was PRT not afraid

I will assume that this implies that there is no formal expression of Tense in imperative clauses. However, there is a set of perfective imperatives, or rather optative constructions, that occur with a past-tense auxiliary. Examples are given in (ii).

- (12) a. Ga maar weg jij!  
 go PRT away you  
 'You, go away!'  
 b. Was maar niet weggegaan jij!  
 was PRT not away-gone you  
 'You shouldn't have left!'

A careful study of the data indicates that the pronouns in (12) should not be analysed as right-peripheral subjects, but rather as instances of right dislocation. First of all, we find full DPs in the same position as *jij* in (12).

- (13) a. Wees maar gerust *mijn kind!*  
 be PRT unafraid my child  
 'My child, don't be afraid!'  
 b. Was maar niet weggelopen *sukkel!*  
 was PRT not away-walked fool  
 'Fool, you shouldn't have walked away.'

The clause-final DP cannot be the syntactic subject, given that the subject in imperatives must be second person.<sup>7</sup> Putting these DPs in the canonical subject position indeed results in strong ungrammaticality, as is demonstrated in (14).

- (14) a. \*Wees mijn kind maar gerust!  
 b. \*Was sukkel maar niet weggelopen!

In contrast with (14), the addition of a second person pronoun to the sentences in (13) is possible:

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- (ii) a. Had dat nou toch gedaan!  
 had that PRTs done  
 'You should have done that.'  
 b. Was maar niet zo haastig geweest!  
 Was PRT not so fast been  
 'You should not have been in such a hurry.'

These clauses have most of the properties of imperfect imperatives, such as V1 and the non-lexical second person subject. In this case the past auxiliary seems to implicate irrealis instead of past (the participle indicates perfect aspect).

<sup>6</sup> At first sight, these sentences constitute genuine cases of postverbal subjects since the intonational pattern is neutral and differs from clauses with a right dislocated constituent. If the sentences in (12) were indeed legitimate cases of postverbal subjects, we would have a striking similarity between Dutch imperatives and Romance: a) the occurrence of *pro* subjects; b) the non-occurrence of weak lexical pronouns; and c) the occurrence of postverbal subjects.

<sup>7</sup> These postverbal DPs are like vocatives in several respects. This is of course to be expected given that these DPs have to be interpreted as addressees. For the purposes of our argumentation it does not really matter whether we take them as vocatives or as genuine right-dislocated DPs, as long as they are not taken to be syntactic subjects.

- (15) a. Wees *jij* maar gerust mijn kind!  
 b. Was *jij* maar niet weggelopen sukkel!

This shows that the postverbal DP–subject in imperatives is right–dislocated and co–indexed with *pro* (13) or the pronoun *jij* (15) in subject position. The same conclusion can be derived from the observation that the second person pronoun *jullie* can appear in clause–final position, although it does not occur in subject position, as we saw in (16).

- (16) a. Ga *pro*<sub>i</sub> maar weg jullie!  
 go PRT away you[+plu]  
 'You, go away!'  
 b. \*Ga jullie maar weg!  
 go you[+plu] PRT away

The fact that there is no strict agreement between the grammatical subject and a right–dislocated constituent that is coreferential with the grammatical subject, is by no means typical for imperatives. In other sentence types (with lexical grammatical subjects) we find the same 'sloppy' agreement between subject and sentence final DP, as is shown in (17).

- (17) a. Gaat [jullie elftal]<sub>i</sub> / Gaan [wij]<sub>i</sub> de wedstrijd winnen, [mannen]<sub>i</sub>?  
 goes your team [–plu] / go we[1plu] the match win, men[3plu]  
 'Is your team / Are we going to win the match, men?'  
 b. Gisteren hebben [zij]<sub>i</sub> weer eens gewonnen, [het eerste elftal van Ajax]<sub>i</sub>.  
 yesterday have they [+plu] again won, the first team of Ajax[–plu]  
 'Yesterday they have finally won again, the first team of Ajax.'  
 c. [Jij]<sub>i</sub> hebt het nog steeds niet door hè, [makker]<sub>i</sub>.  
 you[2sing] understand it PRTs not, friend[3sing]  
 'You still don't understand it, friend.'

We observe that the agreement relation between the verb and the grammatical subject is much more strict in observing the identity of –features than the coreference relation between the grammatical subject and a rightdislocated constituent. I will refer to this difference as a difference between *syntactic agreement* (verb – subject agreement) and *semantic agreement*. I will come back to this distinction below.

We thus conclude that clause–final subjects in Dutch do not occur. Although imperatives may give the impression of allowing rightperipheral subjects, closer scrutiny has demonstrated that these clause–final, nominal phrases cannot be analysed as syntactic subjects. Rather, in these cases the *pro* subject is accompanied by a coindexed right–dislocated nominal phrase which is interpretatively connected to the *pro* subject through semantic agreement.

### 3 On the nature of Agreement

In the preceding paragraph we have established the occurrence of *pro* in Dutch imperatives. We have seen that various arguments corroborate the assumption that an empty pronominal subject is present in uninflected imperatives. This immediately brings us to the question what exactly

determines the presence of *pro*. It is hard to see how a parameter would enlighten us here. In order to find an answer to this question we shall look into the specific properties of the imperative construction since this construction appears to be the only construction in Dutch in which a clear instance of subject *pro* is found productively.<sup>8</sup>

In Chomsky's minimalist framework (1995, 1999) the operation Agree plays a central role in the core system ('narrow syntax'). In order to derive a well-formed LF-structure, uninterpretable features have to be deleted in the course of the derivation. Agree is the operation that establishes a relation through which uninterpretable features can be deleted under identity with interpretable features. In what follows, I take these ideas as a useful point of departure for a formal implementation of the agreement process in Dutch imperatives.

For subject-verb agreement this system implies that the uninterpretable phi-features of the finite verb must be deleted under identity with the interpretable features of the subject in an agreement relation. Movement of the finite verb to a functional head position in the verbal domain (e.g. Tense) is a way to create a configuration of the type head (verb) – specifier (subject) that allows the features of the inflected verb to be deleted.

In this theory the presence of an empty *pro* subject is surprising at first sight. The theory appears to force us to assume that *pro* has interpretable features, but it is hard to see how an empty category can have interpretable syntactic features of itself. In line with many proposals in the literature, we may assume that in *pro*-drop languages it is the verbal inflection that provides the interpretable features for *pro*. In languages such as Italian and Spanish the verbal paradigm is fully specified with respect to the (uninterpretable) phi-features for person, number and gender. We now may expect *pro* to appear if the unspecified phi-features of *pro* can be interpreted as a consequence of Agree with the specified inflected verb. In these cases Agree thus establishes two things: it determines the unspecified feature value of *pro* and it allows the uninterpretable features of the inflected verb to be deleted as soon as the feature value of *pro* has been fixed. No

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<sup>8</sup> It has been argued that Dutch allows empty expletive subjects, and that these subjects should be analysed as *pro* subjects. It is indeed the case that in sentences without a thematic DP-subject the subject position can remain empty in Dutch. This phenomenon can be observed in impersonal passives (as in i), among others. However, I will not assume that there is an empty *pro*-subject in these cases (cf. Bennis 1986).

Another relevant set of examples is found in the so-called diary style, in which first person subject pronouns can be dropped in first position (as in ii). Although these sentences contain a *pro*-subject they differ from imperatives in at least two important aspects: the pronoun can be dropped from first position only and the sentences are stylistically marked. I leave this construction out of consideration here.

A third set of subjectless sentences can be found in clauses with topic drop. If the subject is 3person, non-human the subject can be dropped from first position. The phenomenon in which non-human topics can be dropped from sentence initial position is well-known and often discussed in the literature. A subset of these cases involves subject drop (as in iii). Due to the fact that this involves a marked subset of cases of pronoun-drop, restricted to sentence initial position, I will not discuss this phenomenon here either.

- (i) In de Arena wordt gevoetbald door Ajax  
In the Arena is played-football by Ajax  
'Ajax plays football in the Arena'
- (ii) Ben naar de film geweest.  
Am to the movie been  
'I went to the movies'
- (iii) Interesseert me niks  
Interests me nothing  
'It doesn't interest me at all'

parameter is involved since the possibility of a *pro*-subject is completely determined by the presence of specified  $\phi$ -features on the inflected verb.

We thus have two different oppositions that are relevant. Features can be interpretable or uninterpretable; in the domain of verb–subject agreement this opposition is related to a categorial difference:  $\phi$ -features receive an interpretation in the case of nominal phrases but not on verbs. The other opposition is between specified and underspecified inflection. Lexical pronouns in Dutch, for instance, are lexically specified for the features person, number and gender. Inflected verbs have a specified inflection if the language in question has a verbal paradigm in which each set of  $\phi$ -features gives rise to a unique morphosyntactic realization. In a language such as Dutch the verbal paradigm is poor in the sense that the verbal inflection is underspecified. For instance, the uninflected (or  $\emptyset$ -inflected) verb may be used in agreement with first and second person singular pronouns. Given the fact that verbal inflection in Dutch is underspecified, *pro* is impossible, due to the fact that the feature specification of *pro* cannot be established on the basis of inconclusive evidence.

If this line of argumentation is correct and if it is correct that *pro* may appear in Dutch imperatives (cf. par.2), the question arises as to what makes the verbal inflection in uninflected imperative verbs specified.

### 3.1 The imperative feature

A first relevant observation is that the subject in imperatives always refers to an addressee. The notion of addressee is syntactically implemented as the feature for 2nd person.<sup>9</sup> In line with the tradition we thus assume that imperatives are 2nd person. The verbal inflection for second person is relatively complex, especially in comparison to first and third person inflection in Dutch. The table in (18) gives a schematic representation of the patterns of second person inflection and the corresponding second person pronouns.

(18) verbal inflection (I) and subject pronouns for second person

[polite]	+	–		
		+	–	
[plural]				
Subj ... Vfin			+	–
I	<i>-t</i>	<i>-en</i>	<i>-t</i>	<i>-∅</i>
II	<i>U</i>	<i>jullie</i>	<i>jij</i>	<i>jij</i>

(18) verbal inflection (I) / subject pronouns (II) for second person

The pronominal formal addressee *U* (feature [polite]) requires *t*-inflection, independent of whether the subject is plural or not, and independent of word order (19a). The (non-formal) plural addressee *jullie* always requires *en*-inflection (19b). The non-formal, non-plural addressee *jij* requires *t*-inflection if the subject precedes the finite verb and  $\emptyset$ -inflection if the subject follows. This is demonstrated in (19).

<sup>9</sup> Similar ideas have been put forward in Barbiers (2001) and Platzack (2001).

- (19) a. U heb-*t* altijd gelijk.  
 You[polite] have always right  
 a'. Altijd heb-*t* U gelijk.  
 b. Jullie hebb-*en* altijd gelijk.  
 You[plu] have always  
 b'. Altijd hebb-*en* jullie gelijk.  
 c. Jij heb-*t* altijd gelijk.  
 You[-plu, -polite] have always right  
 c'. Altijd heb- $\emptyset$  jij gelijk.

In imperatives we find the same three inflected verbs: *t*-inflected verbs cooccurring with the polite pronoun *U*, *en*-inflected verbs cooccurring with the plural pronoun *jullie*, and  $\emptyset$ -inflected verbs cooccurring with the non-polite, non-plural pronoun *jij* or with *pro*. This is shown in (20).

- (20) a. Wees-*t* U niet bang!  
 Be[imp] you[polite] not afraid  
 b. Wez-*en* jullie niet bang!  
 Be[imp] you[plu] not afraid  
 c. Wees- $\emptyset$  jij/pro niet bang!  
 Be[imp] you[-plu, -polite] not afraid

As is clear from (20) (see also the examples in (6)) a *pro*-subject is possible only if the imperative verb has  $\emptyset$ -inflection, as in (20c).

In (18/19c) we saw that  $\emptyset$ -inflection in non-imperative second person constructions appears only in clauses in which the subject *jij* follows the verb. In the literature (cf. Travis 1984, Zwart 1993) it has been argued that the distribution of the inflectional marking of 2nd person singular verbs supports the view that the finite verb in Dutch root clauses does not uniformly target the same structural position.<sup>10</sup> In line with the analysis of Zwart 1993 we may assume that the finite verb in verb second contexts moves to the C-position in subject-non-initial main clauses and to a lower functional head, i.e. AgrS or T, in subject-initial main clauses. For second person [-polite, -plu] contexts in standard Dutch this implies that the C-position is the target for  $\emptyset$ -inflected verbs and the lower head the target for *t*-inflected verbs.

In much recent work (cf. Rizzi 1997 a.o.) it is assumed that the complementizer domain (the C-domain) is the locus of the property Force. The distinctive property of marked sentence types such as interrogation, topicalization and exclamation can syntactically be realized as a syntactic feature in the C-domain. Adopting this view we immediately explain why imperative

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<sup>10</sup> Another argument to support this claim is that weak subject pronouns may occur in first position, in contrast to weak object pronouns. If the first position in the clause is a topic position we expect strong pronouns only. This indicates that clause-initial subject pronouns may occupy a lower position in the clause which is different from the topic position. This in turn implies that the position of the finite verb may be either above the subject position (the C-position) or below (AgrS or T).

Arguments from Dutch dialects (cf. Zwart 1993) further support this analysis. In various Dutch dialects the inflection of the verb in subject non-initial root clauses is identical to the inflection of the complementizer in finite subordinate clauses (the C-position), whereas the verbal inflection in subject-initial root clauses and in subordinate clauses is clearly distinct (lower functional head).

verbs with a [–polite, –plu] subject show up in the uninflected form only. Imperatives belong to the class of marked sentence types. The relevant imperative feature is located in the C–domain.<sup>11</sup> In order to realize the imperative feature the verb has to move to C and it thus follows that the uninflected verb shows up in imperatives with a singular, non–polite subject. The ungrammaticality of (21b) is a consequence of the fact that the imperative force is located in C.

- |      |    |   |               |
|------|----|---|---------------|
| (21) | a. | Wees (jij) maar niet bang!<br>Be[imp] you PRT not afraid            | [Vf in C]     |
|      | b. | *(Jij) wees– <i>t</i> maar niet bang!<br>You be[imp] PRT not afraid | [Vf not in C] |

In this paragraph we have established two things: a) imperatives have a syntactic feature for 2nd person, due to the fact that they always refer to an addressee and that imperative verbs show 2nd person inflection; and b) the imperative feature can be located in the C–position of root clauses. We now may combine these two observations by assuming that the imperative construction is characterized by the presence of the feature for 2nd person in the C–position. This assumption is formulated in (22).

- (22) Simple imperatives have a syntactic feature [2] in C in root clauses

This assumption straightforwardly accounts for several properties of the imperative construction. First, it follows that only verbs that are inflected for 2nd person can occur in the imperative construction. Verbs that have [1] or [3] in their feature make–up, will give rise to a clash between the C–feature and the V–feature. Another consequence is that the uninflected verb shows up in case the subject is singular, non–polite, since the [2]–feature is located in C, and not in AgrS/T. A third consequence is that only second person pronouns may appear as a lexical subject in imperatives. As will be shown in the next paragraph, this is not as trivial as it seems. It follows that there are no embedded imperatives. And finally, as I will show below, the distribution of *pro* in imperatives can be made to follow from (22) as well.

### 3.2 Person properties of polite pronouns

A rather strange property of the polite pronoun *U* is that it can be either 2nd or 3rd person. This property can be observed in two contexts. First, it shows up in cases of agreement with the finite verb. In (18) we saw that the polite pronoun gives rise to *t*–inflection, independent of the position relative to the pronominal subject. In this respect, the inflection of the polite verb is generally identical to the inflection of 3rd person verbs. However, there are cases of irregular verbs in which there is a difference between *t*–inflected 2nd person verbs and *t*–inflected 3rd person verbs. The most salient case is the verb *hebben* ('to have'). Third person singular subjects require the verb form *heeft*, whereas the second person pronoun *jij* requires the verb form *hebt*. This is illustrated in (23a,b). Interestingly, both verb forms cooccur with the polite subject pronoun *U*, as in (23c).

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<sup>11</sup> There are various arguments to support the view that in Dutch the C–domain consists of various functional projections (cf. Bennis 2000). This is irrelevant for the present discussion. I will present the C–domain as simplex below, without claiming that this is an optimal analysis.

- (23) a. Hij heeft / \*hebt betaald.  
He has paid  
b. Jij \*heeft / hebt betaald.  
You have paid  
c. U heeft / hebt betaald.<sup>12</sup>  
You[polite] has/have paid

A second manifestation of the person ambiguity of polite pronouns is found in binding contexts. If the antecedent of a reflexive pronoun is third person, the form of the reflexive is *zich(zelf)* ('himself'). In the case of second person pronouns, the reflexive is *je(zelf)* ('yourself'). With the polite pronoun we find an ambiguity between *zich(zelf)* and *U(zelf)*. This is demonstrated in the inherent reflexive construction in (24).

- (24) a. Hij vergist zich.  
He make–mistake REFL  
b. Jij vergist je / \*zich  
You make–mistake REFL  
c. U vergist U / zich  
You made–mistake REFL

We may even combine the properties discussed with respect to (23) and (24) in such a way that subject–verb agreement is 2nd person and subject–reflexive agreement is 3rd person, or the other way around. The sentences in (25) are equally acceptable and semantically identical.<sup>13</sup>

- (25) a. U hebt U vergist                      agr = 2              refl = 2  
b. U heeft zich vergist                    agr = 3              refl = 3  
c. U hebt zich vergist                    agr = 2              refl = 3  
d. U heeft U vergist                      agr = 3              refl = 2  
You have REFL made–mistake

Although an analysis of this construction is beyond the scope of this paper, I will assume that the polite pronoun is ambiguous between 2nd person or 3rd person, and that *U* can be 2nd person and 3rd person at the same time with respect to different agreement relations.

The interesting case for us is that the ambiguity of polite constructions in subject–verb agreement disappears in imperatives. This is shown in (26).<sup>14</sup>

<sup>12</sup> The form *hebt* is considered the correct form from a normative point of view. However, the sentence 'U HEEFT betaald' is probably one of the most frequent sentences in written Dutch, given that it is automatically produced after having electronically paid by pin–card.

<sup>13</sup> These sentences suggest that there is a principled distinction between subject–verb agreement and agreement in binding relations. Some people have argued that binding can be reduced to agreement (cf. Pica, Postma, Reuland a.o.). It seems that these cases are problematic for such an analysis.

<sup>14</sup> We expect the sentences with *heeft* to be fully ungrammatical. The fact that these appear to be marginally possible may reside in the fact that these V1–clauses can also be interpreted as yes/no questions. Although the particles strongly suggest an imperative interpretation, an interrogative interpretation cannot be excluded completely. In the interrogative clause the agreement ambiguity exists, just as in declarative clauses.

- (26) a. Hebt / ??Heeft U mij nu maar lief!  
 Have / Has you[polite] me PRTs dear  
 'Love me'  
 b. Hebt / ??Heeft U de moed eens om dat te zeggen!  
 Have / Has you[polite] the courage PRT for that to say  
 'Don't you dare say that'

Even more interesting is the very strong contrast in (28).

- (27) a. Vergist U U niet!  
 Make–mistake you 2REFL not  
 b. Vergist U zich niet!  
 Make–mistake you 3REFL not  
 (28) a. Vergis *pro* U niet!  
 b. \*Vergis *pro* zich niet!

In (27) we observe that a lexical polite subject *U* can occur as an antecedent of either *zich* or *U* in imperatives. This is similar to the cases in (24c). However, if *pro* is the subject, *pro* may be interpreted as a polite pronominal (28a), but it doesn't allow 3rd person agreement in binding (28b).

These data can be explained right away if we assume that imperatives have the C–feature [2], as was claimed in (22). The unacceptability of *heeft* follows from the fact that *heeft* has an inflectional feature [3] that cannot be combined with the imperative feature [2]. In (28) we go one step further: due to the fact that imperatives are specified for [2] *pro* also receives the feature [2], and consequently, the binding agreement requires the anaphor to be specified for [2] as well. The difference between (27b) and (28b) comes from the fact that the lexical subject pronoun *U* is ambiguous between [2] and [3] in (27b), whereas *pro* is unambiguously [2] in (28b) since the features of *pro* are determined by agreement with the feature [2] in C.

### 3.3 The legitimation of *pro* in imperatives

Above we have established that Dutch imperatives are to be characterized by the presence of the feature [2] in the C–domain of root clauses. We will now come back to the topic of this paper: the occurrence of *pro*. Given that *pro* has no lexical interpretation, the basic idea is that *pro* is legitimate only if the interpretation of *pro* can be established by other means.

Let us look at a more formal account of the appearance of *pro* in terms of recent ideas on agreement and the role of features. The paradigm of standard Dutch pronouns consists of nine members. These are given in (29).

- |      |     |   |           |        |   |          |
|------|-----|---|-----------|--------|---|----------|
| (29) | ik  | – | [1]       | wij    | – | [1, plu] |
|      | jij | – | [2]       | jullie | – | [2, plu] |
|      | U   | – | [2, pol]  | zij    | – | [3, plu] |
|      | het | – | [3]       |        |   |          |
|      | hij | – | [3, masc] |        |   |          |
|      | zij | – | [3, fem]  |        |   |          |

As in (29) I'll consider singular to be absence of plurality, which encodes the fact that plurality is generally more complex both in form and in meaning. In the same way non-polite is the absence of a feature for politeness. Compared to (29) the verbal inflectional system is heavily underspecified, as is clear from (30).

- (30) V- $\emptyset$  – ([1] / [2] )  
 V-t – ([2, pol] / [3] / [3, masc] / [3, fem] )<sup>15</sup>  
 V-en – ([1, plu] , [2, plu] , [3, plu] )

I adopt the idea that a major property of the agreement system is the deletion of uninterpretable features. The underspecified V-features have to be deleted through agreement with the subject. This was hypothesized in (1ii), which is repeated below.

- (1) pro-subjects in non-infinitival clauses may appear if  
 (i) the relevant interpretable –features of the empty subject can be recovered through agreement;  
 (ii) the uninterpretable –features on the non-infinitival verb can be deleted through agreement.

It is clear that a lexical pronoun is able to delete the –features of V. In order to do so, the specified feature value of the pronoun has to agree with one of the feature specification of the verbal paradigm. If that is the case, the verbal features can be deleted under agreement and thus the uninterpretable features are knocked out. It is also clear that *pro* cannot cooccur with an underspecified verbal paradigm. *Pro* does not have lexical –features, and it cannot receive a specific set of –features through agreement with the underspecified inflected verb. As a consequence the uninterpretable features on V cannot be deleted.

If the verbal paradigm is fully specified, as it is in languages such as Italian, *pro* can receive a specific feature set, which in turn is able to knock out the uninterpretable features of the inflected verb. For languages without inflected verbs such as Chinese, the situation is different. In those languages the verb has no morphosyntactic –features, and consequently, the requirement that the uninterpretable –features on V should be deleted, is vacuously met. It thus follows that *pro* may appear in these languages without formal restrictions on its interpretation.

Let us now concentrate on the situation in imperatives in Dutch. We have seen above that the main characteristic of imperatives is the presence of a feature [2] in the C-domain of the root clause. We have to distinguish this feature from the feature [2] in the pronominal domain. In the pronominal paradigm [2] corresponds to the non-plural, non-polite, second person pronoun. As we saw above the C-feature attracts verbs that have second person in their feature specification, i.e. [2], [2, pol] and [2, plu]. This implies that we have to consider the feature in C a feature that indicates *non-distinctness*. I will indicate such a feature as {2}, to distinguish it from the designated feature [2] in the pronominal system. Let us now see what happens in imperatives. After movement of the verb to C, we have the configuration in (31).

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<sup>15</sup> I will leave the –t inflected verbs in sentences in which the second person pronoun *jij* precedes the finite verb out of consideration here. Given that imperatives always have a C-domain and that the C-position is filled with the inflected verb,  $\emptyset$ -inflected verbs are the relevant issue here (cf. 3.1).

(31)	C	–	SUBJECT
	{2}	V- $\emptyset$ ([1] / [2])	pronoun / <i>pro</i>

The {2}-feature is assigned to the subject under agreement. In turn, the feature {2} is able to delete the verbal feature [2] under identity. We thus may have a *pro*-subject because the uninterpretable V-feature can be knocked out. It follows that the interpretation of *pro* allows some variation, due to the fact that *pro* is characterized by the non-distinct feature {2}, which is compatible with [2], [2, pol] and [2, plu]. This is indeed what we have seen: the zero-inflected verb cooccurs with a *pro*-subject in imperatives that can be interpreted as being singular, plural and polite (cf. 2.5).

If the subject is lexical, only the [2]-pronoun *jij* cooccurs with the zero-inflected verb since the lexical pronoun has a designated feature [2] that corresponds to the feature [2] in the verbal paradigm. The pronoun *U* does not appear in this case due to the fact that the feature set [2, pol] is not present in the verbal paradigm for  $\emptyset$ -inflection.

If the verb has *t-* or *en-*inflection, the situation changes. The inflected verb in C has no longer the feature specification [2] in its representation (see 30). Although the non-distinct feature {2} is assigned to the subject under agreement, deletion of the uninterpretable V-features is not possible: the feature {2} is not able to knock out the more specified sets [2, pol] resp. [2, plu]. In those cases a lexical pronoun corresponding to {2} and to one of the feature sets in the representation of the underspecified inflected verb has to be inserted. This causes *U* ([2, pol]) resp. *jullie* ([2, plu]) to show up.

We thus have argued that the appearance of an empty subject in non-infinitival clauses depends on the possibility to delete the uninterpretable phi-features on the verb. If these features can be deleted without having to insert a lexical pronoun, *pro* is possible. We saw three instances of this situation. In languages with a fully specified inflection *pro* is generally possible and its interpretation is determined by the features that the inflectional element demonstrates. In languages without inflection *pro* is generally possible as well and its interpretation is unrestricted with respect to pronominal distinctions such as person or number. Finally, in languages with an underspecified inflection *pro* is generally impossible due to the fact the underspecified inflection provides insufficient information in order to delete the V-features under agreement with *pro*. A lexical pronoun has to do the job. However, in special circumstances a construction feature may provide additional information in such a way that a *pro* subject is allowed. We find the latter situation in imperatives in Dutch in which case the presence of the feature {2} in the C-domain allows *pro* to occur, but only if the verb shows  $\emptyset$ -inflection.

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