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Peter Ackema · Ad Neeleman

Abstract   In this paper, we argue that Early Modern Dutch allowed pro drop, despite the fact that the language has only poor agreement. This provides a direct counterexample to the standard view that Italian-style pro drop is subject to a condition of grammatical recoverability (in that the features of *pro* must be indexed on the verb). However, pro drop in Early Modern Dutch is subject to very strict pragmatic conditions, and this, we argue, does follow from the lack of rich agreement. Basing ourselves on Mira Ariel's Accessibility Theory, we argue that if fewer features of an omitted subject are grammatically recoverable, its antecedent must be more salient in discourse. Consequently, there is an indirect relation between rich agreement and pro drop: rich agreement facilitates pro drop in more contexts. Since a very limited distribution of pro drop implies that the rule is vulnerable in diachronic development, the familiar cross-linguistic generalization can be derived.

Keywords   Accessibility theory · Early Modern Dutch · Pro drop · (Rich) Agreement · Topic drop

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1 Pro drop and rich agreement

The traditional view on pro drop, the omission of pronominal subjects, is that it is conditioned by rich agreement (see Taraldsen 1978; Rizzi 1982, 1986). Italian, for example, has distinct agreement suffixes for each of its six possible person-number combinations and allows pro drop, whereas English, which only marks third person singular, does not:

(1)   *Italian*   *English*
    1SG   parl**o**   speak
    2SG   parl**i**   speak
    3SG   parl**a**   speak**s**
    1PL   parl**iamo**   speak
    2PL   parl**ate**   speak
    3PL   parl**ano**   speak

(2)   a.   Gianni ha detto che __ ha parlato.
           John   has said that pro *has spoken.*
           '*John* said he has spoken'
      b.   *John said (that) __ has spoken

The hypothesis that there is a relation between pro drop and rich agreement is strengthened by the observation that in some languages pro drop has disappeared after impoverishment of the agreement paradigm. Old French had the agreement paradigm in (3) and allowed pro drop, albeit only under subject–verb inversion, as in (4) (see Adams 1987; Roberts 1993; Ackema and Neeleman 2004 for discussion). In Modern French, several of the agreement endings have collapsed, and pro drop is no longer possible (note that French spelling does not reflect the spoken forms anymore).

(3)   *Old French*
    1SG   chant   'sing'
    2SG   chant**es**
    3SG   chant**e(t)**
    1PL   chant**ons**
    2PL   chant**ez**
    3PL   chant**ent**

(4)   Einsi corurent __ par mer tant que il vindrent à Cademelée.
                                                    (from Adams, 1987)
      thus   ran-3PL pro *by sea until they came*-3PL *to Cadmée*
      'Thus they ran by the sea until they came to Cadmée.'

The rationale behind the hypothesis that rich agreement is necessary for pro drop is that the features of the empty pronoun would not be recoverable without it. The content of *pro* is identified through the unambiguously

encoded person-number features characteristic of agreement affixes in languages like Italian and Old French. In other words, pro drop is taken to be governed by a grammatical recoverability condition.

Despite its initial plausibility, the notion of grammatical recoverability faces a number of problems.[1] To begin with, pronouns in pro drop languages may be richer in feature content than verbal agreement. Italian third person singular pronouns, for example, have gender features. The agreement on finite verbs does not show gender distinctions, however. This implies that the gender features of an omitted third person singular pronoun need not be recovered through agreement, which raises a problem of arbitrariness: some features fall under the grammatical recoverability condition; others do not.

The problem of arbitrariness also presents itself in a different form: other rules that lead to the omission of arguments are not subject to a grammatical recoverability condition.

As a first example of this, consider the well-known fact that many languages that have poor or no agreement nevertheless allow both subject and object pronouns to remain unexpressed. Chinese is perhaps the best-known case, but the phenomenon is very common cross-linguistically (see Huang 1984, 1989; Jaeggli and Safir 1989 for early discussion). Neeleman and Szendrői (2005) argue that this type of radical pro drop is a different phenomenon from the pro drop found in the Romance languages. Whether a language allows radical pro drop is not determined by verbal agreement, but by the morphology of pronouns of the language in question. In short, radical pro drop is restricted to languages whose pronouns display (at least some) agglutinating morphology. It would take us too far afield to discuss here why this should be so. For our present purposes, it is sufficient to note that the existence of radical pro drop underlines the arbitrariness of the grammatical recoverability condition: since the content of empty arguments can apparently be recovered without recourse to rich agreement, why is this not possible in the case of standard subject pro drop?

A second phenomenon demonstrating the arbitrariness of the grammatical recoverability condition is found in the Germanic verb-second languages. These languages all have a rule known as topic drop (see Weerman 1989; Zwart 1993; Hoekstra and Zwart 1994; and references mentioned there). Subjects, objects, or adjuncts that have moved to the first position in the sentence can be omitted if linked to a suitable antecedent in the immediately preceding discourse. Some Dutch examples of topic drop are given in (5). The ungrammaticality of the data in (6) (in

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[1] The traditional view of pro drop faces other kinds of problems. In particular, it is ill-equipped to deal with languages that allow pro drop in some circumstances but not others (see Ackema et al. 2006 for an overview). For example, Finnish and Hebrew only allow pro drop of first and second person subjects (see Vainikka and Levy 1999; Koeneman 2006). Other languages, such as Old French and possibly Modern Standard Arabic, allow it only in inversion contexts (see the main text for references). Yet other languages omit subjects in imperatives, but not elsewhere (see Bennis 2006 for discussion of this phenomenon in Dutch). Since we are mainly concerned with the idea of grammatical recoverability, we cannot go into these issues here.

any context) makes clear that omission of arguments is restricted to the specifier of the matrix CP, and hence that the empirical footprint of topic drop is very different from Italian-style pro drop. (Here and below, we notate the deleted category in Spec-CP as Ø).

(5) a. Speaker A: Wat   is   er   met   Jan   aan   de   hand?
                     what is   there with John on   the   hand
                     'What is the matter with John?'
          Speaker B: Ø$_1$ moet t_1 morgen   naar   de   tandarts.
                          must   tomorrow to   the   dentist
                     'He has to go to the dentist tomorrow.'
     b. Speaker A: Ga   je   mee   naar die   nieuwe film   met
                     go   you   along to   that new   movie with
                     Alan   Rickman?
                     Alan   Rickman
                     'Do you want to go to that new Alan Rickman movie?'
          Speaker B: Ø$_1$ heb   ik t_1 al   gezien.
                          have   I   already   seen
                     'I have already seen it.'

(6) a. *Morgen   zullen __ eindelijk op vakantie gaan.
         Tomorrow   will-PL pro *finally   on holiday go*
         'Tomorrow, we/you/they will finally go on holiday.'
     b. *Ik   geloof dat   __   niet op vakantie gaat
         I   believe that pro *not on holiday   go*-2/3SG
         'I believe that you/he/she does not go on holiday.'

The content of the deleted category in examples like (5) is recovered on the basis of the preceding discourse, and not through the agreement endings on the verb (which are too poor for that purpose in Dutch, and absent altogether in the case of other constituents than subjects). Again, it is not clear why the same should not be possible for pro drop.

In this paper, we will concentrate on a third problem for the claim that pro drop is conditioned by grammatical recoverability. We will show that Early Modern Dutch (henceforth EMD) allows pro drop in a limited set of circumstances.[2] This is surprising, given that the agreement paradigm of EMD is basically as poor as that of its Modern Dutch counterpart. As shown in (7), both languages distinguish only three forms (ending in -Ø, -t, and –en, respectively). Hence, the fact that EMD allows pro drop, while Modern Dutch does not, provides direct evidence against a grammatical recoverability condition on subject omission.

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[2] Early Modern Dutch is the common term used for Dutch from the 16th and 17th centuries. Most of the sources we have used are available at the so-called *Digitale Bibliotheek voor de Nederlandse Letteren*, a digital library for Dutch language and linguistics (http://www.dbnl.org/), which we accessed between April and July 2005. One source not available there is the anonymous *Wonderlicke Avontuer van Twee Goelieven*, for which we used an edited text version (E.K. Grootes et al. (eds.), 1984, Muiderberg: Coutinho).

(7) *Modern Dutch* *Early Modern Dutch*

1SG	zing	sing	'sing'
2SG	zing**t**	sing**t**	
3SG	zing**t**	sing**t**	
1PL	zing**en**	sing**en**	
2PL	zing**en**	sing**t**	
3PL	zing**en**	sing**en**	

Having argued that pro drop does not require grammatical recoverability, we will go on to discuss why rich agreement nevertheless seems to play an important role in explaining the cross-linguistic distribution of pro drop. The EMD data show that pro drop in this language was only possible in very restricted circumstances. We suggest that the restrictions in question are due to the fact that, in the absence of rich agreement, discourse conditions on the recovery of the content of empty categories become stricter. In other words, rich agreement allows a wider choice of antecedents for an empty pronoun than poor agreement, which restricts what can be a possible antecedent very severely. The implied limited distribution of empty pronouns makes the rule of pro drop vulnerable in diachronic development. We conjecture that this underlies the cross-linguistic correlation between rich agreement and pro drop.

2 Early Modern Dutch pro drop

In Sect. 1, we showed that in Modern Dutch, arguments (both subjects and objects) can be omitted, but only when moved to the specifier of the matrix CP. The examples in (6) showed that the language does not allow pro drop, as neither inverted subjects nor subjects in embedded clauses can be omitted. At first sight, this pattern extends to EMD, which probably also allowed topic drop (see Van Gestel et al. 1992, pp. 207 ff. for relevant discussion), but did not allow subject omission in contexts like (6) (at least no such examples are attested).[3] Hence, EMD, like Modern Dutch, does not seem to be a pro-drop language.

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[3] In contrast to Modern Standard Dutch, EMD freely allows for the subject of the second conjunct in a coordination of two main clauses to be dropped when there is subject–verb inversion in the first conjunct, a deletion operation known as 'overspannen samentrekking' ('overstretched contraction') in the traditional literature. Van Gestel et al. argue, convincingly in our view, that this is not in fact the result of conjunction reduction, but rather of a more liberal application of topic drop. In fact, though deemed unacceptable by prescriptivists, the construction can be frequently heard in present-day colloquial Dutch (see also Zwart 1993). (i) is a standard announcement in the intercity train to Alkmaar.

(i) Na   Alkmaar rijdt deze   trein verder   als   stoptrein   en *e* zal   nog
     After Alkmaar rides this   train further as   stop.train and   shall yet
     stoppen te   …
     stop   in   …
     'After Alkmaar, this train will continue as a local train and will have the following stops:…'

There is one construction, however, in which EMD does allow omission of subjects that are not in the first position, even though present-day Dutch does not. If the first position of a main clause is occupied by an absolute participial clause, the matrix subject can be dropped under identity with the subject of the participial clause.[4,5] Thus, examples like (8) are not hard to come by.

(8)   Andre   van   Perouse   tot   Napels   gekomen   zijnde
      Andre   from   Perugia   to   Naples   come   being
            om   Paerden   te   koopen,
            for   horses   to   buy,
            werdt   op   eender   nacht   van   dry
            was   at   a   night   of   three
            wonderlijcke   avontueren   overvallen […].
            remarkable   adventures   visited
      'Andre, having come from Perugia to Naples in order to buy horses, one night was involved in three remarkable adventures'
            [D.V. Coornhert, *Vijftigh lustighe historien oft nieuwigheden Joannis Boccatij*; 1564]

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[4] As far as we know, the fact that EMD permits pro drop in this context has not been discussed before. We are aware of one remark in the traditional literature to the effect that a constituent in an EMD main clause can be dropped under identity with an overt constituent in a preceding embedded clause. In connection with what they term 'overspannen samentrekking' (see footnote 3), Hermkens and van de Ketterij (1980, p. 172) state that: "Wanneer uit een bijzin samenge-trokken wordt in een hoofdzin, doet de samentrekking bijzonder overspannen aan." This can be translated as: 'when there is reduction in a main clause, while the antecedent is in an embedded clause, the reduction comes across as very stretched'. They provide a single example:

(i)   ...   U   Ed.,   dewelke   Mijn   Heere,   Godt
       ...   *Your*   *Honour,*   *who*   *My*   *Lord*   *God*
             in   gelukzaaligheit   behoede,
             in   happiness   *protect*
             en   in   haar   gunste   ...   P.C.   Hóóft ...
             and   in   *her*   *favour*   ...   *P.C.*   *Hooft* ...

      '[...]Your Honour, whom God may protect in happiness, and may God protect in your favour [...] P.C. Hooft' [...].

Hermkens and Van de Ketterij argue that (i) is derived by ellipsis of the subject and verb of the main clause under identity with the subject and verb of a relative clause within the first conjunct (as indicated by our translation). An alternative analysis would assume there to be two conjoined relative clauses. In that case, what is omitted in the second clause is a relative subject pronoun and the finite verb — a regular case of gapping. The interpretation of the sentence would then be such that the writer hopes that Your Honour, rather than God, may protect P.C. Hooft. Hermkens and Van de Ketterij state that the context rules out this parse, but unfortunately they do not dem-onstrate this. If Hermkens and Van de Ketterij's analysis is correct, (i) would be a hapax, whereas the construction we focus on is attested quite frequently (see below).

[5] Past participles are formed as in Modern Dutch by a circumfixation of *ge-d* or *ge-en*. The prefixal part *ge-* is dropped before unstressed prefixes (as in *overvallen* in the example in the main text). Present participles are also formed as in modern Dutch, by suffixation of *-end(e)*. Participles, like adjectives, only show agreement in attributive position. The schwa ending that present participles can have in predicative position is part of the participial ending; in Modern Dutch it has become more or less obsolete (as a result of phonological reduction).

A plausible initial parse of this construction might take *Andre* to be the subject of the main clause, and the participial clause to be a parenthetical with a PRO subject (a so-called 'conjunct' participial). This analysis is given in (9a) (it is also the structure of the English translation in (8)). We believe, however, that there are examples like (8) in which the first part of the sentence is an absolute participial clause. If so, the subject of the main clause is an empty category coreferential with the subject of the participial. This analysis is given in (9b): [6]

(9)   a. DP_1, [$_{PartP}$ PRO_1 …], V …
      b.   [$_{PartP}$ DP_1 …], V e_1 …

How can we substantiate this claim? There is no reason to doubt that the structure in (9a) existed in EMD (as it still does in Modern Dutch). Our task is therefore not to argue that (9a) is unattested, but to prove that there are examples like (8) whose properties are inconsistent with an analysis along the lines of (9a). We will show that such examples indeed exist. In many cases, there is unequivocal syntactic evidence for the structure in (9b).

That evidence may consist of moved material that must belong to the participial clause and that precedes the preverbal DP. Since parentheticals are absolute islands for movement (see Haegeman 1988; Espinal 1991; and Ackema and Neeleman, 2004), this pattern is incompatible with the structure in (9a) (compare (10a)). Movement internally to a participial clause is allowed, however, which means that the relevant examples must be assigned the structure in (9b) (compare (10b)).

(10)   a.   *XP_2 DP_1, [$_{PartP}$ PRO_1 … t_2 …], V …
       b.   [$_{PartP}$ XP_2 … DP_1 … t_2 …], V e_1 …

We give three examples of this type:

(11)   het welck   de priesters,   en wichelaers   en   insonderheyd
       which   the priests   and fortune.tellers and in.particular
       Calches, ghewaer
       Calches aware
       wordende, sochten dien onlust   by Agamemnon te voeden
       becoming   sought   that displeasure at Agamemnon to feed
       'When the priests and fortune-tellers, in particular Calches,
       became aware of this, they sought to fuel Agamemnon's
       displeasure.'
                                        [Joost van den Vondel, contents to *Palamedes*; 1625]

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[6] We assume that the empty subject of the main clause in (9b) must follow the verb, because EMD, like Modern Dutch, is a verb-second language. Indeed, in all cases with fronted participial clauses in which the subject of the main clause is overt, this subject appears post-verbally (we return to this fact below). Subject omission is not conditioned by inversion, however. We will see below that there are examples in which a non-inverted subject is dropped.

(12)   Dese reden   Joufvrou Wintergroen   verstaende,
       this speech Miss   Wintergroen understanding
       heeft gheseght daer   toe   niet   te   willen   verstaen.
       has   said   there to   not   to   want   allow
       'When Miss Wintergroen heard this speech,
       she said she did not want to allow this.'
               [anonymous, *Wonderlicke Avontuer van Twee Goelieven*; 1624]

(13)   ... twelck   die   van   Leyden vernemende, hebben om   haere
       ... which   those of Leyden hearing   have   for their
       Stadt te   beter   te
       city to   better   to
       mogen bewaren, tegen   de bedeckte   aenloopen ende
       may   protect against the concealed assaults   and
       listige   aenslaghen […]
       cunning   attacks
       'When those of Leyden heard about this, they have, in order
       to be able to better protect their town against the cunning
       assaults […]'
               [Jan Jansz. Orlers, *Beschrijvinge der stad Leyden*; 1641]

In these examples, the preverbal DP is preceded by the object of the participial predicate, which rules out the structure in (10a), but is compatible with that in (10b).

    Another type of example that clearly supports our case for the existence of (9b) is given in (14).

(14)   De Neapolitanen,   Spaenschen ende Walen   hare
       the Neapolitans,   Spanish   and Walloons   their
       Victory vervolghende,
       victory pursuing
       en   Sr. Waterbrandt op sijn   stuck   lettende,
       and Mr. Waterbrandt on his   business taking.care
       kreegh onder de   dooden elders   een Spaens Kasack
       got   among the   dead   elsewhere a   Spanish army.coat
       by   der   hande […].
       by   the   hand
       'While the Neapolitans, Spanish and French were pursuing
       their victory, and Mr Waterbrandt was looking out for himself,
       he [i.e. Mr Waterbrandt] obtained a Spanish army coat from
       among the dead elsewhere.'
               [anonymous, *Wonderlicke Avontuer van Twee Goelieven*; 1624]

If we restrict ourselves to the coordinate structure that precedes the finite verb *kreegh* 'got' in (14), two analyses should be considered. Either we are dealing with two conjoined absolute participial clauses, or with two conjoined DPs,

each accompanied by a participial parenthetical with a PRO subject. A 'mixed' analysis is not possible. As an adverbial clause cannot be coordinated with a DP argument (witness *[[*John reading a book*] and [*Bill*]] *(he) left*), the participial clause cannot be absolute in the first conjunct and parenthetical in the second.

Of these two potential analyses, the one involving coordination of DPs must be rejected. This is because it implies that the main clause has a plural subject, something that should be reflected by plural agreement on the verb (compare (15a)). However, the verb *kreegh* in (14) is singular. We therefore conclude that (14) must be analyzed as in (15b), with a singular inverted null subject in the main clause. This null subject is coreferential with the overt subject of the second conjoined absolute participial clause. Indeed, the interpretation of the example is such that Mr Waterbrandt obtained a coat, not that the Neapolitans, Spanish and French did so as well (as (15a) would imply)).

(15)   a.   *[DP$_1$, [$_\text{PartP}$ PRO$_1$ …], & DP$_2$, [$_\text{PartP}$ PRO$_2$ …]], V-[SG] …
       b.   [[$_\text{PartP}$ DP$_1$ …] & [$_\text{PartP}$ DP$_2$ …]], V-[SG] e_2 …

So far we have only considered pro drop of inverted subjects in main clauses. However, in certain non-root environments non-inverted subjects can be omitted. A clear case of this, comparable to (11)–(13), is given below:

(16)   … om hem te dooden, en   't   lijck in eenen
       … *to him to kill*,   *and the body in a*
       kuil te worpen;
       pit   to throw;
       waer   tegens   zich Ruben, d'   outste broeder, zettende,
       where   against   REFL Ruben, the older   brother, *putting*,
       by   hen   aenhiel de   handen met   zijn bloet niet
       with them insisted the hands   with his   blood not
       te besmetten
       to stain
       '… to kill him and throw the body into a pit; turning against
       which plan, Ruben, the oldest brother, insisted that they
       should not stain their hands with his blood'
                          [Joost van den Vondel; contents of *Joseph in Dothan*; 1640]

If this example were to be analyzed along the lines of (9a), there would be two parentheticals following *Ruben*. The first would be *d'outste broeder* 'the oldest brother' and the second the bare participial *zettende* 'putting'. However, *zettende* obligatorily takes a prepositional complement ('against something'), which implies that it cannot be a parenthetical on its own. In (16) the relevant PP-complement is *waer tegens* 'against which', which precedes the subject *Ruben* as a result of its having undergone *wh*-movement. Since movement out

of a parenthetical is impossible, an analysis of *zettende* as parenthetical is ruled out. Instead, *Ruben* must be part of an absolute participial clause, and the matrix clause must contain a coreferential null subject.

The example in (16) differs from the ones in (11)–(13) in that the finite verb in the matrix clause has not undergone verb second (otherwise we should find the order *hiel by hen aen* rather than *by hen aenhiel*). The example has the overall structure of a relative clause, with the *wh*-expression taking the preceding sentence as its antecedent. (Notice that, remarkably, fronting of the *wh*-phrase pied-pipes a complete participial clause.) We may conclude, then, that subject drop is not restricted to root contexts, and that it is not conditioned by inversion. If the finite verb does not undergo verb second, the null subject precedes it.

In order to test the strength of the above argumentation for pro drop in EMD, we will now consider several alternative hypotheses, arguing that none of them fits the bill.

The first of these is that the data in (11)–(16) are simply not real, but inevitable mistakes in long and complicated texts. This hypothesis seems to be a non-starter. Although it is hard to give precise statistics, it is safe to say that the construction at hand is not uncommon. There is no tagged corpus of EMD texts, but a large number of texts are electronically available at http://www.dbnl.org/letterkunde/ (these lack English glosses). In order to make sure that we are not dealing with a quirk in the data, we have excerpted parts of texts collected there (both prose and poetry). This exercise has yielded hundreds of examples that could potentially be analyzed as in (9b) (that is, sentences with a fronted past or present participial and no unambiguous overt matrix subject). In order to get a rough idea of the frequency of the construction, we have searched six texts for the ending *—nde* (which marks present participles). The results of this search are given in the table below.

(17)	*Phrases headed by present participles*	*Fronted present participial phrases*	*Possible cases of pro drop (sentence may be analyzed as in (9a) or (9b))*	*Unambiguous cases of pro drop (sentence must be analyzed as in (9b))*
	378	**123** **100%**	**82** **67%**	**17** **14%**
Numbers based on P.C. Hooft, *Achilles & Polyxena* and a fragment of the *Nederlandsche Historien*; J. van den Vondel, *Adam in ballingschap* and *Aenleidinge ter Nederduitsche dichtkunste*; D.V. Coornhert, *Vijftigh lustighe historien oft nieuwigheden Joannis Boccatij* stories 1 and 2, and J.J. Orlers, *Beschrijvinge der stad Leyden*, part I. Texts at www.dbnl.org.				

As this table shows, the frequency of pro drop in the context of a fronted present participial clause is somewhere between 14% and 67%. In light of this

result, the suggestion that the above data are due to mistakes can be dismissed as highly unlikely.

A more refined denial of the data could rely on the pervasive influence of Latin on EMD literature. The claim would be that EMD grammar did not allow pro drop, but that writers nevertheless omitted subjects in order to make their text seem more like Latin, and hence more prestigious. It is true that the written language during the EMD period came to stand further and further apart from the vernacular, mainly as the result of conscious attempts to 'build up' the language and turn it into a suitable vehicle for communication in such 'high' social domains as religion, politics, sciences, and art. It is also true that Latin was often taken as a model, so that many authors had a predilection for complex Latinate constructions. The frequent use of absolute participial clauses is in fact a good example of this: such clauses nowadays only occur as relics and come across as stilted.

However, we cannot explain away the phenomenon at hand by pointing to Latin influence. To begin with, subject omission is also attested in texts that are not written in the Latinate style. The examples in (12) and (14) are taken from the *Wonderlicke Avontuer van Twee Goelieven*, whose subject matter does not invite elevated prose. But more importantly, a Latin-based 'explanation' really does not explain anything: it can shed no light on the fact that pro drop was restricted to the context identified above. After all, pro drop was very much more productive in Latin. If one is willing to consider the possibility that 16–17th century writers violated their grammar to be more Latinate, then why didn't they violate their grammar elsewhere, for example by omitting subjects in the absence of a fronted participial clause? The fact that the hypothesis does not even offer a way of approaching this question seems to us sufficient reason to reject it.

Accepting the data as real, we could consider two alternative analyses that avoid the assumption that EMD allowed pro drop. To begin with, one could try to argue that subject omission is the result of topic drop. As noted in Sect. 1, deletion in the specifier of a matrix CP is generally possible in the Germanic verb-second languages. Moreover, the verb-second constraint did not hold as strictly in earlier stages of the Germanic languages as it currently does. Van Kemenade (1987) observes, for example, that Old English permits apparent verb-third constructions, usually with a subject pronoun in second position (XP pronoun V_{fin}). This may lead one to think that the EMD data constitute topic drop in a verb-third structure, a possibility that no longer exists, because verb-third structures and absolute participial clauses have disappeared from the language.

This alternative proposal looks promising. We have already mentioned that EMD probably allowed topic drop, and some verb-third patterns occur in the texts that we excerpted. Conditionals, in particular, could be followed by a subject-initial main clause. Still, the analysis is a dead end. First, subject omission is possible in non-root environments, which generally resist topic drop (see (16)). Second, fronting of a participial clause triggers inversion in all cases where the subject of the matrix clause is *overt*. There are many

examples of the type in (18), but we have not found a single example of the type in (19).[7]

(18) a. Zullende in dien tijd t'   Athenen   Sophokles   Elektra
         shall-ing in that time at   Athens   Sophokles'   Elektra
         speelen, **most   hy**
         play   had   he
         quansuis Orestes   doodbus en   gebeente   draegen.
         apparently Orestes' urn   and bones   carry
         'As he would play Sophokles' *Elektra* in Athens at that time, he had to carry the purported urn and bones of Orestes'
                                       [Joost van den Vondel, preface to *Elektra*; 1639]

     b. Des   aavonds   in   't   vlek   gekoomen, **stoffeerd' hy**
         the-GEN evening-GEN in the hamlet come   covered   he
         't   hof   met   Spanjaarden
         the court with Spaniards
         'Having arrived in the hamlet in the evening, he covered the court with Spaniards'
                                       [P.C. Hooft, *Nederlandsche Historien*; 1628-47]

(19)   *Not attested (compare with (18a-b)):*
     a. *Zullende in dien tijd Elektra speelen, **hy most** quansuis […] draegen.
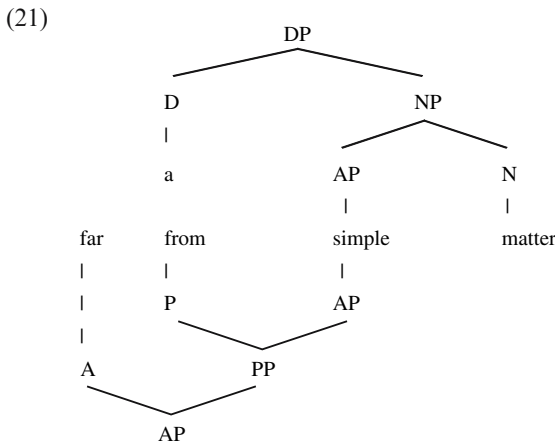   b. *Des aavonds in 't vlek gekoomen, **hy stoffeerde** 't hof met Spanjaarden

There is no reason to believe that empty subjects behave differently from overt ones in this respect. Consequently, an example like (20) (which is comparable to (11)–(13)) must involve deletion in the post-verbal position, which rules out an analysis in terms of topic drop.[8] (For further evidence against a topic-drop analysis of EMD subject omission, see Sect. 3.)

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[7] Interestingly, we have not found any examples either of sentences in which an overt subject in the main clause is coreferential with an overt subject in a fronted participial clause. This would seem to indicate that pro drop in EMD is as good as obligatory whenever the fronted participial clause contains an overt subject that can act as antecedent. Given the analysis we will develop in Sect. 3, this is exactly what we would expect. Where pro drop is available, overt pronouns are used to refer to less salient antecedents. However, pro drop in EMD will be argued to require a context in which there is a highly accessible antecedent for the pronoun; see below for discussion.

[8] *Dan* 'then' in (20) must belong to the participial clause; it cannot belong to the main clause because of the verb-second constraint. To the best of our knowledge a fronted adverbial like 'then' always triggers inversion in a main clause.
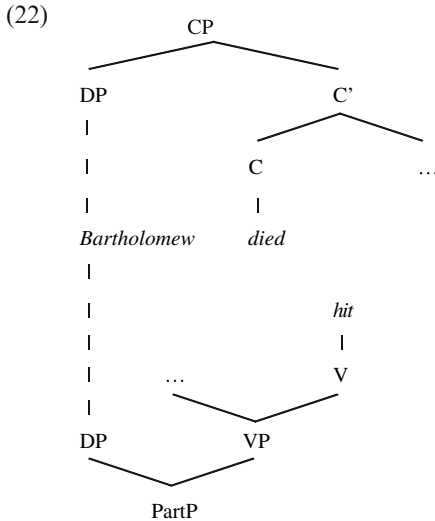
(20)   Dan   Hopman   Bartholomeeus   Haavikszoon,   hier,   van   eenen
       then Captain   Bartholomew   Hawkson   here   by   a
       koeghel   getroffen,   bestorf   __   zyn   quetsuure.
       bullet   hit,   PRF-died   pro his   wound
       'After Captain Bartholomew Hawkson had been hit by a bullet in this place,
       he died of his wound.'

                                   [P.C. Hooft, *Nederlandsche Historien*; 1642-1647]

The final way in which one could try to avoid the conclusion that there is pro drop in EMD is by analyzing subject omission as the result of a process dubbed 'grafting' by Van Riemsdijk (2000, 2001, 2006).[9] Van Riemsdijk argues that a number of constructions have a representation in which two trees have different roots, but share a non-terminal node. Thus, one of the trees is grafted on the other. The analysis of a string like *a far from simple matter*, for example, involves a tree for *a simple matter* and a tree for *far from simple* that intersect in the AP *simple*:

(21)

```
                          DP
                   ┌───────┴───────┐
                   D               NP
                   |          ┌─────┴─────┐
                   a          AP          N
                              |           |
         far      from      simple      matter
          |        |          |
          |        P          AP
          |        └────┬─────┘
          A            PP
          └─────┬──────┘
               AP
```

Many of the EMD examples that seem to involve subject omission, such as the one just given in (20), could be analyzed as grafts. On this analysis, the absolute participial construction and the finite clause are independent structures that share their subject, roughly as in (22). Since the subject is shared, there is no need for a null pronoun, and therefore no need for pro drop.

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[9] We thank an anonymous reviewer for pointing out the possible relevance of grafts to our data.

(22)

```
                        CP
              ┌──────────┴──────────┐
            DP                      C'
             |              ┌───────┴───────┐
             |             C                ...
             |             |
         Bartholomew      died
             |
             |                     hit
             |                      |
             |                      V
             |         ...         /
            DP         VP
              \       /
              PartP
```

We have no problems with the idea that trees may share non-terminal nodes. Van Riemsdijk's arguments are persuasive, and in fact grafts are predicted by the theory of insertion developed in Ackema and Neeleman (2004). The analysis in (22) is insufficiently general, however. Crucially, the missing subject of the matrix clause can be coreferential with a *null* subject in the preceding participial clause, as in (23) and (24). This implies that the shared non-terminal would have to be a null pronoun, which in turn entails that EMD must have pro drop after all.

(23) Moses zeght: d'oogen van hun beide werden geopent,
      Moses says: the.eyes of their both were opened,
      en ___ kennende dat ze naeckt waren, vlochten ___
      and pro *knowing that they naked were, pleated* pro
      vijgebladers.
      fig.leaves
      'Moses says: after the eyes of both were opened, they knew that they were
      naked and they pleated fig-leaves.'
                                          [J. van den Vondel, *Adam in ballingschap*; 1664]

(24) Derhalven ___ dan sijn oogh op haer gheslaghen
      consequently pro *then his eye on her* cast
      hebbende,
      having
      ende ___ met haer mine ontsteken zijnde, dacht ___
      and pro *with her love ignited being thought* pro
      hem dat voordeel
      him that advantage

> aff   te   sien,   ende   haer   zelver   te   ghenieten
> *off   to   see   and   her   self   to   enjoy*
> 'Having cast his eye on her, and having fallen in love with her, he thought
> he could take advantage and have her for himself.'
>
> [anonymous, *Wonderlicke Avontuer van Twee Goelieven*; 1624]

There is a second reason why subject omission cannot uniformly involve structure sharing between two independent representations. Usually the interpretation of the null subject of the matrix clause is determined by the subject of the participial clause. Occasionally, however, the interpretation of the matrix subject is dependent on another category in the fronted constituent (see Sect. 3 for discussion of the factors that determine which DP can act as antecedent for the null subject). This gives rise to a clash in case between the null subject and its antecedent, ruling out that a single DP is shared between the participial and the matrix clause. (25) is an example.

(25)   ...   Welcke   Brugghe   by   hen   overgetrocken   zijnde,
        ...   *which   bridge   by   them   crossed   being,*
        namen   haeren   tocht
        took   their   journey
        langs   de   Oost-zijde   van   Rapenburch.
        along   the   East-side   of   Rapenburch
        '... this bridge having been crossed by them, they went on their way
        along the east side of Rapenburg'
        [Jan Jansz. Orlers, *Beschrijvinge der stad Leyden*, 1641]

In (25), the fronted absolute participial clause is passive. The interpretation of the missing subject of the matrix clause is not determined by the subject of the participial clause (the relative phrase *welcke brugghe* 'which bridge'). Rather it is dependent on the pronoun *hen* 'them', which occurs in the *by*-phrase. However, if the matrix subject were overt, it would have to bear nominative case. It would have the form *sy* 'they', rather than the accusative form *hen* 'them'. Hence, a grafting analysis is impossible; the main clause must really have a null subject, rather than an overt subject shared with the participial clause.

In view of the evidence outlined above, the conclusion seems inescapable that EMD has genuine pro drop. The data thus provide a straightforward argument against the claim that pro drop requires grammatical recoverability. Still, EMD pro drop is exceptional, not only in that it occurs in a language with poor agreement, but also in that it appears to be subject to much stricter conditions than pro drop in, say, Italian. More specifically, it is restricted to cases in which the empty pronoun can find an antecedent within the finite clause that it appears in. In the next section, we will argue that these two facts

are related: the limited nature of EMD pro drop follows from the fact that it takes place in the absence of rich agreement. [10]

3 Recoverability revisited

Although grammatical recoverability cannot be an absolute condition for pro drop, it is undeniable that rich agreement facilitates argument omission. We will attempt to capture this correlation by arguing that there is a correlation between the richness of the agreement paradigm and the extent to which pro drop can be used in discourse (all else being equal). It is obvious that the richness of verbal agreement determines how many of the features of a deleted subject are grammatically recoverable (that is, encoded by the sentence's surface form). Our proposal is that this has consequences for the discourse status of the null subject. If fewer features are recoverable through agreement, the antecedent of the null pronoun must be more salient in the discourse.

This idea can be expressed in terms of Mira Ariel's Accessibility Theory. Ariel (1990, 1991, 1994) argues that nominal referring expressions are part of a hierarchy that determines whether they need an antecedent in the linguistic discourse, and if so, how 'accessible' that antecedent must be. In general, nominal expressions require a more accessible antecedent if their inherent referential power is weaker. Thus, if the expression in question encodes fewer interpretive properties, then its antecedent must be more accessible. Put differently, referring expressions function as 'accessibility markers' — they indicate to the hearer how accessible their antecedent is, thereby increasing efficiency in parsing (that is, in the determination of what the referent of the referring expression is). We adopt the accessibility marking scale in (26), which is based on Ariel's more elaborate proposal. [11]

(26) ***Accessibility Marking Hierarchy*** (adapted from Ariel, 1990)
     a.   null arguments associated with weak or no agreement
     b.   null arguments associated with rich agreement
     c.   clitics / weak pronouns
     d.   strong pronouns
     e.   definite descriptions
     f.   names

Accompanying this hierarchy is a set of conditions that determine how accessible potential antecedents are. Ariel (1990, pp. 28–29) mentions several

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[10] An anonymous reviewer asks why the following syntactic account for EMD pro drop is not possible. He or she assumes that the schwa that sometimes occurs as part of the ending of present participles is an agreement marker whose features are determined by the subject of the participial clause. The features percolate to the root node of that clause, where they enter into a relation of spec-head agreement with the finite verb in C. The enriched verbal agreement then licenses pro drop, in line with the idea of syntactic recoverability. This account must be rejected because the schwa ending is *not* an agreement marker (see footnote 5). Moreover, there is no independent evidence for phi-feature agreement between the specifier of CP and C.

[11] Our 'null arguments associated with weak or no agreement' correspond to Ariel's 'zero', while our 'null arguments associated with rich agreement' correspond to Ariel's 'agreement markers'.

factors that lead to an increase in a potential antecedent's accessibility. These are listed in (27a–c.ii). To this list, we add (27c.iii), for which evidence will be given as we proceed.

(27)   ***Factors Determining Accessibility*** (adapted from Ariel, 1990)
    a. *Saliency*
        The antecedent is salient (i.e., it is a topic).
    b. *Lack of competition*
        There are no or few competitors for the role of antecedent.
    c. *Locality*
        i. The antecedent is part of the same frame / point of view / segment or paragraph as the anaphoric expression.
        ii. The antecedent is close to the anaphoric expression (in terms of linear distance).
        iii. The antecedent is part of the same finite CP as the anaphoric expression.

Since null arguments are placed high on the Accessibility Marking Hierarchy, they all require highly accessible antecedents. These must minimally be topics of the current discourse, even in languages where most or all features of omitted subjects are grammatically recoverable. Thus, as shown in Samek-Lodovici (1995) and Grimshaw and Samek-Lodovici (1998), null subjects in Italian, as opposed to overt pronouns, must refer back to discourse topics (presumably because verbal agreement is less rich in feature content than overt pronouns). Similar observations have been made for other pro drop languages (see Kameyama 1985; Turan 1995).

We propose that an even stronger requirement holds of null subjects not associated with rich agreement: they must meet the condition in (27c.iii). This proposal raises several questions, for example about null arguments in a language like Chinese, which lacks agreement altogether. We will address these towards the end of this section. However, there is one implication we should point out immediately. Since (27c.iii) is a structural condition, it entails that the antecedent of the null argument must be linguistically represented; non-linguistically represented antecedents cannot be part of a finite CP. In other words, the relevant null arguments should behave like 'surface anaphors' in the sense of Hankamer and Sag (1976).[12]

Let us assume, in line with the above, that a null subject in EMD must find a salient antecedent within the finite CP that contains it. This is the case if a constituent containing a suitable antecedent has been fronted, as in (28a,b). It is important to note that the antecedent should be the topic of the current discourse, as EMD pro drop is not only governed by the condition in (27c.iii), but also by that in (27a), which holds of all null arguments. Since there is a strong correlation between topichood and subjecthood, it is not surprising that

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[12] Note that 'linguistically represented' does not mean 'overt'. Compare the examples in (23) and (24).

the vast majority of examples of null subjects in EMD take as their antecedent the subject rather than the object of a fronted clause. (Here and below, '#' marks non-syntactic ill-formedness.)

(28)   a.   *Main clause; antecedent topic within fronted constituent*
            $[_{CP} [_{XP} ... \mathbf{DP}_2 ... DP_3 ...]_1 V ... pro_2 ... t_1 ...]$
       b.   *Embedded clause; antecedent topic within fronted constituent*
            $[_{CP} ... [_{CP} [_{XP} ... \mathbf{DP}_2 ... DP_3 ...]_1 ... pro_2 ... t_1 ... V ...] ...]$
       c.   *Main clause; antecedent non-topic within fronted constituent*
            $\#[_{CP} [_{XP} ... \mathbf{DP}_2 ... DP_3 ...]_1 V ... pro_3 ... t_1 ...]$

Pro drop is correctly ruled out in a number of other circumstances. It is not possible for the null subject to take an antecedent in a preceding utterance, or in a superordinate CP (see (29a,b)). It is also not possible for it to be linked to an antecedent that is not linguistically expressed (see (29c)). These dependencies all violate the condition in (27c.iii):

(29)   a.   *Main clause; CP-external antecedent*
            $\#[_{CP} ... \mathbf{DP}_2 ...] [_{CP} XP_1 V ... pro_2 ... t_1 ...]$
       b.   *Embedded clause; antecedent topic in matrix clause*
            $\#[_{CP} ... \mathbf{DP}_1 ... [_{CP} C ... pro_1 ... V ...] ...]$
       c.   *Main clause; antecedent not linguistically expressed*
            $\#[_{CP} XP_1 V ... pro_2 ... t_1 ...]$

The condition in (27c.iii) also rules out that the antecedent of the null subject follows it. In order to explain why it does so, we first need to introduce a general condition on anaphora proposed in Williams (1997). Williams argues that in anaphoric dependencies the dependent element must either follow or be in a subordinate environment to its antecedent. Some examples illustrating this 'general pattern of anaphoric dependence' are given below:

(30)   a.   Anyone [who has written [his term paper]$_1$] can turn it$_1$
            in to me now
       b.   Anyone [who has written it$_1$] can turn [his term paper]$_1$
            in to me now
       c.   Anyone can turn [his term paper]$_1$ in to me now
            [who has written it$_1$]
       d.   #Anyone can turn it$_1$ in to me now
            [who has written [HIS TERM PAPER]$_1$]

The examples in (30a,c) are well-formed, because the antecedent (*his term paper*) precedes the dependent element (the pronoun *it*). (30b) is well-formed, despite the fact that the dependency is forward, because the dependent element occurs in a subordinate clause with respect to its antecedent. (30d), finally, is infelicitous, as the dependency is forward and the dependent is not

subordinated. (*Term paper* is capitalized in (30d) to signify that it has main stress. This implies that it is not itself anaphoric to some preceding instance of the same DP. If so, the pronoun could be dependent on this DP.)

Williams' condition predicts that when subordination of the dependent element is impossible, anaphora must be backward. Indeed, in the case of intersentential anaphora, the antecedent must always precede the dependent. Thus, *he* can be dependent on *John* in (31a), but not in (31b). (As before, 'John' is stressed to avoid it referring back to an earlier instance of the same DP).

(31) a. $John_1$ walked in. He_1 wore a hat.
      b. #He_1 walked in. $JOHN_1$ wore a hat.

With this in mind, let us return to EMD pro drop. Given that null subjects in EMD have to meet the condition in (27c.iii), they cannot be subordinate with respect to their antecedent. If they were, the antecedent would not be part of the same finite CP. Consequently, just as in intersentential anaphora, the antecedent must precede the dependent element (the null subject). The configuration in (32) is thus ruled out.

(32) *Main clause; antecedent topic within extraposed/in-situ constituent*
      #$[_{CP} \ldots V \ldots pro_2 \ldots t_1 \ldots [_{XP} \ldots \mathbf{DP_2} \ldots DP_3 \ldots]_1]$

We may conclude, then, that the condition in (27c.iii) goes a long way in restricting EMD pro drop to exactly those contexts in which it is attested. We will therefore assume that it is essentially correct. However, the condition still lacks independent evidence, and moreover raises several tricky questions. We address these outstanding issues below.

The first problem we turn to is that the theory developed so far seems incompatible with the existence of topic drop (see (5)). The problem is that a null argument in topic-drop structures is not associated with rich agreement, and should therefore find an antecedent within the finite CP that contains it. However, as it is the leftmost element within that CP, it cannot. Therefore, the structural condition we propose seems to rule out topic drop altogether.

We can avoid making this incorrect prediction if we assume that the left edge of an utterance is an 'escape hatch' for anaphoric dependencies in much the same way that the left edge of a phase is an escape hatch for syntactic dependencies (compare the discussion of phase edges in Chomsky 2005). In other words, we adopt an exemption clause for null pronouns at the left edge of an utterance: [13]

(33) A null pronoun at the left edge of an utterance is exempt
      from the structural condition in (27c.iii).

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[13] One would obviously want to explain why topic drop is restricted to categories in the specifier of the matrix CP in terms of the exemption clause in (33), but we will have to leave this for future research.

This exemption clause has the consequence that a dropped topic can take an antecedent in the preceding discourse. Note, however, that this antecedent will still need to be the current discourse topic, as this is required by (27a). The exemption clause also has the consequence that the antecedent of a null category in the specifier of the matrix CP need not be linguistically represented. After all, the requirement of a linguistically realized antecedent in the case of EMD pro drop originated in (27c.iii), the condition mentioned in (33). Thus, in the terminology of Hankamer and Sag (1976), we expect a category that has undergone topic drop to behave like a 'deep anaphor'.

Both predictions are correct. The Dutch discourse in (34) demonstrates that a null category at the left edge of an utterance may only refer to the current discourse topic; it cannot refer to a previous topic. The discourse is set up to make it equally likely that the omitted category refers to *Jan*, the topic introduced in A, *Marie*, the topic introduced in B, or both. However, the null category in A's reply can only refer to the current topic, *Marie*.

(34)   Speaker A: Denk   je   dat   Jan   van   haring   houdt?
                     think   you   that   John   of   herring   holds
                     'Do you think that John likes herring?'
        Speaker B: Dat   dacht   ik   niet,   maar   MARIE   eet   in
                     that   thought   I   not,   but   Mary   eats   in
                     elk   geval   liever   paling.
                     any   case   rather   eel
                     'I don't think so, but in any case Mary prefers eel.'
        Speaker A: O. $\emptyset_1$ heb   ik   dan   waarschijnlijk de verkeerde
                     Oh. Pro   *have   I   then   probably   the wrong*
                     vis   [t_1 voor] gekocht.
                     fish   for   bought.
                     'Oh. Then I have probably bought the wrong fish for her/#him/#them.'

That topic drop can be licensed by a non-linguistic antecedent is well known. An example is given in (35).

(35)   [Pointing to someone wearing a T-shirt in the middle of winter]
        $\emptyset_1$ denkt t_1 zeker   dat   het   zomer   is.
        pro   *thinks   certainly   that   it   summer   is*
        'He must be thinking that it's summer.'

An interesting prediction now follows. In constructions where the specifier of the matrix CP does *not* coincide with the left edge of the utterance, topic drop should be impossible. This is because in such constructions the category deleted through topic drop would not be exempt from (27c.iii), but at the same time, it could not find an antecedent within the CP that contains it, given that it occupies the highest

position within that constituent. Although there are few constructions that allow the verb to come in third position, the prediction seems to be borne out.

To begin with, verb-second clauses can be preceded by adverbials introduced by *al* 'although'. However, if this is the case, topic drop is impossible. Thus, speaker B may reply to speaker A's question as in (36a), but the answer in (36b) is ill-formed. (Notice that *Jan* is introduced as a topic by speaker A, so that the condition in (27a) is satisfied by both answers.)

(36)   Speaker A: Jan   is   eigenlijk   een verschrikkelijke eikel, vind
                    John   is   really   a   terrible   jerk,   find
                    je   niet?
                    you   not?
                    'John is really a terrible jerk, don't you think?'
  a.   Speaker B: Ja.   Al   dring   je   nog   zo   aan,
                    yes. though   insist   you   yet   so   PRT,
                    [$_{CP}$ hij$_1$ zal t_1 je   nooit   helpen].
                    he   will   you   never   help
                    'No matter how much you insist, he won't ever help you.'
  b.   Speaker B: #Ja.   Al   dring   je   nog   zo   aan,
                    yes. though   insist   you   yet   so   PRT,
                    [$_{CP}$ Ø$_1$ zal t_1 je   nooit   helpen].
                       pro *will   you   never   help*

In fact, structures like (36b) are predicted to be unacceptable, even if the antecedent of the empty category is not introduced in the previous discourse, but in the adverbial clause in first position. The reason for this is that (27c.iii) requires that a null subject and its antecedent be contained in the same CP. However, the adverbial clause occupies a CP-external position (otherwise it would trigger verb-second). The data are as expected:

(37)   a.   Al   loopt Jan   nog zo hard, [$_{CP}$ hij$_1$ zal t_1 niet winnen]
                though runs John   yet so fast, he   will   not win
                'No matter how fast John runs, he won't win.'
       b.   #Al   loopt Jan   nog   zo hard, [$_{CP}$ Ø$_1$ zal t_1 niet winnen]
                 though runs   John   yet   so fast, pro *will not win*

The examples in (38) parallel those in (37), but are perhaps even more remarkable, given that the *wat ...betreft* 'as for ...' construction is used to mark new discourse topics as such. This implies that *Jan* is a highly accessible antecedent in (38b): it is very close to the empty category, there is no competing antecedent, and it is the topic of discourse. The fact that (38b) is nevertheless bad therefore provides striking independent evidence for the structural condition in (27c.iii).

(38) a. Wat   Jan   betreft,   [$_{CP}$ die$_1$ ken   ik   t$_1$ niet]
         what   John   concerns,   that.one   know   I   not
         'As for John, I don't know him.'
      b. #Wat   Jan   betreft,   [$_{CP}$ Ø$_1$ ken   ik   t$_1$ niet]
         what   John   concerns,   pro   *know   I   not*

Our findings regarding topic drop in Modern Dutch do not only provide independent evidence for (27c.iii), but can also be used to strengthen our argument for pro drop in EMD. Given the discussion so far, it does not follow from anything that pro drop should be restricted to structures in which the fronted constituent is a participial clause. The only requirement that holds is that this constituent should contain a salient DP that can function as antecedent. Thus, the sceptical reader could ask why we have not provided examples of pro drop licensed by fronting of other types of categories.[14] The answer is partly statistical in nature. Although the texts we have excerpted contain many examples of sentences introduced by a participial clause, we have, for instance, found only a singe case of a fronted complement clause. Therefore, the chance of finding pro drop licensed by a topical DP contained in a fronted complement clause must be close to zero, even though the theory developed above would in principle allow it.[15]

   The texts in question do, however, contain a small number of sentences introduced by a finite conditional clause. Among these, there is one that could be analyzed as involving pro drop, given in (39).

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[14] However, the predicted variation in this domain is more limited than might be expected at first sight. The reason for this lies in the fact that certain types of topicalization show obligatory reconstruction with regard to the evaluation of principle C. The following Modern Dutch examples illustrate this:

(i)   *[$_{CP}$ [In   Jan$_2$'s kantoor]$_1$ heeft hij$_2$ nooit planten t_1 gezet].
              in   John's office   has   he   never plants   put
              'In his office, John never put plants.'

(ii) *[$_{CP}$ [Met   Jan$_2$ weer   thuis]$_1$ zal   hij$_2$ t_1 gelukkig zijn].
              with   John   again   home   *will he   happy   be*
              'Now that he is home again, John will be happy.'

The question of what determines whether apparent principle C violations under reconstruction are tolerated or not has been widely discussed. See, for instance, Van Riemsdijk & Williams (1981), Huang (1993), Heycock (1995), and Kuno (1997).

[15] Moreover, it is not a priori clear that the relation between a complement clause and the main clause is treated in the same way as the relation between an adjunct clause and the main clause by the principles governing accessibility—see Miltsakaki (2003) and references cited there.

(39)   Indien   z'   ook   zoo   haast   niet   geviel,
       if   *it*   *also*   *so*   *quickly*   *not*   *happen,*
      moesten   __   daarom   niet   flaauwen
      must   pro   *therefore*   *not*   *weaken*
      in   't   dulden   van   korten   kommer […]
      in   *the*   *suffering*   *of*   *short*   *destitution*
      'If it [their relief] would not happen [to them] so quickly, they should
      therefore not weaken in their resolve to suffer short-lived destitution.'
                                    [P.C. Hooft, *Nederlandsche Historien*; 1628-47]

At first sight, one would be inclined to dismiss this example as irrelevant, because preposed finite conditionals do not obligatorily trigger inversion in EMD, a fact illustrated in (40).

(40)   Indien   hem   't   hoogh   bestier   waar   bevoolen
      If   *him*   *the*   *high*   *government*   *were*   *ordered*
      geweest,
      been
      hy   zoud'   het   zoo   naauw   met   het
      he   *would*   *it*   *so*   *narrowly*   *with*   *the*
      punt   der   eere   niet   genoomen   hebben
      point   *of.the*   *honour*   *not*   *taken*   *have*
      'If he had been ordered to govern, he would not have been so strict on the
      point of honour.'
                                      [P.C. Hooft, *Nederlandsche Historien*; 1628-47]

In view of the optionality of inversion following a conditional, examples like (39) could in principle be treated in one of two ways. One possibility is that the conditional resides in spec-CP and the subject has undergone pro drop in post-verbal position. Alternatively, the subject has been moved to spec-CP, where it has undergone topic drop. On that analysis, the conditional occupies a CP-external position. However, the data in (36)–(38) militate against the topic-drop analysis. They show that topic drop cannot affect the second constituent in a verb-third structure. Therefore, (39) must be analyzed as involving pro drop. (Note that this line of reasoning also strengthens the argument presented in Sect. 2 against a topic-drop analysis of the examples in (11)–(13)).

There is a final outstanding issue. So far we have tacitly assumed that all null arguments not associated with rich agreement are subject to the condition in (27c.iii). But this cannot be true of languages that have radical pro drop (that is, languages like Chinese and Japanese, which allow omission of any pronominal argument). As explained in Sect. 1, such languages often do not have any verbal agreement. In fact, one analysis of the phenomenon, that of Speas (2006), is based on this observation. Now, although there are strict pragmatic conditions on the antecedents of null arguments in the languages in question, it is not true that these arguments must be related to a DP in the same finite CP. They can

take antecedents in superordinate clauses or in the previous discourse, as well as non-linguistic antecedents.

Accessibility Theory provides an interesting take on why radical pro drop and pro drop in EMD should be different in this respect. The theory does not assume that every type of nominal expression has a universally fixed type of antecedent. Rather, an anaphoric expression will be assigned a range of possible antecedents depending on the inventory of such expressions in a given language. If we restrict ourselves to the higher end of the hierarchy, null arguments in a language that has clitics and/or weak pronouns (for the same grammatical function) are predicted to have a more limited distribution than null arguments that do not compete with clitics or weak pronouns. Given our proposal to add the structural condition in (27c.iii) to the set of locality constraints, the former will require an antecedent in the same finite CP, while the latter allow less local antecedents (much like topic drop).

We can therefore understand the wider distribution of null arguments in radical pro drop languages if these languages differ from EMD in lacking weak pronominal expressions that compete with null arguments. Like all Germanic languages, EMD had weak subject pronouns, and possibly some subject clitics. To the best of our knowledge, this is not true of the radical pro drop languages. Japanese, for instance, has a set of strong pronouns, but these do not have alternative forms banned from positions that do not tolerate weak pronouns (such as coordinations; see Cardinaletti and Starke 1999 for extensive discussion of tests that distinguish weak pronouns and clitics from strong pronouns). The same holds of Chinese and the other radical pro drop languages we are aware of. Needless to say, future research will have to confirm the proposed correlation, but we believe that it will stand up to further scrutiny.

Of course, the above provides only a partial answer to the question of why radical pro drop is different from pro drop in EMD, as in principle it is possible for a language to have both weak pronominal forms and radical pro drop. However, as a result of the condition in (27c.iii) the distribution of radical pro drop would be severely limited under such circumstances. This in turn implies that the phenomenon will not be very salient in the input to the language–learning children, and hence prone to be lost in diachronic development. Therefore, if languages of the relevant type exist at all, we would expect them to be very rare. By the same logic, we would expect pro drop in EMD to be vulnerable in acquisition, owing to its very limited distribution. Indeed, the rule has been lost in the transition to Modern Dutch.

4 Concluding remarks

To sum up, our analysis of subject omission in EMD, if correct, has an important implication for the theory of pro drop. It strongly suggests that the

often-observed correlation between subject omission and richness of agreement is only an indirect one.[16] It is not the case that the empty pronoun's content is recovered through rich agreement. Rather, the number of features overtly encoded in the agreement determines how highly accessible the pronoun's discourse antecedent must be, in line with Ariel's (1990) Accessibility Theory. If agreement is richer, the null subject will behave more like a regular, overt, pronoun. If agreement is poorer, the pronoun will require an antecedent that is very prominent in the discourse. Thus, the richness of agreement determines how freely the pro drop rule can be applied in discourse. In languages with poor agreement, the discourse conditions imposed on null arguments can become so strict that such arguments can only be part of very few structures.

The existence of the construction discussed in this paper may also have broader implications for the syntax of null subjects. Cases in which the subject of an embedded *non-finite* clause is empty under coreference with the overt subject of a finite main clause are familiar: these are the 'standard' cases of control. Here we see, however, that, in case a non-finite clause has an overt subject and precedes the main clause, the subject of the finite main clause can be empty under coreference with the subject of the preceding non-finite embedded clause. This may suggest a unification of parts of the theory of control and the proposals in the previous section.[17] One reason why such a unification seems promising is that in languages in which control complements can precede the matrix control verb, a phenomenon known as 'backwards control' is possible (see Polinsky and Potsdam 2002). Backwards control closely resembles the construction found in EMD: there is an overt subject in a non-finite clause that precedes the main clause, and this licenses the dropping of a coreferential subject in the main clause. The difference between the EMD construction discussed here and backwards control is that in the latter case the subject of the main clause *must* be coreferential with the subject of the embedded clause, that is, we are dealing with 'obligatory control'. This, however, may be a consequence of the semantics of the verbs involved, as argued by Cormack and Smith (2002, 2004).

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[16]Interestingly, a similar claim has been made about the connection between V-to-I movement and richness of agreement, which is argued to be indirect by Alexiadou and Fanselow (2002) and Bobaljik (2002).

[17] The unification can be only partial, because something will still need to be said about why subjects of non-finite clauses always *can* be empty, in contrast to subjects of finite clauses in non-pro-drop languages. After all, when a control verb takes a finite rather than a non-finite complement clause in a language like English, the subject of that complement cannot be empty. For suggestions about what causes this difference between non-finite and finite clauses that do not rely on a special PRO subject for non-finite clauses, see Borer (1989), Manzini & Savoia (1997), and Ackema (2002).

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