On the diachrony of ellipsis

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1. A brief introduction to taxonomies of ellipsis

We understand ellipsis as the omission of speech within the grammatical system of a given spoken language – or, equivalently, of written or other isomorphic signaling systems of natural language – while keeping a well-defined intended meaning intact. Terms such as 'well-defined' and 'intended' do not exclude ambiguities. Just like fully spelled out utterances, elliptical ones sometimes allow more than one meaning, but to be able to talk about ellipsis, the standard view is that the interlocutors must have means to complete the missing parts so that a proposition obtains. Less systematic omissions such as unfinished utterances or other dysfluencies (though not linguistic fragments, which fall within the systems of natural language grammars – cf. Merchant 2004 and references including for distinct analyses) or other possible production incongruities will not be in the scope of our investigation. To go one step further in zooming in and delimiting current inquiry, we will start from the literature summarized in Reich (2011/19; cf. also Hankamer & Sag 1976, Johnson 2001, Merchant 2019) for synchronic purposes and additionally pay attention to the distinction between a(ntecedent) based ellipses and s(ituational) ones, where much of the current focus will reside on the former for practical reasons. Our goal lies in reporting on diachronic case studies and inquiring further into possible generalizations from a relatively thinly populated research landscape with regards to the historical component of ellipsis. We will thus not be concerned with defending or disconfirming particular stands on ellipsis (for example, are different types of ellipsis to be best represented as fully articulate structures or not; e.g. as silent anaphors instead) that have been carried out in the synchronic theoretical literature (see Hardt 1999, Merchant 2019 and the references therein, among many others), but we will occasionally point out a few grey areas with respect to

different levels of classification nonetheless when they interact with taxonomies that become relevant for diachronic trajectories.

We begin with illustrating the a- vs. s-types of ellipsis in (1) and (2) respectively. For a-types, we occasionally use strikethroughs to indicate the relevant elliptical part.

(1) Peter chose a full suspension mountain bike and Chelsea ~~chose~~ a folding bike.

(2) Family again. (Railway company advertisement accompanied by a photograph intended to show a family reconnecting, *The Guardian,* October 7, 2021, p. 10)

The conjoined structure in (1) shows a case of gapping, the technical term used for utterances in which typically the verbal head is omitted, while the subject and the object, as visible above, are preserved. There is a notion of identity how to reconstruct the omitted material, i.e. the verb *chose*. For the predicate-less utterance in (2), by contrast, such an obvious reconstruction of linguistic material is not available, as, for instance, no predicate is given in any antecedent, and any number of enriched paraphrases containing different predicates are imaginable. Notice also from the beginning that even gapping (an only apparently simple type of ellipsis; cf. Johnson 2002 for ample discussion) can easily involve more complex structures, as illustrated in (3):

(3) Some went out to buy beer, and others ~~went out to buy~~ fried chicken. (Johnson 2002: 1 (2b)).

While for s-ellipses the issue does not arise (as they lack linguistic antecedents altogether), a proper subset of a-ellipses is known not only to allow anaphoric, but also cataphoric uses in their choice of antecedents. To illustrate the difference: gapping, the ellipsis type we just introduced above, does not allow cataphors in English (regardless of whether in its simplex or more complex versions), as shown in (4), but verb-phrase ellipsis (VPE) does, as shown in (5), even if the ratio of cataphoric uses is generally low in attested data (cf. Bos & Spenader 2011, Nykiel 2011) :

(4) a. *Chelsea ~~chose~~ a folding bike and Peter chose a full suspension mountain bike.
   b. *Some ~~went out to buy~~ fried chicken, and others went out to buy beer.

(5) If Hillary will ~~make a statement blasting the press~~, Bill will make a statement blasting the press. (Kehler 2000: 537, (13c))

We illustrate a few additional types of ellipsis:

(6)   Amy recruited a new student assistant, but we don't know who(m) ~~she recruited~~. (sluicing)

(7)   Leon used the cabbage or perhaps ~~he used~~ the chard.   (stripping/ bare argument ellipsis)

(8)   A: What are you working on?   B: ~~I'm working on~~ Ellipsis.   (fragment answer)

(9)   a. I like the blue car, but Peter likes the red *one*. (*one* proform)

         b. Eu gosto do   carro azul, mas Peter gosta do   ~~carro~~ vermelho. (NP deletion)

            I   like   of-the car   blue   but   Peter likes of-the   red

         Lit. 'I like the blue car but Peter likes the red (~~one~~).'

(10)   Nee,   (~~die~~)   heb   ik   niet   gezien

         no,   that   have   I   not   seen

         Lit. 'No, I haven't seen (~~him~~).'   (topic drop, Dutch, Broekhuis & Corver 2020: 34b)

(11)   … att   han   ~~hadde~~ sett henne

          that   he   had   seen her.   (auxiliary ellipsis, Swedish, after Platzack 1986: 201)

          Lit. '…that he (~~had~~) seen her.

Although the list we just introduced contains some of the widely researched items in syntax and semantics, it is not exhaustive in any way. For instance, we have not mentioned yet object or more generally, argument drop (cf. below for Brazilian Portuguese) and there are multiple phenomena that would surpass our current scope. In fact, even the types briefly introduced above allow further subdivisions (accompanied by debates whether and to what extent some of the subtypes do indeed belong to the same class of omission phenomenon). For instance, even though sluicing is broadly known to have just a wh-element as a last remnant, it is also possible to find types that are quite distinct on the surface, as e. g. in Hungarian (van Craenenbroek & Lipták 2006). To take an example with consequences for diachronic research, VPE, as we introduced above, was of the English type, in that it featured a missing verb phrase (VP), while the relevant remnant was an auxiliary. There was no argument from within the VP left as a remnant. We may call this kind of VPE post-auxiliary ellipsis (PAE). An arguable subtype of PAE is pseudogapping (PG), a type of ellipsis that equally has an auxiliary in place, but which has some remnant of the verb phrase standing (rather than the entire phrase being elided). Consider **Fehler! Verweisquelle konnte nicht gefunden werden.**, where the object is present. Having the auxiliary in place distinguishes PG as in **Fehler! Verweisquelle konnte nicht gefunden werden.** descriptively from gapping.

(12) I 'm not citing their analysis so much as I am ~~eiting~~ their data. (Levin 1979: 10, (4))

However, regardless of whether PG is a subtype of PAE (and thereby of VPE) or not, PAE is by far not the only kind of ellipsis traditionally discussed under the umbrella of VPE. Another kind of ellipsis (which has often been categorized as VPE, although the view has also been argued against – cf. Landau 2020a,b 2021) involves no auxiliary but rather a verb in a similar position as a remnant. This type (let's call it verb stranding ellipsis – VSE) has been documented in multiple forms in several languages, though not in English. We use Portuguese in what follows, as it allows both the PAE type of VPE and the VSE type. Notice that we use the terms descriptively, without a commitment to a particular analysis of VSE for immediate purposes. Consider (13) and (14):

(13) VPE of the post- auxiliary type, PAE (Portuguese):

    A   Paula não tem estudado muito para os   exames, embora

     the Paula not has studied   much for   the exams   although

    a   maioria dos   alunos **tenha$_{aux}$** [vP **t$_{aux}$** ~~estudado muito para os exames~~].

    the majority   of-the students have   studied   a lot   for   the exams

    'Paula hasn't studied much for the exams, although the majority of the students

     have'

(14) Verb-stranding ellipsis, VSE (Portuguese):

    A   Ana telefonou imediatamente para o   namorado logo que o   avião parou

    the Ana called   immediately   to   the boyfriend soon that the plane stopped

    e   a Maria também **telefonou** [t$_{telefonou}$ ~~imediatamente para o namorado~~

    and the Maria also   called   immediately   to the boyfriend

    ~~logo que o avião parou~~].

    soon that the plane stopped

     Lit. 'Ana immediately called her boyfriend as soon as the plane stopped and Ana

      also called (~~her boyfriend~~)

Whereas in PAE an auxiliary from outside the elided VP (or an extended vP projection in more technical terms) licenses ellipsis, in VSE it is the main verb of the putatively omitted verb phrase that licenses the process. A classical analysis of such phenomena is that the main verb that heads the elided constituent raises to a structurally higher functional projection. What is

more, Portuguese varieties display null objects, as illustrated in (15). We will return to the properties of ellipsis in Portuguese and their evolution in Section 2.

(15) Null object /argument ellipsis (example from Brazilian Portuguese)

  Eu deixei os bolinhos na   geladeira e a Maria comeu [os bolinhos] mais tarde.

  I left   the cupcakes in-the fridge   and the Maria ate   the cupcakes more late

  Lit. 'I left the cupcakes in the fridge and Maria ate (them) later.'

A basic constraint recognized in the literature on (a-)ellipsis is that a site of an elliptical structure needs to be identical in meaning (typically called the level of Logical Form in formal approaches) with the meaning of the corresponding antecedent. This happens modulo some leeway that is allowed both in terms of morphology (e. g. voice mismatches to an extent, depending on the type of ellipsis) and reference, which can receive various implementations. The case of non-identical reference is usually known as sloppy reading and is typically accounted for based on the aforementioned constraint that identity between the two pertinent sites is required at a more abstract level of meaning, not in a strict surface-based morphosyntactic way. More generally, much research has come to view ellipsis as a multi-modular or interface-based phenomenon, that is: one involving several (and potentially parallel, rather than sequential) levels of grammatical and cognitive/processing representation (cf. the literature reviewed in Winkler 2005, Gergel 2009, or Reich 2019, to name a few, to this end). The fact that ellipsis sites are naturally flanked by accented (and sometimes contrasting) material and they themselves share properties of deaccenting very much speaks to this point too. Under one view, ellipsis would be an extreme case of deaccenting (a point made prominent by Tancredi 1992; cf. Büring 2016 for a more general framework review for the interaction of focus and deaccenting.)

While we are not aware of studies about fundamental evolutional patterns of elliptical phenomena, the nature of the phenomenon is synchronically rather well-studied, as is the wealth and diversity of ellipsis types, out of which we introduced some commonly discussed ones. Given the current understanding of ellipsis, this raises – despite the scarcity of systematic diachronic studies about possible more general developments – certain desiderata and questions that we formulate as follows:

- Ellipsis may, in general, be expected to produce a tension between an economical expressive form in production and the burden of retrieval in processing. Therefore, a straightforward prediction as to whether it should rise or rather fall in frequency

diachronically does not offer itself for consideration a priori, as both benefits and costs will have to be known first. This can naturally vary considerably, depending on the grammatical conditions given in a particular language – and just as often register conditions – at a particular period.

- The previous point entails that more conditional predictions are what one should aim for, whether determined by independent grammatical factors or by conditions of usage.

- Certain ellipsis types are quite wide-spread cross-linguistically (for example, fragments, gapping, sluicing). While they still present many interesting points, e. g. of cross-linguistic micro-variation in terms of specific subtypes, we will mostly leave them aside here, as current research does not offer a basis to study their grammatical properties over time (probably often assuming that they must have existed at earlier documented times just like they exist today). This does not mean, for instance, that such common types of ellipsis should not be studied in future work or that they could not show oscillations diachronically, say, due to a change in relevant points of grammar or text types towards (or away from) more ellipsis-permissive ones.

- A crucial amendment to the previous point: when a cross-linguistically broad elliptical phenomenon interacts with other types that are much more dependent on the grammatical properties of the respective languages, then more action can be expected. Merchant (2001), for instance, shows that this expectation is fulfilled as far as grammatical systems are concerned (synchronically already). Even though bare-argument ellipsis and sluicing are both a common appearance in the languages of the world, the way they interact with the properties in the additional omission of prepositions is subject to broad cross-linguistic variation, even within Germanic, and Nykiel (2015) investigates aspects of this conundrum in the history of English from a usage-based perspective (cf. also Section 3).

- Other ellipsis types are known to be considerably less universally available already from the synchronic literature; for example, VP ellipsis (López & Winkler 2000), pseudogapping (Levin 1979, Gengel 2013), auxiliary ellipsis (Platzack 1986, Breitbarth 2005), argument ellipsis (Şener& Takahashi 2010) among several others.

- The diachronic expectation is that such ellipsis types (viz. precisely the less universally available ones) can then be observed in their development over time, which includes the following points:

  i.   how they may appear in the grammar or 'grammaticalize';
  ii.   how they may disappear;

iii. how they become conditioned by further (un)favorable factors at different stages.

Combinations of (i), (ii) and (iii) are possible and attested, as we will see.

In what follows we will set a focus on different types of verbal ellipsis in conjunction with a selection of documented phenomena from the histories of some Romance and Germanic languages. We will start out with a close look at grammatical factors in Romance with much of the work centering on VPE (available, recall, both as PAE and VSE in Portuguese) to then consider PAE, auxiliary, and prepositional omission in Germanic. We emphasize once again that we can only render a fraction of the possibilities of ellipsis within natural language and even within the language families that we focus on.

2. Case studies from Romance

In this section, we are going to report studies on the diachrony of ellipsis in some Romance languages. To be more comprehensive, we are going to look at some languages in particular in which different types of ellipses have been investigated and reported in the literature.

2.1 European Portuguese

Martins (2005) considers that short answers to polarity questions are instances of "VP-ellipsis":

(16) a. Tu deste-lhe   o   livro?   (enclisis, ok)
       you gave-CL.DAT.2SG/3SG   the book
       'Did you give him the book?'

   b. *Tu lhe   deste o livro?   (*proclisis)
       you CL.DAT.3SG   gave the book
       'Did you give him the book?'

   c. Dei.   (VP ellipsis, ok)
       gave
       'Yes, I did'

   d. Sim, dei.   (VP ellipsis, ok)
       yes   gave
       'Yes, I did'

   e. Sim, dei-lho.   (enclisis, ok)6
       yes gave-CL.DAT.2SG/3SG.ACC.3SG.
       'Yes, I did'

(ex. (1) Martins 2005: 175).

She relates the availability of VP-ellipsis in languages with a functional head Sigma, and she proposes that "VP-ellipsis and enclisis emerge in the languages where the polarity encoding functional head Sigma (Σ) has strong features, being not allowed in the languages where Σ is a weak functional head". She relates the availability of such cases of VP ellipsis in Portuguese with the fact that the language allows enclisis, as in (16). That explains why Spanish (which does not have enclisis) does not allow VP ellipsis short answers as (17):

(17) a. *Tú distele   el libro?   (*enclisis)

        you gave- CL.DAT.3SG   the book

        'Did you give him the book?'

   b. Tú le   diste el libro?   (proclisis, ok)

     you CL.DAT.3SG   gave the book

     'Did you give him the book?'

   c. *Di.   (*VP ellipsis)

     gave

     'Yes, I did'

   d. *Sí, di.   (*VP ellipsis)

     yes gave

     'Yes, I did'

   e. Sí,   se lo   di.   (proclisis, ok)

     yes, CL.DAT.3SG.ACC.3SG   gave

     'Yes, I did'

     (ex. (2) Martins 2005: 176).

Martins proposes "that enclisis and VP-ellipsis emerge in languages where the functional category Σ – which encodes polarity values, i.e., affirmation, negation, modality (Martins 2000) – bears strong features (Portuguese and Galician), whereas such phenomena are absent from language where Σ is weak (Spanish, Catalan, French, Italian and Romanian) – cf. Martins (1994)"

       The author backs up her proposal with diachronic facts related to the strength of Sigma: verbal yes/no questions were attested in Latin – as we will see later, but it is also the case in many languages – so the language has a strong Sigma feature.

(18) Clodius   insidias fecit Miloni?   – Fecit.

Clodius.NOM plots   made Miloni.DAT   made

'Did Clodius plot against Milo? Yes, he did.'   (Cicero. Pinkster 1990: 191)

 (ex. (3) Martins 2005: 175).

According to Martins, (European) Portuguese and Galician maintained a conservative feature which is absent in other contemporary Romance languages, but it was existent in Old Spanish, Old French, Old Catalan and Old Occitan, that is, Σ was a strong functional category across the Old Romance languages, as her examples show: (ex. (4)-(11) Martins 2005: 175).

(19) Old Spanish

a. ¿I   traedes uostros escriptos? – Rei, si   traemos

and bring   your   books?   King yes   bring

'And, do you bring your books? Yes, King, we do.' (Auto de los Reyes Magos. Gifford & Hodcroft 1966: 42)

b. – Pues ¿quien esta arriba?

  'Who is upstairs?'

 – ¿Quiéreslo saber?   – Quiero.

   want-it   to-know?   want

   'Do you want to know it? Yes, I do.'   (La Celestina. Cejador y Frauca 1913:62)

(20) Old French

a. – Dame, je crois   bien qu'il   est vostre filz, més il n'est   pas filz le   roi.

    lady   I believe well that-he is   your   son, but he NEG-is not son the king

    'My dear lady, I am sure he is your son, but he is not the king's son'

  – Si est, dit la   reyne

    Yes is   said the queen

    'Yes, he is, said the queen.' (Les Sept Sages de Rome. The Hamburg corpus of Old French − Collaborative Center on Multilingualism, University of Hamburg)

b. Phelippe dist...: "Sire, parlé a moy a une part, vous et   vos quatre compaignons".

    Phelippe said   sir speak to me   to a   side   you and your four   companions

    Et   il   respondirent et   crierent tous cinc:

and they answered and shouted all five

"Si m'aït Des, ne ferons"

if me-helps God NEG will-do

'We will not do it, so God help us.' (Philippe de Novare. Foulet 1928: 237)

(21) Old Catalan

a. "E havie-hi altre cavaller, menys de vós"? "Sí havia". – dix Curial

and was-there another knight other than you? yes was said Curial

'And was there any knight besides you? Yes, there was.' (Curial e Güelfa. Blasco Ferrer 1984: 181)

b. "Senyor cavaller, prec-vos que em digats si partits d'aqueix monastir

Mister knight beg-you that me tell if left from-that monastery

qui está aquí prop". "Sí fac".

that is here nearby yes did

'Sir, would you please let me know whether you are coming from that nearby monastery? Yes, I am.' (Curial e Güelfa. Blasco Ferrer 1984: 181)

(22) Old Occitan

a. et as per so to cor dolen? − Si ai

and have for that your heart painful yes have

'And is this why you feel sick at heart? Yes, it is.' (G. de Bornelh. Jensen 1994: 282. Quoted in Fischer 2003: 171)

b. non saps? − Si fas

not know yes do

'Don′t you know it? Yes, I do.' (Flamenca. Jensen 1994: 282)

Interestingly, Martins considers answers as (20b), (21b) and (22b) as VP ellipsis (polar answers), even though the verb used in the answer is not the same verb as in the question; it is a verb corresponding to the supporting *do*. This shows that, although diachronically, this kind of ellipsis was possible in Old Romance (even if we do not go along with the idea that this is a *true* type of VP ellipsis/VSE, as discussed above in the introduction), this kind of ellipsis is not available anymore in modern Romance languages (with exceptions like Portuguese).

2.2 Brazilian Portuguese

Martin's proposal, which relates enclisis and polarity verbal answers (which she calls "VP ellipsis"), are not supported by Brazilian Portuguese facts, since the language has proclisis and does have the short verbal answers to yes/no questions:

(23) a. Você me   deu   o livro?   (proclisis, ok)
        you   CL.1SG gave the book
        'Did you give me the book?'
        Dei/   Sim, dei.
        Gave   yes gave
        'I did/ yes, I did.'
     b. Você deu-me   o   livro?   (*enclisis)
        you   gave-CL.1SG the book

Observing data from the 19th to the 20th centuries, Cyrino (1993) reports the loss of enclisis in Brazilian Portuguese. Oliveira (2000) shows that verbal short answers, which Martins calls "VP ellipsis", do occur in her diachronic data from the same period. Furthermore, the diachronic study in Cyrino (1994) shows a concurrence of factors relating the increase of 'propositional ellipses' (where a whole proposition is elided) to the rise of 'null objects in Brazilian Portuguese. The former, is exemplified in (24) and the latter in (25), both gaps represented with strikethroughs:

(24) Foi que D. Tibúrcio, com   a   pena   de se   ver acometido
     was that D Tiburcio   with the penance of CL.REFL see   attacked
     de três mulheres,   como vossa mercê sabe ~~que D.Tibúrcio (tinha) a   pena   de~~
     of three women   as   your   mercy knows that D.Tibúrcio had   the penance of
     ~~se   ver acometido de três   mulheres~~...
     CL.REFL see attacked of three women
     Lit. 'It happended that D. Tiburcio, with the penance of being attacked by three women as your mercy knows (~~that D. Tibúrcio had the penance of being attacked by three women~~)…'
     (Antonio José, *Guerras do Alecrim e da Manjerona,* 18th century)

(25) Ninguém venda a liberdade pois   não pode resgatar ~~the freedom~~
     nobody   sell   the freedom because not can   ransom the freedon
     Lit. 'Nobody sell his freedom because he cannot ransom (~~his freedom~~).'

(Camões, *XXXX*, 16th century)

Cyrino investigates diachronic data and shows that VSE occurs since the 16th century, but it is not easy to find the relevant data due to the specificities of the construction (see Matos 1992, Cyrino & Matos 2002, 2005). However, in parallel to the loss of the 3rd person neuter clitic *o* 'it' that could replace a proposition, there is the rise of null objects whose antecedents are [-animate], as shown in the figure below:
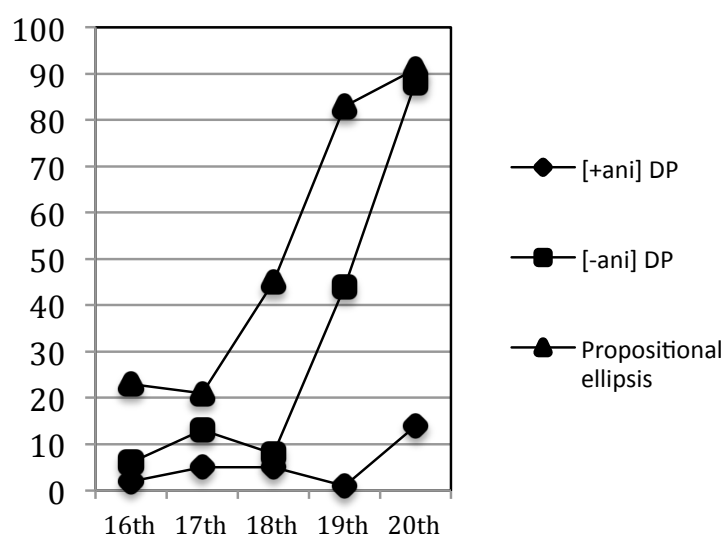

Figure 1: Diachronic change: null object DPs and propositional ellipsis in BP, adapted from Cyrino (1994/1997a) (figure in Cyrino 2020: 419)

Comparing to European Portuguese, for example, Cyrino (1997a: 189) shows that there is no difference in time with respect to propositional ellipsis and the use of the neuter clitic: the rate remained stable, at least in her data from the 19th and 20th centuries, collected from European Portuguese texts. In a total of 70 sentences, she found 18.6 % of propositional ellipsis and 81.4% of the neuter clitic in the 19th century; the same rate was found for the 20th century: in 39 sentences, 18.7% of the former and 81.3% of the latter.

As for VSE/PAE, Cyrino (1997a: 189) also mentions an increase in time: in the 16th century, she found 2.7 % VP ellipsis in 300 tokens of ellipsis (null objects and propositional ellipsis included), whereas in the 20th, she found 17.7% in 300 tokens. Again, this is not conclusive, since the rise may be attributed to the type of text used and other factors, but still, in general there is a diachronic increase of ellipsis in Brazilian Portuguese.

2.3 Latin: Ellipsis and null objects

Johnson (1991) studied the rise of object pronouns in Latin by counting their occurrence in comparable passages of different texts. She also studied translations of the Vulgate (of passage John 1-6) to examine different usages in Romance languages, the usage with certain verbs within one text, and she compared the direct object pronouns with the same verb in different texts.

She found examples of null objects (represented as '___') that were translated with pronouns in Italian, Spanish and French (Johnson 1991: 9, ex. 1.2, our italics and underlining – translations into Romance). Note that Johnson (1991) used the Latin edition in Robert Weber, OSB. ed. *Biblia Sacra Vulgata* (Stuttgart, 1975). Since she wanted direct translations from the Vulgata, she did not use 20th century translations. For Italian, Spanish and French she used, respectively: Antonio Martini *Sacra Bibbia, v.3: Nuovo Testamento* (Prato, 1850), F. Scio de San Miguel, *La Sagrada Biblia* (Barcelona: Pons, 1845), Lemaistre de Saci, *Bible de Port-Royal* (Paris: G. Deprez, 1742). To begin the illustration, consider the following examples:

(26) John 4.24

    Vulgate: et eos… in spiritu et veritate oportet <u>adorare</u> <u>   </u>

    Italian: <u>adorar</u> *lo* debbono in spirito e verità

    Spanish: es menester que aquellos... *le* <u>adoren</u> en spiritu y en verdad

    French: il faut que ceux qui l'adorent *l'*<u>adorent</u> en esprit & en vérité

Interestingly, included in her studies are many examples of what we call 'propositional ellipsis', such as the ones below (Johnson 1991: 8, ex. 1.1, our italics and underlining).

(27) John 2.9 (where the direct object refers to an entire clause)

    Vulgate: et non <u>sciebat</u> *unde esset* ministri autem <u>sciebatam</u> qui haurierant aquam

    Italian: che no <u>sapeva</u> donde questo uscisse (*lo* <u>sapevan</u> però i serventi)

    Spanish: y no <u>sabia</u> *de onde eram* aunque los que servian *lo* <u>sabiam</u>

    French: & ne <u>sçhant</u> *d'où venoit ce vin*, quoique les serviteurs… *le* <u>sçussent</u> bien

Incidentally, Luraghi (1997) also observes that object omission is most frequent when it refers to a whole sentence as its antecedent. She also observes that, as we will point out below, that coordination also seems to be an important factor for object ellipsis.

After these findings, Johnson (1991) analyses the appearance of object pronouns in Romance through the investigation of various authors in a wide chronological range of

"colloquial" Latin. She collected and analyzed 300-400 verbs in several texts in order to determine which verbs had optional of non-optional use of objects. She also found out that there were four structures where transitive verbs occurred with object drop, a pattern that, according to the author, persisted for centuries. These structures are:

(i) coordination, where two verbs are coordinated in a parallel structure, and only one object is present:

(28) <u>humana fingit artatque</u>   (Plautus, *Captivi,* 304)
    'it shapes and tightens the human'

(ii) subordination patterns:

(29) <u>haec</u> si tecum… patria <u>loquatur</u>, nonne <u>impetrare</u> debeat? (Cícero, *In Cantilinam* 1. 8.19)
     'If the country speaks to you, should (it) not be obtained?

(iii) "id-quod" patterns, where a form of *is* 'it is' (frequently not expressed) is antecedent to a relative clause

(30) ne <u>perficeret quod</u> mente amara conciperat (Greg 4.29)
    'that he might not accomplish what he had conceived in his bitter mind'

(iv) question-answer pairs: in yes/no questions, the affirmative answer is the repetition of the verb with no complements:

(31) A: tun redimes me, si me hostes interceperint? (Plautus, *Asinaria,* 107-107)
      'Will you redeem me if my enemies intercept me?'
   B: rediman
     'redeem'

According to Johnson, Romance languages have departed from these uses. French, for example, does not generally allow coordination of objects in which one of them is missing, according to *Le bon usage,* Grevisse 1980 (Johnson 1991: 42). The same is true for Italian and Spanish, with

some exceptions (Johnson 1991: 46). As for subordination patterns, "id-quod" patterns and question/answer pairs, Romance languages do not allow missing objects.

The general picture is that ellipsis of direct objects (also referred to as 'null objects'), which was common in Latin, was not carried out wholesale to the Romance languages. Although Johnson does not mention it, European Portuguese patterns with other Romance languages, except for the possibility of verb-only answers to polar questions, which, as seen above, allow the verb in the question to be repeated in the answer without its complement. Additionally, Brazilian Portuguese appears to have followed a different path, since null objects are more freely allowed in the language than in European Portuguese. Null objects in Brazilian Portuguese, as seen above, seem to have risen through the loss of 3rd person clitic pronouns and the concomitant existence of propositional ellipsis. Therefore, it seems that, diachronically, these two facts – object pronouns and propositional ellipsis/elliptical answers – go hand in hand.

Krisch (2009) studies ellipsis in ancient Indo-European languages, especially 'gapping' and 'object ellipses'. The occurrence of the latter in Latin has been shown in several studies, as pointed out above. According to Krisch (2009), however, gapping is also present in Latin, as can be seen in (32) (adapted from ex. (6) in Krisch 2009:195):

(32) a. (backward ellipsis) (cf. Gaeta and Luraghi 2001: 95)

suam innocentiam perpetua
his.ACC.SG.F.REFL selflessness.ACC.SG.F continuous.ABL.SG
vita esse perspectam felicitatem
life.ABL.SG to be seen success.ACC. SG.F
Helvetiorum bello esse perspectam
Helvetians.GEN.PL war.ABL.SG be.INF seen.PTCP.PRF.PASS.ACC.SG.F
suam innocentiam perpetua vita, felicitatem Helvetiorum bello esse perspectam.
'(that) his selflessness (was to be seen) in (his) whole life, (his) success was to be seen
in the war against the Helvetians' (Caes. Bell.Gall. 1,40,13)

b. (forward ellipsis)

Vide-n tu illam oculis venaturam facere atque
see.2SG.-Q you her eye.ABL.PL hunt.ACC.SG make.INF and
aucupium facere auribus
bird-catching.ACC.SG make ear.ABL. PL
Viden tu illam oculis venaturam facere atque aucupium auribus?

'Do you see her making a hunt with her eyes and (making) a bird-hunt with her ears?'(Plaut. Mil. 990)

The author relates the presence of backward gapping in Latin to its SOV order (cf. Ross 1967). Although the author does not say so, the absence of backward gapping in Romance, then, might be related to the loss of the VOS order in Latin's daughter languages.

2.4 Romanian: nominal ellipsis

According to Nicolae (2013), modern Romanian has both ellipsis with various types of verbal licensers (modal verbs, aspectual verbs and the *fi* verb 'be') and nominal ellipsis. He distinguishes the latter from another phenomenon in Romanian which he calls *substantivation*. This is related to the fact that it has been observed that since the 19th century Romanian has two definite articles: the suffixal definite article (-(u)l / -le, -a, -i, -le) and the freestanding definite article *cel* (*cel, cea, cei, cele*), which occur in complementary distribution.

(32) a. băieții
     boys.DEF
     'the boys'
   b. cei doi băieți
     cel two boys
     'the two boys'

According to Nicolae, the suffixal article cannot license ellipsis in Modern Romanian, although this was possible diachronically. Instead, it marks the presence of an empty noun (Panagiotidis 2003, Kayne 2005), with a precise lexical content that restricts its combination with certain adjective. Nicolae (2013: 58) exemplifies the difference in (33) by claiming that the suffixed adjective can only express the aesthetic concept 'beautifulness' (33a), whereas the *cel*-construction can have any referent the antecedent dictates".

(33) a. frumosul
     beautiful.DEF
     'the beautifulness'
   b. cel frumos
     cel beautiful

'the beautiful one' (one = 'child', 'horse', 'rose', 'apartment', etc.)

This difference is the basis for this argument that only *cel* determiners may license nominal ellipsis. In fact, "not all adjectives may be substantivised (35a), but most adjectives can take part in the nominal ellipsis construction licensed by *cel* or by a different narrowly D-linked determiner (35b):

(34) strălucitoarele stele
       shining.DEF stars
       'the shining stars'

(35) a. *strălucitoarele
          shining.DEF
     b. cele / acelea / unele strălucitoare
        cel   those   some shining
        'the / those / some shining ones'

In Old Romanian, however, nominal ellipsis was possible with the suffixal definite article (Nicolae 2013: 143, ex. (192b)):

(36) Iarâ de nu şi   nooa   se   va   sparge
     and if not and new.DEF CL.REFL will break
     'and if the new one (=garment) will get spoiled' (CT.1560-1561 : 124v)

In Modern Romanian, however, these examples are only possible with the free-standing article *cel* (Nicolae 2013: 143, ex. (193b)):

(37) Iar dacă nu şi   cea nouă se   va   sparge
     and if   not and *cel* new CL.REFL will break
     'and if the new one (=garment) will get spoiled'

According to Nicolae, these facts show that "one of the functions of the definite article in Old Romanian is the licensing on nominal ellipsis. Gradually, this function has been taken over by *cel,* as an effect of its grammaticalization." (p. 144).

Originally (that is in 16ᵗʰ century Romanian), *cel* was a distal demonstrative. Given the non-grammaticalized status of *cel* in Old Romanian, the suffixal definite article, which was also possible in that stage of the language, was both the licenser of nominal ellipsis and substantivization marker. In other Romance languages, in which there is only one definite article, the same is true. The specialization of *cel* as nominal licenser in modern Romance was the consequence of a diachronic change whereby, *cel* was not grammaticalized as an article, but functioned as a demonstrative in Early Old Romanian (16th c. - 1640). Interestingly, in the next period (Late Old Romanian, 1640 - 1780) *cel* has a dual grammar. Nicolae admits that "one of the reasons for which *cel* grammaticalized starting with the second half of the 16th century is functional ambiguity of the suffixal definite article, used both for substantivization and nominal ellipsis. The suffixal definite article gave rise to systematically ambiguous constructions, i.e. it allowed for a freer grammar. The emergence of a new determiner allowed DP-syntax to shift diachronically towards a more restricted grammar with fewer ambiguities, probably observing the Subset Principle (as formulated in Roberts 2007: 260): "the Subset Principle might [...] lie behind the phenomenon of 'restriction of function', whereby in one system a given operation applies more freely than in another". (p. 154).

2.5 French: Possessive/nominal ellipsis

Arteaga & Herschensohn (2016) study the diachronic change from Old French to Modern French nominal ellipsis in possessive (genitive) constructions.

Old French had three possible lexical genitive constructions, only the first two survived in Modern French (A&H 2016: 22, ex. (3)-(4); 23, ex. (6)):

(38) La   suer   a mon   seigneur
     the.F.SG.NOM sister.F.SG.NOM to my.M.SG.OBL lord.M.SG.OBL
     'My lord's sister' (Dole 5041, Herslund 1980, 84)

(39) le   cuer   de son   amy
     the.M.SG.OBL heart.M.SG.OBL of his.M.SG.OBL friend.M.SG.OBL
     'His friend's heart' (Palm 1977, 63)

(40) la   niece   le   duc
     the.F.SG.NOM niece.F.SG.NOM the.M.SG.OBL duke.M.SG.OBL
     'The duke's niece' (La Chasteleine de Vergi 376 Foulet 1982, 14)

In Old French all these constructions allowed nominal ellipsis, represented by [e] by A&H (exs. (7)-(9) in A&H 2016: 23):

(41) les   armes   au   soudanc de

      the.F.PL.NOM weapons.F.PL.NOM to.the.M.SG.OBL sultan.M.SG.OBL of

      H [...] les [e]   au   soudanc   de B

      H [...] the.F.PL.NOM [e] to-the.M.SG.OBL sultan.M.SG.OBL of B

      'The weapons of the sultan of H and those of the Sultan of B' (Joinville) (Gamillscheg 1957, 58) (cf. Modern French celles du Soudanc de B. 'those of the Sultan')

(42) ne poursuite   de compaignon s   e   la

      no pursuit.F.SG.OBL of companion.M.SG.OBL except-for   the.F.SG.OBL

      [e] de Dieu

      [e] of God.M.SG.OBL

      'No pursuit of companion except for of God.' (cf. Modern French: celle de Dieu 'that one of God.') (Galeran de Bretagne, 4200–2) (Foulet 1982 §70)

(43) defension   fors   sol la [e]   Deu.

      protection.F.SG.OBL outside only the.F.SG.OBL [e]   God.M.SG.OBL

      'No protection other than God's.' (Livre des rois) (Anglade 1965, 149) (cf. Modern French: celle de Dieu 'that one of God.'

In these ellipses, the article bears stress, but that is not the case in Modern French. The authors show that the change was caused by phonological, morphological, and syntactic factors, namely, the change in the possibility of stress, the loss of morphological case marking, and the change in headedness status of the definite article. As can be seen int the translations of the examples (41)-(43), a demonstrative can license ellipsis, but not the article, which is a clitic in Modern French.

The authors assume (see also Lobeck 1995, Saéz 2011) that every ellipsis remnant must bear stress. According to the authors, there was a loss of final consonants in the 13th century which led to the loss of Case markings. In consequence, the reduction of morphophonological features on the article made it unable to license ellipsis, since no overt features were present to supply adequate agreement that could identify the ellipsis content. Lobeck (1995) observes that

in Modern French the licenser of nominal ellipsis must carry two or more overt morphological features (number, gender, or case). That was the situation in Old French, but not anymore in Modern French, since Case morphology has been lost.

In other words, in the case of French nominal ellipsis, the described diachronic change led to the loss of ellipsis possibilities since the conditions for ellipsis to be licensed were lost.

2.6 Old French: null objects

Arteaga (1998) analyzes instances of what she considers 'null objects' in certain environments in Old French: in left-dislocation structures, in coordination structures, and in conjunction with an overt dative pronoun (Arteaga 1998: 2-3, exs. (1), (3) and (6) [e] = null object):

(44) Vostre   terre   qui   defandra?
your.F.SG.OBL land.F.SG.OBL who [e] will-defend-3s g
'Your land, who will defend (it)? '   (Lerch 1925 : 368, Chanson de Lyon 1617)

(45) Il retrait   s'   espee   et
he pulls-back.3SG   his.F.SG.OBL sword.F.SG.OBL and pro
met   ou   fuerre.
puts.3SG [e] on-the.M.SG.OBL fire.M.SG.OBL
'He pulls back his sword and puts (it) in the fire.'   (Jensen 1990:146 , Queste 111.6)

(46) Sa   fille   veut   et il   li   doune.
his.F.SG.OBL daughter.F.SG.OBL wants.3SG and he [e] to-him gives.3SG
'He wants his daughter and he gives her to him.'   (Jensen 1990: 12 Amadas 7403)

Arteaga discusses the various proposals for null objects present in the literature at the time, and she concludes that Old French does have such structures just like Portuguese. However, it is doubtful that these structures, exemplified below, should really be considered 'null objects.' In the first case, we have left dislocation, a phenomenon common in some languages and analyzed as not related to missing objects. In example (45), we have an example of a common phenomenon in languages. In fact, missing objects were also found in Latin, as seen above, but this kind of ellipsis has received a different analysis than null objects, as proposed in the literature. Finally, the last example restricts the occurrence of null objects to a

ditransitive construction, a phenomenon also possible in other languages, even modern English (see Cyrino 1997b).

Additionally, the author does not provide an account of the syntactic change that might have led to the disappearance of these structures in Modern French. Further studies are necessary to account for this change, which could have happened in parallel to the appearance of object pronouns in the language, as reported above, from Latin to Romance.

3. Case studies focusing on English and German

In this section, we start out with a brief qualification regarding the importance that has often been attributed to auxiliaries in connection with verbal types of ellipsis in English, to then proceed to discussing some diachronic developments. Subsection two places into perspective case studies connecting, to different degrees, auxiliaryhood of the English type to VPE and pseudogapping, before subsection three incorporates a discussion of auxiliary ellipsis in German. Subsection four extends the spectrum, specifically away from the ellipsis types centering on verbs and auxiliaries towards omission of semi-functional material in the form of prepositions in combination with stranding phenomena.

3.1. Background: distinct syntactic developments of auxiliaries

According to Roberts (1985, 1993), Kroch (1989, 2001), Warner (1993, 1997), Roberts & Roussou (2003), among others, a series of grammatical changes occurred historically in English the upshot of which was (i) auxiliarization, i.e. the development of a class of auxiliaries which became designated markers not only with clear grammatical functions but also with an entire battery of distinguished morphosyntactic properties compared to those of lexical verbs; (ii) a rigidification of word-order in verbal syntax, so that verb-movement, i.e. the displacement of verbal heads across certain diagnostic sign posts is not licensed any longer in the current grammars. The reason why it is worth being aware of this tradition is twofold. On the one hand, ellipsis of the VPE type is viewed by both descriptive and theoretical approaches to English grammar as a key correlate of 'auxiliary verbs' or of auxiliaryhood par excellence (cf. Huddleston 1976: 333, Dension 1993: 255, Huddleston & Pullum 2002: 93, among others). Second, a fair deal of diachronic research expands of the development of PG and PAE, i.e. two types of omission that in English crucially rely on the presence of an auxiliary as a remnant. Within Germanic, the contrast between German and English is usually considered to be telling. While the technical type of auxiliaryhood in English is often discussed in fine-grained manner

(ranging from the more classically assumed development in mainstream generative approaches of a designated auxiliary head to the one relying on verbs with crystallizing distinctive types of features, as e.g. in Warner's work), the wide range of the empirical differences of the class when compared with lexical verbs is a point which can barely be contested in the language. Notice that in German, which lacks a recognized productive VPE type (López & Winkler 2000, Winkler 2005), the diametric option obtains with the status of auxiliaries as a separate syntactic head, to which e.g. lexical verbs would move (cf. Abraham 1993, Haider 1993, Reis 2001, Gergel & Hartmann 2009, Axel-Tober & Gergel 2014, Beck & Gergel 2014, Walkden 2017).

3.2. VPE and pseudogapping with auxiliaries as licensers in the history of English

Verb-phrase ellipsis (VPE) and pseudogapping (PG) present highly researched items synchronically. In this section, we focus on the type of VPE that appears as omission of the verb phrase after auxiliaries (also called post-auxiliary ellipsis, PAE – or predicate ellipsis) and pseudogapping.

The diachronic studies of Warner (1992, 1993, 1997) and Higgins (2000) noticed that the classical picture according to which the development of a designated class of auxiliaries in English is dated roughly speaking to the Early Modern English period (Lightfoot 1979, Roberts 1985, 1993, Kroch 1989) can be insightfully qualified from the perspective of ellipsis (and anaphora in the case of Higgins, whose study is concerned with possible ancestors of *do* dating to Old English; cf. also Denison 1993). Warner argues that the modals could license VPE and PG already in Old English and would show other effects such as transparency of case assignment from an embedded predicate which would be indicative of incipient auxiliary verb properties. Consider (47) and (48), in which VPE is licensed under modals and *beon,* 'be', respectively:

(47) forðy   is betere þæt feoh   þætte næfre losian ne mæg ðonne
      therefore   is better that property which never perish not may than
      þætte mæg 7   sceal.
      that   may   and   shall
      'Therefore better is the property which can never perish [lit.: never perish not can] than that which can and will.' (Bo11.25.24; Warner 1992:182)

(48) and gehwa   wende þæt he þæs   cyldes   fæder wære,
      and everyone thought that he the.GEN child.GEN   father was

ac he næs

but he not.was

'and everyone thought that he was that child's father, but he wasn't.'

(ÆCHom i.96.12; Warner 1992:183)

Interestingly, three out of the five examples presented regarding *beon,* 'be', by Warner involve answers to yes/no questions, a context that Vennemann (2009) claims to have been relevant for elliptical structures (with different lexical verbs) also in old varieties of German, presumably under Latin influence in formulaic contexts, but which have not been preserved in German. (Vennemann's claim is that Celtic influence may have been involved, ultimately in the case of English.) But as the example in (48) shows, the contexts were broader at least in Old English and the evidence concerning a variety of modals of Old English is convincing as well. What is more, Warner capitalizes on the availability of case morphology in Old English to show that case-marked remnants in PG must have been selected by an elided verb requiring precisely the case in question. Example (49) illustrates this point with the dative:

(49) we magon   monnum bemiðan   urne geðonc 7   urne willan,

we may   men.DAT hide   our thoughts and   our   desires

ac we ne   magon   Gode.

but we not   may   God.DAT

'We can hide from men [lit.: from-men hide] our thoughts and our desires but we cannot [lit.: not can] from-God'.   (CP 39.12, Warner 1992:184)

Gergel (2003, 2004) extends Warner's argument to the representation of VPE licensed by modals in Middle English (though not based on case) and equally argues for VPE characteristics largely in line with what is known about VPE in Modern English. He observes a largely increasing tendency in the incidence of ellipsis based on the Penn-Helsinki Corpus of Middle English available at the time (Kroch & Taylor 2000), except for the poorly represented second sub-period of Middle English.

Gandón-Chapela (2020) conducts the most comprehensive diachronic investigation of English VPE to date, namely one based on Late Modern English (LModE, 18 and 19th century). While at the time segment of LModE we may assume that, the larger grammatical features of the language with respect to auxiliaries (Roberts 1993, Kroch 1989, among others) have been settled, the study is insightful from a quantitative point of view, not only because it is in a

position to address, on the basis of the available data and improved algorithms, a much wider range of empirical variables (including grammatical as well as usage-based ones) than earlier ones, but also because it can show an ongoing numerical increasing tendency for VPE to be used in the data, as illustrated in (50).

(50)   Normalized Frequency of PAE in LModE Gandón-Chapela (2020: 224, Table (79))

TYPE OF PAE	Eighteenth century	N.f. 1,000 IPs	Nineteenth century	N.f. 1,000 IPs	TOTAL
PG	50	0.78	36	0.49	86
VPE	385	6.02	640	8.74	1,025
TOTAL	435	6.80	676	9.23	1,111

That is, whatever is affecting the grammar of auxiliaries and its relationship with VPE is alive and kicking in LModE and does not stop suddenly, say at the transition from Middle to Modern English.

Gandón-Chapela furthermore shows that while orality-based registers have a higher incidence of VPE, the tendency for the increase in the phenomenon is more general. Interestingly, pseudo-gapping (PG), the much less frequent phenomenon that is theoretically often treated on a par with VPE, is, however, on an opposite trajectory, namely one decreasing from the 18th to the 19th century.

All in all, the trajectory of English is an interesting one with respect to PAE and PG for at least three reasons. First, it shows that properties of auxiliarization may well have played a role (even if certain characteristics of modals and other auxiliary verbs are in fact likely to have evolved already in Old English, as first shown by Anthony Warner's work). Second, this offers a contrast within Germanic, where e. g. German is reported not to standardly have PAE and PG as a productive phenomenon and at the same time, not to possess a class of designated auxiliaries syntactically. Third, the overall apparent (and presumably just basic) continuity of the phenomenon raises the question whether the same or at least similar grammatical and usage-based conventions have been in place throughout recorded history. The answer is very likely to be 'no' for the usage-based factors, as Gandón-Chapela's work is able to demonstrate even for the shorter (but better-documented) Late Modern English period. As far as grammatical constraints and the interplay they might have had with the status of elliptical phenomena in the language is concerned (also vis-à-vis contact), there is also a possibility that (despite the similarities pointed out by Warner, Gergel, and Gandón-Chapela between earlier and current ellipses) the history of English VPE and PG is less uniform than what might appear. If Vennemann's (admittedly somewhat sketchy conjecture) is on the right track, then one

possibility is the following: while early Germanic might have had similar phenomena in the written records as Old English, perhaps modelled after Latin, in English ellipsis has been reinforced by the contact with Celtic (while e. g. in German this hasn't been the case as strongly), so that a more viable and productive phenomenon emerged. While contact with Latin and Celtic is difficult, but not impossible, to show in the case of English (Filppula & Klemola 2012), the fact that the Romance languages show a much broader pattern of VPE-related phenomena, as discussed in the previous section, as does Irish (cf. McCloskey 1991), might support this point.

3.3. Auxiliary ellipses

Having considered the role of ellipsis types *licensed* by auxiliaries, we turn in this subsection to cases in which it is auxiliaries themselves that are elided. While a similar phenomenon is at least synchronically also attested in Swedish (Platzack 1986), its characteristics and diachronic development have been most widely studied for German (Breitbarth 2005, Thomas 2019). Consider (51) for an illustration:

(51) Nachdem ich zuvor meine Zelt und schlechteste Bagage hingeworfen_, …
      after   I   before my   tent and worst   baggage thrown.away
      'After I had previously thrown away my tent and the worst of my baggage, ...'
      Courasche, 1168 (c.1669) quoted in Ebert (1986:132), Thomas (2019:25)

The main characteristics of the phenomenon, dubbed the afinite construction (AC) are that it occurs essentially in embedded clauses and the missing part is an auxiliary, e.g. *habe,* 'have' (first person singular) to form the perfect above. It is not productive any longer in Modern German, but recognized as an archaism. The major clearly more productive phenomenon that AE partially resembles is coordinate ellipsis (CE) when the latter involves auxiliaries:

(52) *…nach dem er aus   dem Glauben mehr gethan _ oder mehr gelitten hat…*
      …after   he out.of the   faith   more done   or   more suffered has…
      …after he, out of faith, has either achieved more or suffered more,…
      (SERM P2 NoG *Seeligkeit* , Thomas 2019:42)

The reason to consider CE in conjunction with AE is that its antecedent-ellipsis parallelism is not always perfect and earlier stages of German allowed more variation between the two sites. For example, historical overt and covert auxiliaries could differ in number. And a difference in

lexeme would also be tolerated: e. g. *sein*, 'be' might appear (overtly) in one conjunct, and *haben* be covert/elided in the other. Thomas investigates CE in embedded clauses to ascertain any potential similarities with AC. Her window of investigation ranges from the 14th to the 18th century and the gist of the narrative is summarized as follows:

> "In the legal genre of the late fifteenth century, CE and AC were used supra-regionally as a stylistic feature to avoid what authors may have considered an unstylish use of multiple auxiliaries, perhaps for reasons of brevity and conciseness, perhaps as a nod to the omission of auxiliaries in some constructions in Latin as discussed in 2.5.1.1. In the early sixteenth century, it was then used in ECG (East Central German) texts in other genres, possibly spreading first or more quickly in sein-syntagms, before becoming commonplace in other regions in the seventeenth century, when it begins to be targeted by metalinguistic commentary as irrational." (Thomas 2019:324)

Although the demise of AC seems to be connected to prescriptivist pressure, Thomas shows that stigmatization is a nuanced notion. It is claimed to come from the development of a literary language and it interestingly, for instance, not visible in the legal language of the relevant period. More generally, building on earlier insight by Breitbarth (2005), Thomas is thus careful to point out a combination of grammatical (including syntactic and pragmatic factors) and usage-based factors that have impacted AE throughout its attested productive history.

3.4. Omission of prepositions

Having discussed the omission of lexical material (notably VPs in VPE) and functional material (auxiliaries in auxiliary ellipsis), in this subsection we discuss the omission of quasi-functional material by focusing on prepositions. However, before doing so, it is worth noting from the beginning that ellipsis quite naturally (and independently of the phenomenon on which we will focus) interacts with a series of other structural, information-packaging, processing, and other conditions in natural language. For instance, the phenomenon of comparative inversion (Huddleston & Pullum 2002, Culicover & Winkler 2008, Gergel 2008) has interestingly been claimed to go together with VPE (Merchant 2003):

(53)   Abby knows more languages than does her father (*know). (Merchant 2003: (2a, 3a))

Thus, when an English comparative clause, as in (53), contains subject-auxiliary inversion (itself an optional phenomenon), ellipsis of the verb phrase is to be expected (or even obligatory according to Merchant 2003, but cf. Gergel, Gengel, Winkler 2007 for some qualifications). The phenomenon illustrates the conditioning that elliptical clauses can entertain with other syntactic factors, and presumably more general linguistics conditions, such as information structure (Culicover & Winkler 2008). Inversion in comparatives is not unique to English, as French also has it (cf. Gergel 2010 for historical discussion, independently of ellipsis).

Our focal point of interest in this section is also constituted by interactive elliptical contexts in which optional and putative obligatory phenomena play a role, but this time with more widely investigated cross-linguistic coverage. It is given by the omission of prepositions in cases of sluicing and bare-argument ellipsis Merchant (2001, 2004). Consider the following sluicing structure:

(54)   Peter was talking with someone, but I don't know (with) who. (Merchant 2004: 13a)

What (54) indicates is that the preposition *with* is optional in English, a language that also allows preposition stranding. The same holds, according to Merchant in Frisian, Icelandic, Norwegian and Swedish, but not e.g. in Greek, German, Yiddish and many others. The latter type of languages are, then, languages which entirely bar both the omission of a preposition in such structures and preposition stranding in their grammars. A similar correlation is claimed to obtain between the possibility of leaving out prepositions under bare-argument ellipsis and the availability of preposition stranding. Nykiel (2015) questions the categorial nature of Merchant's generalization (cf. also Culicover & Jackendoff 2005) based on construction-specific potential exceptions. The relevant part for our diachronic purposes, however, is that a constraint-based approach is claimed in Nykiel's work to predict such ellipsis alternations in the Modern English period. First, three constraints are claimed to model Early and Late Modern English: correlate informativity, structural persistence and construction type. To model the phenomenon in Present-day English, Nykiel adds a fourth constraint, namely so-called semantic dependencies. This is the crucial one as it models the diachronic distinction. Our purpose is not to take a stand whether a more grammatical or a extreaneous and usage-based approach is to be preferred, as it becomes a rather moot point to exclude either, both offering interesting insights – with respect to striking cross-linguistic generalizations as tendencies and important processing factors, respectively. Given the rather clear perspicuity of Merchant's well-known generalization in grammatical terms (you get optional preposition omission if and only when

your language allows stranding), we briefly focus on Nykiel's point of diachronic relevance in the remainder of this section.

As mentioned, English currently has the optionality of (not) leaving out the preposition in the relevant constructions. Moreover, it has had the same optional character at least since Early Modern English, but originally at a lower frequency. One of the interesting findings of Nykiel's in a historical context is that Present-day English has in fact a preference for the omission of the preposition, so that most frequently, the so-called NP remnant (rather than the PP remnant) pattern emerges. But Early and Late Modern English had a preference for PP remnants, with an even more pronounced such preference at the earlier subperiod. The crux of the argument to model the reversal in preference compared to Present-day English rests on the assumed increase in what is termed semantic dependency between verbs and prepositions in combinations that are claimed to partially or entirely lack compositionality. According to Nykiel (2015: 235), "it is plausible that preposition-stranding language can develop stronger dependencies than a non– preposition-stranding language can, once favorable conditions exist for the development of semantic dependencies." For the background: English indeed had preposition stranding (in some contexts) already from Old English (cf. Fischer et al. 2000) and the assumed favorable conditions are a chain of events starting with the loss of prepositional verbs which existed in Old English (such as *besprecan,* 'speak about').

Nykiel points out that the development of preposition stranding does not match the one of NP remnants historically for the following reason: "At the same time that preposition stranding is gaining in frequency (Early Modern English), NP remnants remain less frequent than PP remnants, and at the time that the use of preposition stranding is suppressed due to the 18th-century normative pressures, NP remnants gain in frequency" (Nykiel 2015: 240). This is not only an interesting observation, but in Nykiel's line of reasoning evidence going against Merchant's generalization, as it presents a potential disconnect coming from the diachronic development between stranding and the omission of prepositions. That is, stranding had been on the radar of English prescriptivists during Late Modern English, but the 'omission along' of prepositions in bare-argument ellipsis and sluicing had not been. While we may note that the line of reasoning may not be entirely compelling for everybody, as it is not clear that prescriptivist tendencies are always particularly consistent, it remains an intriguing one and a type that merits further attention in further research. (Recall that register-based pressures and grammar interact in more cases of ellipsis.) Finally, when it comes to the grammatical sketch entertained in Nykiel's own account (namely that a reanalysis of the type [V] [PP] > [V + P] [NP] might have taken place), Nykiel 2015:235 points out herself (on the basis of previous

research) that it is not supported by much hard syntactic evidence in terms of constituency structure. Nonetheless, the complex view on the phenomena considered in Nykiel's work is an enrichment for the field, as ellipsis requires (also more generally) a balancing out of certain grammatical and processing factors for the purposes of diachronic modelling.

4. Concluding remarks and going beyond

In this section, we offer a brief assessment of the field of diachronic research on ellipsis given our inquiry. Let us begin with noting that the focus on the presumably most widely studied families, Romance and Germanic, has been a pragmatic choice given not only on limitations of space, but also the research panorama available to us. It is of course perfectly conceivable that, just like within the language families discussed, there will be at least some common ground within other families as well and presumably some interesting 'outliers' the historical trajectories of which would be particularly interesting to learn more about in future research. Take Slavic, for instance, where VSE has been claimed to exist (cf. e.g. Stjepanovic 1998), and where another and potentially related type of VPE, namely one licensed by items that are originally clitics, also appears (cf. Dvorak & Gergel 2004). Given the wide spread of VSE (whatever its ultimate theoretical analysis may be), it will not be surprising to find similar patterns also well beyond Indo-European. Thus, knowing, for instance, that Swahili has similar types of VSE (Ngonyani 1996), which moreover rely heavily on the agreement markers available in the Bantu system, it could be outstandingly rewarding to learn how the development of the respective agreement markers (for which some reconstructional work already exists; cf. Bostoen et al. 2022) might (or might not) have gone hand in hand with the licensing of ellipsis.

More generally, based on the current state of diachronic research we have been able to include, it should not be too surprising that the phenomenon of ellipsis appears to be particularly difficult to grasp. Unlike many other linguistic features, to our knowledge ellipsis is also *not* included in standard feature collections such WALS (Dryer & Haspelmath 2013), APiCS (Michaelis et al. 2013), etc. But studying the diachrony of ellipsis cross-linguistically, would require even considerably more knowledge than the mass of typological current knowledge. When the intuitions of living speakers are available, elicitation and experiments can be conducted to 'fill' the gaps in particular pieces of utterances. But the corpus search for items that are *not* available in the output and specifically in the sources handed down to us already poses serious methodological questions. While some corpora (such as the Penn-Tree bank corpora of English and other languages) have some features of ellipsis incorporated, the issue

remains standing. Every feature that isn't captured, still needs to be detected first and, conversely, every feature that is already captured (to some extent or another) due to the corpus annotation comes with its own theoretical assumptions that have been in the background of the corpus construction or of the authors conducting the relevant studies.

Notwithstanding such difficulties, certain tendencies regarding elliptical phenomena can be culled from the current research landscape. As we have seen from the contrasting development of auxiliary-related ellipses in English and German, it appears to be those ellipsis types that come in the language with a prominent auxiliary system, namely English, that also can be claimed to be mostly dependent on the grammatical system itself and that is the case of VPE. But as soon as either the language lacks an auxiliary system with structural properties that are clearly distinctive or the phenomenon is a more marginal/less productive one (as is the case for phenomena such as AE or PG), the chances of (re-)functionalizing types of omission for register-specific purposes naturally arise. When multiple types of grammatical phenomena interact, processing may also be expected to require an even higher tribute, as Nykiel shows. The contrasting foil with Romance furthermore clearly shows that micro-variation is certainly available within distinct language families and that even within one and the same language multiple variants e. g. of VPE can grow, as the example of Portuguese has demonstrated.

Acknowledging the outlined difficulties in the field, it is still our belief that a deeper understanding of how ellipsis can progress over time can be a insightful if daunting enterprise in future research, as it has the potential of decoding precisely the tension between developing grammatical systems and behavioral patterns which concerns much of current linguistic research in more general terms. If we are to identify promising sources of insight in future research, then let us mention the following four (where the first two emerge from the work that we have reviewed above and the latter two are further desiderata, as we are not aware of their systematic application to diachronic research on ellipsis yet). First, a fair amount of the diachronic work we have reviewed such as in particular in the case of the Romance languages shows the benefit of careful grammatical analysis in a micro-variationist setting. Second, usage-based accounts as e. g. the ones on auxiliary ellipsis in German or preposition ellipsis in English can offer insight into different types of pressures that can keep certain constructions alive or even reverse them. Third, it is likely that further quantitative methods that have reached ellipsis research, but not so much yet its diachronic branch, might provide further understanding of the phenomenon. Given the rather dense encoding that ellipsis automatically triggers (in the sense of information density), we may suspect that this method can provide additional ways of modeling the course of ellipsis over time, provided sufficient corpus data are available for the

diachronic stages one is interested in. See for instance, Schäfer 2021 with references therein for studies on ellipsis based on the concept of information density (and see e. g. Speyer 2015 for diachronic reasoning based on information density, but alas, not on ellipsis). The fourth venue we would like to mention is not unprecedented either, even if we are not aware of it having been applied to the diachrony of ellipsis. When the corpus data situation is not informative enough, attempts have been made in different areas of diachronic grammar ranging from morphosyntax to semantics, to simulate some of the potential courses of change with psycholinguistic tools (Hundt et al. 2017, Zhang et al. 2018, Gergel et al. 2021, among others).

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