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The semantics of Scandinavian pancake constructions

Abstract: A classical topic in the syntax of the mainland Scandinavian languages is so-called pancake clauses where there seemingly is disagreement between the subject and the predicative adjective, as in *Pannekaker er godt* 'Pancakes(F):INDF:PL be:PRS good:N:SG'; the subject is in the plural, whereas the predicative adjective is in the neuter singular. According to one of the several approaches, these clauses display a type of semantic agreement. Recently, it has also been argued that there are at least four different types of pancake constructions.

In this article, the semantic relationship between the different constructions is investigated further. It is argued that, diachronically, pancake agreement started with subjects interpreted as virtual, ungrounded processes, and that the absence of grounding has been reinterpreted as absence of spatial boundedness in the latest kind of pancake construction. The analysis is supported by a diachronic corpus investigation. The emphasis on virtual reference is a new feature with the current paper, and it enables us to set aside an objection against the semantic agreement analysis. The diachronic corpus investigation enables us to revise, empirically, earlier suggestions as to when the pancake constructions originated: They are well attested from the mid-1800s, in both Swedish and Norwegian Nynorsk.

Keywords: pancake constructions, Scandinavian, virtual reference, grounding, individuation, cognitive linguistics, corpus

1 Introduction

In Scandinavian, predicative adjectives normally agree with the subject in terms of gender and number, cf. the following examples from Swedish:

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(1) *Flickan*   *är*   *vacker*
     Girl(CMN):DEF:SG be:PRS beautiful:CMN:SG[1]
     'The girl is beautiful'

(2) *Flickorna*   *är*   *vackra*
     Girl(CMN):DEF:PL be:PRS beautiful:PL
     'The girls are beautiful'

(3) *Bordet*   *är*   *vackert*
     Table(N):DEF:SG be:PRS beautiful:N:SG
     'The table is beautiful'

As violations of this fundamental rule, so-called pancake clauses have been discussed extensively for the last 40 years or so (cf. Section 2). The discussion has been most intense for Norwegian and Swedish, but this is probably accidental, as Danish displays the same patterns. In this paper, we focus on Norwegian and Swedish. The kinds of pancake constructions that have figured most prominently in the literature are the following:

(4) *Pannekaker*   *er*   *godt*
     Pancake(F):INDF:PL. be:PRS good:N:SG
     'Pancakes are good'

(5) *Konjakk*   *er*   *sunt*
     Cognac(M):INDF:SG be:PRS healthy:N:SG
     'Cognac is healthy'

In (4), the subject *pannekaker* 'pancakes' is in the plural, whereas the adjective *godt* 'good' is in the neuter singular.[2] Hence, there seemingly is no agreement

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1 If nothing else is said explicitly, the examples are in Norwegian Bokmål and constructed by us. If we have found them on the web or in our corpora, this is explicitly stated. Generally, we adhere to Leipzig glossing rules (LGR). However, since the internal segmentation of words is not at issue in this paper, we use the colon (:) in accordance with Leipzig rule 4c, also in cases where segmentation is obviously possible (i.e. we do not set up – wherever possible). We provide grammatical information only on the words that are relevant to the point being made, and we do not always include *all* grammatical information. We use "( )" to indicate the lexical gender of a noun on the noun itself; this is not formally expressed, but relevant to the analysis. We use "CMN" to indicate common gender, i.e. M/F, cf. footnote 2.

2 There is no gender differentiation in the plural in the written Scandinavian languages. In the singular it is traditional to differentiate between neuter and non-neuter, also called common

between the subject and the predicative adjective. This is also the case in (5), where the subject is the masculine mass noun *konjakk* 'cognac' and the adjective *sunt* 'healthy' is (again) in the neuter singular. The subjects in (4) and (5) are both interpreted as participants in virtual, generic rather than actual, specific processes, and in these virtual prosesses they are understood to be eaten and drunk, respectively. We will return to the notion of virtual reference in Section 3 below, noting for now that virtuality applies both to generic and non-specific instances.

In contrast, the predicative adjective takes regular agreement in the plural if the subject is in the definite plural form, as in (6):

(6)   *Pannekakene   er   gode*
      Pancake(F):DEF:PL   be:PRS   good:PL
      'The pancakes are good'

In the words of Wechsler (2013), in pancake constructions as in (4), "the pancakes as entities are metonymic for the eventuality that involves them", i.e. they are metonymic for the process in which they are understood to be participants. Note, however, that the processual reading is present also in Example (6) with regular agreement (cf. Haugen and Enger 2014). A process, which is the basic semantic notion used to describe verbs in Cognitive Grammar (Langacker 1987), is understood as a relation which extends through conceived time, and also in (6), the pancakes are understood to be participants in a process of being eaten.

Faarlund (1977: 243) and Vinje (2002: 234) argue that it is adjectives that otherwise allow processual subjects in the form of infinitives and *that* clauses that allow pancake agreement. Based on the large-scale corpus investigation carried out in Haugen (2012), however, Haugen and Enger (2014) show that the adjectives otherwise taking clause- and infinitive subjects are those adjectives that allow processual readings also with NP subjects. (4) and (5) are such examples. There are, however, also adjectives such as *gul* 'yellow' as in (7) that do not allow processual subjects, but still allow pancake agreement[3]:

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gender (cf. also Corbett 1991: 124) in Danish and Swedish, between neuter, feminine and masculine in Norwegian Nynorsk.

3 A traditional view (e.g. Faarlund 1977; Vinje 2002) is that adjectives that describe properties of fact rather than of evaluation, e.g. adjectives of colour, shape and size, cannot be used with "pancake agreement". As Example (7) shows, this is not quite correct. However, it does not follow that the traditional view is entirely misplaced; the intuition behind it is probably that Example (7) is more peripheral than Example (5). This may reflect the diachronic development,

(7) *Sennep   er   gult*
     Mustard(M):INDF:SG be:PRS   yellow:N:SG
     'Mustard is yellow'

Josefsson (2009) shows that we need to distinguish between constructions that allow a processual reading, as in Examples (4) and (5), which she calls Construction Propositional, and constructions which do not (7), which she calls Construction Nominal. Haugen and Enger (2014) show that we also need to distinguish between at least three different subtypes of Construction Propositional, and we shall refer to the type in Examples (4) and (5) as ConstrP-complement, whereas we refer to the type in (7) as ConstrN.[4]

The previous treatments of agreement in pancake constructions have been centered around the classical examples of ConstrP-complement in Examples (4) and (5), and it has been argued (cf. Section 2) that the peculiar relationship found in these constructions is due to the semantic structure of the subjects. The notion of semantic agreement has, in the case of pancake constructions, been specified as follows: The neuter gender of the predicative adjective relates to inanimate and mass-like nouns with a low degree of individuation. The relationship between these notions has not been discussed in sufficient depth, however, and an important aim of this article is to include different types of ConstrP in the analysis and show how the different types of constructions are related semantically.

We start in Section 2 by reviewing previous analyses of this agreement phenomenon. In Section 3, we argue that a crucial semantic feature of pancake subjects is absence of boundedness in space, and in Section 4, we widen the semantic analysis to include constructions where the subject is a de-verbal noun. That analysis also leads us to hypothesize that pancake agreement originated in the semantics of infinitive subjects, which are interpreted as virtual, ungrounded processes. In Section 5, we elaborate on the relationship between virtuality, grounding, and boundedness, and the conceptual analysis is strenghtened by a diachronic corpus investigation presented in Section 6. Finally, we draw some conclusions in Section 7.

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cf. Section 6 below; the oldest and presumably most well-established types of pancake agreement involve ConstrP and not ConstrN.

4 Another subtype of ConstrP that will become relevant in Section 4 below is ConstrP-verbal. (Haugen and Enger's third subtype of ConstrP is not relevant for the present study.)

2 Which kind of agreement?

2.1 Are the reasons for the use of neuter semantic or syntactic?

The discussion of the peculiar agreement patterns discussed in Section 1 has centered around different theories on agreement, and the interest in the matter reflects the complexity involved in the accounts that have been developed within different grammatical frameworks. Already Källström's (1993) survey of the state of the art took up no less than 15 pages. After that, relevant contributions include, among others, Corbett (2006); Corbett and Fedden (2016); Enger (2004, 2013); Haugen and Enger (2014); Josefsson (2009, 2014a, 2014b); Wechsler (2013). It is thus impossible to do full justice to all aspects of the discussion, but it seems fair to say that the use of neuter in pancake clauses is now generally seen as agreement (not as disagreement).

One bone of contention is which kind of agreement we are dealing with. By one account, the reason for the use of neuter has to do with semantics. In one version of this account, we are dealing with semantic (or referential) agreement. This view goes back at least to Widmark (1966); more recent proponents include Teleman et al. (1999: 344); Enger (2004, 2013); Haugen and Enger (2014). At least in one version of this view, the use of the neuter in pancake constructions has to do with the use of neuter gender in ordinary gender assignment.[5]

In the literature, also the notion of default agreement has been invoked. This analysis has many adherents in the literature, notably Hellan (1986); Corbett (2006: 150 and 223), Wechsler (2013). However, one of the adherents of the default analysis, Wechsler (2013) is careful to point out that also by his view, the reasons for the use of the neuter in Examples (4), (5) and (7) has to do with semantics, and Wechsler says that it is not clear that his proposal actually conflicts with that of Enger (2004). The default agreement and the semantic agreement analysis thus seem to concur in locating the responsibility for the use of the neuter in semantics, so pursuing the minor differences is not essential here.

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5 Enger (2004: 25–26) states this view as follows: "It would be simplistic to claim that the individuation continuum is reflected directly in the lexical gender system of nouns in Norwegian, but there is a certain tendency. Words for human beings tend to be either masculine or feminine (according to natural gender), i.e., these two genders belong primarily to the left in the continuum. Conversely, there is […] a tendency for words for masses and substances, i.e. words to the right of the continuum, to be neuters. The neuter is the inanimate gender par excellence […] In the literature on Scandinavian, it has been argued that the category of neuter generally ranks lower on the individuation hierarchy".

A more radically different approach, going back at least to Faarlund (1977), locates the responsibility for the use of the neuter in (4) and (5) in syntax. On Faarlund's account, the neuter form of the predicative is used because the subject in (4) and (5) is underlyingly the object of a verb that has been deleted. Thus, the reason the complement is in the neuter in Examples (4) and (5) is that they are underlyingly (8) and (9), respectively:

(8) Å   ete   pannekaker   er   godt
     To eat:INF pancake(F):INDF:PL be:PRS good:N:SG
     'To eat pancakes is good'

(9) Å   drikke   konjakk   er   sunt
     To drink:INF cognac(M):INDF:SG be:PRS healthy:N:SG
     'To drink cognac is healthy'

This account is also found in the reference grammar for Norwegian (Faarlund et al. 1997: 767). On this account, the use of the neuter in pancake constructions is not really related to gender in general. A very forceful objection against Faarlund's account is advanced by Hellan (1986), who notes that the grammatical and acceptable *Konjakk er sunt å drikke* 'cognac(M):INDF:SG be:PRS healthy:N:SG to drink' cannot plausibly be derived from **Å drikke konjakk er sunt å drikke* 'To drink cognac (M):INDF:SG be:PRS healthy:N:SG to drink', as the latter is ungrammatical. Thus, Faarlund's account cannot explain the use of the neuter in *Konjakk er sunt å drikke*.

An additional objection against Faarlund's account, is that at least for some examples, so many different underlying verbs are available. For example, for *Bryting er morsomt* 'wrestling(F):INDF.SG is fun:N:SG', possible paraphrases include 'to wrestle is fun', 'to watch wrestling is fun', 'to gamble on wrestling matches is fun', 'to transmit wrestling on TV is fun', and others (Enger 2004: 7).

This latter point is accepted also by Josefsson (2009: 37–38, 2014a). However, like Faarlund, Josefsson argues in favor of locating the responsibility for the neuter agreement in the syntax; like Faarlund, she argues in favor of what Wechsler (2013) has dubbed a "Silent phrase structure approach", in which the responsibility for the use of the neuter is located in the syntactic tree, so to speak. Rather than operate with a verb that "is there" at some version of the syntactic derivation and then later is not, Josefsson (2009: 46) argues in favor of a light verb that is "invisibly there" all the way. We cannot go into all the technicalities. Suffice it to say that in her own words, Josefsson (2009: 38) does "not reject the idea that agreement in neuter is semantic in nature *per se*. What is rejected is the idea that it is the semantic interpretation of the subject that triggers agreement." On Josefsson's analysis, the pancake agreement is a

function of the grammatical features of the subject. She finds this to be a preferable solution, claiming that by this solution, the projected features of the subject are "mirrored by the feature makeup of the predicative adjective – in the way agreement generally works in the grammar" (Josefsson 2009: 38).[6]

Importantly, this "lexical" gender system is claimed to be the same as what we find for determiners and pre-posed adjectives, but of a very different kind from that which we find in pronouns. The "lexical" gender system is claimed to be asemantic, the "pronominal" gender system is claimed to be semantic. The two systems are claimed to be independent, but related.

2.2 Ultimately, the reasons are semantic

In our view, an important objection against Josefsson's analysis relates to the claim that the lexical gender of Swedish (mutatis mutandis Scandinavian) is asemantic, that it does not relate to semantics. This claim, taken over from Teleman (1987), goes directly against the claim that every gender system has a semantic core (Corbett 1991; Dahl 2000a). In other words, the idea that the lexical gender system is asemantic simply violates what we think we know of gender in general. Clearly, typological generalizations are ultimately based on careful study of individual languages, but we think that an analysis of an individual language that makes it look exceptional and different is not a course to be taken light-heartedly, especially when there are alternatives around.[7]

By Josefsson's analysis, there are two gender systems; the relation between noun and determiner is one of gender agreement, while pronouns do not agree in gender in the same way, and Josefsson takes these systems to be essentially unrelated (thus differing from Enger 2004, 2013; Haugen and Enger 2014). The motivation is basically that pronominal agreement is semantic, lexical gender is not. In fact, however, already Dahl (2000b: 586) calls the claim about the non-semantic character of the uter-neuter distinction on determiners in Swedish "false", arguing that animate nouns tend to be non-neuter, and that the gender of proper names depends on the ontology of their referents.

Additional, forceful counter-arguments against the view that lexical gender in Scandinavian is asemantic can be found in a recent study by Bobrova (2013).

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6 This argument seems to presuppose an approach in which agreement works by copying. Corbett (2006: 20) notes "serious problems with that approach". According to Corbett, "[m]ore modern approaches are based on unification".

7 Parallels to the semantic analysis are found in studies of other Germanic languages (e.g. Siemund 2002, Siemund 2008).

Bobrova examined pairs of simplex homonymous nouns that differ in gender, such as Norwegian *fyr*(M) 'bloke' – *fyr*(N) 'lighthouse', *gap*(M) 'joker, fool' – *gap*(N) 'mouth'. She took every such pair in the representative dictionary *Bokmålsordboka*. In such cases, the difference in gender can hardly be due to phonology or derivational morphology. Inflectional morphology might a priori seem a source for the gender difference, but in Norwegian, it is more often gender that determines inflection than the other way around. Now, Josefsson has claimed (at least for Swedish) that lexical gender is asemantic, and hence different in kind from pronominal gender, which is semantic. However, Bobrova (2013: Ch. 7) found that the gender differences in pairs of homophones in Norwegian, such as *fyr – fyr, gap – gap*, show significant correlations with central properties of the semantic core of gender, viz. animacy and individuation. (Indeed, the examples *fyr, gap* are typical, in that the lexical neuter is associated with the inanimate meaning.) Now, if the gender system for nouns (inside NPs) is so asemantic and so different from that for pronouns, as claimed by Teleman and Josefsson, one wonders why it should be that gender on simplex homophones is best accounted for along the very same lines as the gender on pronouns.[8] After all, boundedness (or individuation) and animacy are accepted by all analysts as important for pronominal agreement (from Josefsson 2009 to Enger 2004).[9] In Section 3, we will argue that a key feature of the classical pancake subjects is in fact absence of boundedness in space.

3 Pancake subjects and boundedness in space

An interesting difference between plural subjects and singular subjects is that plural subjects more readily allow regular agreement as an alternative to "pancake agreement", cf. Example (10), than do the latter (11)–(12):

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8 At this stage, it may seem tempting to dismiss Bobrova's claim, but it is based on a corpus study, unlike that of Teleman and Josefsson. See also Conzett (2010).
9 There are other counter-arguments against Josefsson's analysis. Firstly, it seems ultimately unreasonable to analyze the subjects in pancake constructions as verbal projections (Wechsler 2013). Secondly, it seems that the subjects in some pancake constructions notably ConstrP-verbal, simply are not complements of a verbal projection (Haugen and Enger 2014). A third objection pertains to the use made of invisible light verbs. (Since the list of possible verbs has been left open, even language-specifically, and the identity of the light verb may be left open or even "oscillate", there is very little empirical content to the claim that the number of verbs that could fit in is restricted, according to Enger 2013, who also presents some additional arguments against Josefsson's analysis.)

(10) (?) *Pannekaker*   *er*   *gode*,
      Pancake(F):INDF:PL be:PRS good:PL,
      når   man får   dem enkeltvis
      when one   get:PRS them individually
      'Pancakes are good when you get them one by one'

(11) *?? Konjakk*   *er*   *sunn*
      Cognac(M):INDF:SG be:PRS healthy:CMN:SG
      'Cognac is healthy'

(12) *? Sennep*   *er*   *gul*
      Mustard(M):INDF.SG be:PRS yellow:CMN:SG
      'Mustard is yellow'

We will now take a closer look at the semantic relationship between the constructions in Examples (4) and (5), and at the conceptual change that occurs when we proceed from an example as in (4) to an example as in (10). The point of departure for the analysis is Talmy's (2000) schematic system of configurational structure and Langacker's (1987, 1991, 2008) Cognitive Grammar analysis of nominal structure. We will also draw on the systemic thinking found in Halliday's Systemic Functional Grammar (Halliday and Matthiessen 2014), which emphasizes the paradigmatic axis of grammar.

An important common feature of the subjects in typical pancake constructions as in Examples (4)–(5), (7) is that these NPs are what Langacker (2008: 270–271) calls virtual referents. The subjects in (4), (5) and (7) do not refer to specific instances of *pannekaker* 'pancakes', *konjakk* 'cognac' or *sennep* 'mustard'; rather they refer to pancakes, cognac, and mustard generically,[10] and generic reference is one important kind of virtual reference, cf. Langacker (2008: 527). In virtual reference, instances of a type category are invoked as abstract, non-specific instances, and in the case of generic reference a generalization is made concerning all such instances of a type.

Another traditional term commonly applied for virtual referents is "non-specific reference", which was also used in Haugen and Enger (2014). In Cognitive Grammar, however, "specificity" is the opposite of "schematicity", pertaining to the level of detail into which something is described. Since level of detail cuts across the distinction between actual and virtual referents, it is appropriate to distinguish between specificity and virtuality. For example, the object in an

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10 Thus, like Wechsler (2013), Haugen and Enger (2014) (but unlike Josefsson 2009), we take ConstrN to be related to ConstrP.

example like *I want a red Honda* is more specific than the object in *I want a Honda*; still, both objects can be virtual referents. Importantly, virtuality is also applicable in the domain of time, i.e. in processes, which will be an important point as the analysis progresses. Hence, there are good reasons to prefer the term virtual reference: It is not confused with the schematic-specific-scale, it also covers generic reference, and it is also applicable in the domain of processes.

By changing from "non-specific" to "virtual" reference, we are also addressing a very pertinent objection raised by Josefsson (2014a) against the semantic analysis advocated by Enger (2004, 2013), an objection having to do with ConstrP examples like the following:

(13) *Honom med senap   och ketchup vore   läckert*
      He:ACC with mustard and ketchup be:SBJV delicious:N:SG
      'Him with mustard and ketchup would be delicious'
      (Swedish, Josefsson 2014a)

Josefsson (2014a) pointed out that, on Enger's account, subjects in pancake constructions should be low on the animacy hierarchy and low on individuation, and yet it is hard to see how this can apply to the subject in Example (13). This is a well-placed objection indeed, but most subjects in ConstrP do belong low on the animacy hierarchy, and examples like (13) share an important feature with constructions as in (4) and (5), namely that the subjects are invoked as participants in virtual processes. In (13), however, the process of 'eating' is invoked not by the combination of the adjective and the subject pronoun in itself; rather it is invoked by the combination of the adjective and the prepositional complement of the subject pronoun, i.e. *med senap och ketchup*. Also in (13), the subject is interpreted as a participant in a virtual process of eating, and we thus get pancake agreement.

A closer analysis of the semantic structure of the subjects in pancake constructions also shows that they are usually situated at the bottom of the animacy hierarchy (see e.g. Sasse 1993; Corbett 2000, Corbett 2006; Næss 2007) where we have things conceptualized as masses, and we will show the details in the semantic structures leading to this classification. The semantic features of pancake constructions appear more clearly when we compare them with constructions where the subjects are realized by other members of the respective noun paradigms.

In his analysis of the configurational system in the dimensions of time and space, Talmy (2000) applies the categories plexity, boundedness, and dividedness. These schematic categories can be applied to describe both processes (verbs) and things (nominals), in time and space, respectively.

Plexity is closely related to the well-known number category, the difference being that plexity is more general in that it is extended also to the domain of

time. A uniplex entity consists of one element, whereas a multiplex entity consists of two or more equivalent elements. For example, the mass noun *water* is multiplex, even though the grammatical form is singular. The reason for this is that the substance described by water can be divided, and after dividing it we still have the same substance. Hence, water is multiplex, whereas a thing which cannot be divided without becoming something else is uniplex.

When something is bounded it has a conceived outer border where something else begins, whereas dividedness concerns the degree of which something is divided into distinguishable entities. In such cases we can say that the different entities are individuated to different degrees. In this context, individuation thus means that a thing is not something else, while at the same time it can be distinguished from other things of the same type. We will return to this in the analysis below of the subjects in the constructions in (4) and (5) compared to constructions where the subjects are realized by other forms of the nouns in question.

In Example (14), the singular noun *pannekake* 'pancake' refers to a bounded and individuated thing.

(14) *Det   ligger ei pannekake   på tallerkenen.*
      There lies   a   pancake(F):INDF:SG on the.plate
      Den   er sikkert god.
      It:CMN is surely good:CMN:SG.
      'There is a pancake on the plate. It is surely good.'

A uniplex entity of this kind can be illustrated as in Figure 1. Now, the question is what happens if we substitute the plural for the singular, as in Example (4)? Firstly, we obviously get a multiplex structure, and when the noun is not combined with a determiner, the boundary is dissolved. This is illustrated in Figure 2.
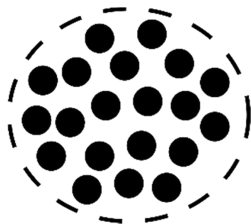

Figure 1: Uniplex thing.

Figure 2: Indefinite plural without determiner.

The construction where the subject is in the plural without a determiner, as is *pannekaker* 'pancakes' in Example (4), describes an unbounded quantity, and this is an important feature that plurals of this kind share with mass nouns. It is well known that plurals and mass nouns have important features in common (e.g. Corbett 2000: 79; Langacker 2008: 128–140; Talmy 2000: 48). A mass noun such as *konjakk* 'cognac' in Example (5) refers to an unbounded substance. This is illustrated in Figure 3, where the uneven, dotted line surrounding the instances indicates lack of boundedness.
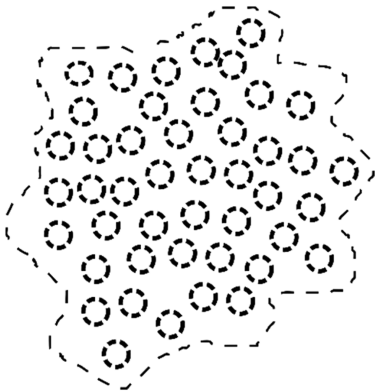
Figure 3: Mass noun.

Unlike nouns in the plural, a mass noun does not refer to a thing where the single instances or entities are individuated; rather, they form a continuum. It is indeed possible for us, if we look closely, to discern different grains of sand; however, the important point is that the distinct entities that might be observable are conceptualized as a homogeneous mass (cf. Langacker 2008: 141).

Abstract mass nouns like *grammatikk* 'grammar' and *kjærlighet* 'love' also consist in some way of smaller parts, but they cannot be divided into equivalent parts in the same way as other mass nouns (cf. Halliday and Webster 2014: 145). Abstract nouns are not bounded in such a way that there is a clear sense of boundary where, for example, one *kjærlighet* stops and another one begins, and they do not have an internal configuration that makes us conceive of them as bounded entities. Such abstract mass nouns also get "pancake agreement":

(15) *Grammatikk*   *er*   *morsomt*
      Grammar(M):INDF:SG be:PRS fun:N:SG
      'Grammar is fun'

(16) *Grammatikk   er   morsom
      Grammar(M):INDEF:SG be:PRS fun:CMN:SG
      'Grammar is fun'

(17) Kjærlighet   er   fint
      Love(F):INDF:SG be:PRS fine:N:SG
      'Love is fine'

(18) *Kjærlighet   er   fin
      Love(F):INDF:SG be:PRS fine:CMN:SG
      'Love is fine'

What mass nouns and indefinite plurals without determiners have in common, is, as we have seen, that they refer to an unbounded quantity, and if we add a cardinal number as quantifier to the noun, as in *to pannekaker* 'two pancakes', we get the structure illustrated in Figure 4, showing a bounded quantity of pancakes.
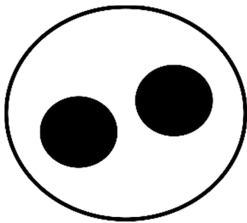
Figure 4: Bounded quantity.

Pancake agreement is now less likely:

(19) To   pannekaker   var   gode/??godt
      Two   pancake(F):INDF:PL be:PST good:PL/??good:N:SG[11]
      'Two pancakes were good'

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11 Admittedly, pancake agreement is not impossible here: *To pannekaker var godt, men fire ble bare kvalmt* 'Two pancake(F):INDF:PL be:PST good:PL, but four became just sickening:N:SG'. Yet, the choice of the neuter detracts from the sense of individuation found in the original example. Compare *To pannekaker var gode, de andre var bedervet* 'Two pancake(F):INDF:PL be:PST good: PL, the others be:PST inedible' (and not *To pannekaker var godt; de andre var bedervet* 'Two pancake(F):INDF:PL be:PST good:N:SG, the others be:PST inedible').

An important point both for Talmy (2000) and Langacker (2008) is that we conceptualize things in the world in different ways, and that the distinction between count nouns and mass nouns is flexible, cf. Allan (1980) and Corbett (2000: 78–79). By choosing between pancake constructions and related constructions we exploit this flexibility: The singular *ei pannekake* 'a pancake' refers, as we have seen, to a uniplex entity, whereas plurals are connected to several different conceptualizations. Let us take a look at the following constructional paradigm with different forms of *pølse* 'sausage' as subject:

(20) *Pølsa   er   god*
     Sausage(F):DEF:SG be:PRS good:CMN:SG
     'The sausage is good'
     (bounded, uniplex thing, see Figure 1)

(21) *Pølse   er   godt*
     Sausage(F):INDF:SG be:PRS good:N:SG
     'Sausage is good'
     (unbounded mass noun, see Figure 3)

(22) *Pølsene   er   gode*
     Sausage(F):DEF:PL be:PRS good:PL
     'The sausages are good'
     (bounded quantity, see Figure 4)

(23) *(?) Pølser   er   gode*
     Sausage(F):INDF:PL be:PRS good:PL
     'Sausages are good'
     (unbounded quantity, plural with high degree of individuation, see Figure 2)

(24) *Pølser   er   godt*
     Sausage(F):INDF:PL be:PRS good:N:SG
     'Sausages are good'
     (unbounded quantity, plural with low degree of individuation, see Figure 5)

If this analysis is on the right track, we seem to get neuter with mass nouns and unbounded plurals, which both lack boundedness. The difference between them is that plurals have more opportunities for the single entities to be conceptualized as more or less individuated: The less the degree of individuation is, the more similar plurals are to mass nouns, which seems to be an important feature in the triggering of pancake agreement. In our view,
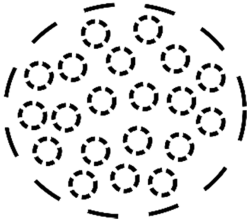
Figure 5: Unbounded quantity with low degree of individuation.

this is a possible explanation for the fact that Example (10) is better than Examples (11) and (12): The entities referred to by the plural can be more individuated, and the plural form of the predicative is thereby possible (although admittedly peripheral), as we also see in Example (23). A different way of looking at Example (10) is that the noun indicates a mass reading, whereas the predicative indicates higher degree of individuation. Hence, the acceptability of this example is less clear.

We have seen that mass nouns triggering pancake agreement are typically not combined with determiners of any kind, and it is interesting to note that if a modifier is added, both kinds of agreement are permitted (cf. also e.g. Enger 2004: 24–25):

(25) *Oreo kake   er   god,   men faen så   mektig!*
Oreo cake(F):INDF:SG be:PRS good:CMN:SG, but damn how heavy:SG[12]
'Oreo cake is good, but damn how heavy'
(Google)

(26) *Oreo kake   er   godt,   men faen så   mektig!*
Oreo cake(F):INDF:SG be:PRS good:N:SG, but damn how heavy:SG
'Oreo cake is good, but damn how heavy'

(27) **Kake   er   god*
Cake(F):INDF:SG be:PRS good:CMN:SG
'Cake is good'

(28) *Kake   er   godt*
Cake(F):INDF:SG be:PRS good:N:SG
'Cake is good'

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12 Like a number of other adjectives, *mektig* does not show any formal differentiation for gender in Norwegian (only for number). Therefore, no glossing for gender is included.

Both in Example (25) and (26) we have virtual referents, in the same way as in Example (27), but the referents in (25) and (26) are more specific. Why is normal agreement possible in (25), but not in (27)? As Langacker (2008: 133) points out, we distinguish mass nouns from other mass nouns through qualitative factors, not through boundedness in space. *Glass*, for example, is qualitatively different from *concrete*, and *water* is qualitatively different from *milk*. In the same way, *Oreo cake* is qualitatively different from *cake* pure and simple, but *Oreo cake* is still a mass noun in the sense that it is not bounded in space. Even though the virtual extension of *Oreo cake* is smaller than the extension of *cake, Oreo cake* refers to a virtual quantity that is not bounded in space. Following Langacker's (2008: 132–139) analysis, however, it is still bounded in the dimension of quality, and this might be the feature emphasized in Example (25), in that the domain of instantiation is quality rather than space. If this is correct, boundedness is a crucial factor here as well.

This analysis is valid also for plurals, which normally do not combine with pre-modifiers when they trigger pancake agreement. When we add an adjectival pre-modifier, however, normal agreement is possible here as well:

(29) *Grove   pannekaker   er   gode   og   saftige*
     Wholegrain pancake(F):INDF:PL be:PRS good:PL and tender:PL
     'Wholegrain pancakes are good and tender'
     (Google)

(30) *Grove   pannekaker   er   godt   og   saftig*
     Wholegrain pancake(F):INDF:PL be:PRS good:N:SG and tender:N:SG
     'Wholegrain pancakes are good and tender'

Again, the regular agreement in Example (29) emphasizes a qualitative boundary, and this construction conveys a higher degree of individuation of the single entities. Hence, the conceptualization is also less like a mass noun than is the case in the constructed parallel example in (30).

We have seen that absence of boundedness seems to be a central factor in the triggering of pancake agreement, and lack of boundedness is an important feature of mass nouns, which are situated at the bottom of the animacy hierarchy. We have also seen that indefinite plurals without determiners and abstract nouns can be conceptualized as unbounded quantities, and hence as mass nouns. In addition, plurals can be conceptualized with different degrees of individuation of their single entities, and a high degree of individuation naturally yields bounded quantities. Hence, individuation is the opposite of

unboundedness into a mass, and individuation is important on different levels of the animacy hierarchy.[13]

We have previously defined individuation as the concept that a thing is not something else, but at the same time, it is different from other things of the same type. In human life, it is crucial to discern between human beings, and it is well known from cognitive psychology that the ability to recognize human faces is particularly well developed (e.g. Eysenck and Keane 2015: Ch. 3). Individuation is crucial at the top of the animacy hierarchy, and the distinction between the sexes is an important basis for many gender systems (e.g. Corbett 1991; Dahl 2000a). Furthermore, individuated human beings are bounded, and further down the hierarchy we find bounded things above unbounded masses. The hierarchy thus reflects the "semantic core" of the Scandinavian gender system with biological masculine and feminine at the top and neuter as an unbounded mass at the bottom. This is illustrated in Figure 6.
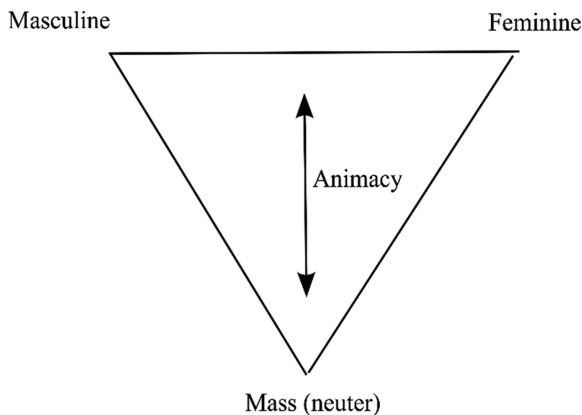
Figure 6: Animacy hierarchy in the Scandinavian gender system.

Thus far we have seen that two factors seem crucial for pancake agreement: virtual reference and conceptualization as a mass, and the following question now arises: What is the relation between these factors? Mass nouns by their nature are more virtual, more imagined than bounded things. For example, we can observe a bookshelf made of wood, whereas the mass *wood*, which the shelf is made of, has an imagined/virtual reference only. Since mass nouns are unbounded, it is not possible to observe specific instances of mass nouns; for

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13 Sasse (1993) even prefers the term "Individuation Hierarchy".

this we need boundedness in space. In this way, it is not surprising that the subjects of pancake constructions are virtual referents.

It is important to note that in the classical pancake constructions in Examples (4–5) it is not only the subject referents that are virtual; also the processes in which these referents are interpreted to be complements, are virtual. For example, the process of eating the pancakes, which may be an element in the semantic structure of (4), is an imagined process. In the following section, we shall see that the subjects of pancake constructions can also refer to the virtual processes themselves.

4 A possible origin

4.1 De-verbal nouns and pancake agreement

A kind of pancake construction that has received less attention in the literature is constructions where the subject is a de-verbal noun. In fact, this is the most frequent type in the corpus investigation carried out by Haugen and Enger (2014) (with 51 % of the attested pancake constructions). They refer to this construction type as ConstrP-verbal:

(31) *Sykling* *er* *sunt*
   Cycling(F):INDF:SG be:PRS healthy:N:SG
   'Cycling is healthy'

(32) *Dans* *er* *kjekt*
   Dancing(M):INDF:SG be:PRS nice:N:SG
   'Dancing is nice'

A process is of course an important component in the semantic structure of a de-verbal noun, but these processes are still conceptualized as things in Langacker's (1987, 2008) sense. Now, the following question arises: What triggers pancake agreement in these cases? Firstly, these subjects are also virtual referents; they refer to imagined instances of these processes, or, more specifically, to all imaginable instances. Secondly, both space and time function as domains of instantiation. The latter is of course due to the verbal nature of the nouns. Thus, the example in (31) refers to all imaginable instances of the activity *sykling* 'cycling', and these instances are neither fixed in space nor in time. In a way, the single instances of cycling one can

imagine constitute the entities of an unbounded mass of *sykling* 'cycling': "A patch of this [...] 'substance' occurs wherever and whenever somebody engages in this action" (Langacker 2008: 146).

The meaning of Example (31) is that 'cycling is healthy wherever and whenever it occurs'. Hence, de-verbal nouns without determiners refer to virtual processes which are indefinite in time, and which are conceptualized as virtual things. Together with the fact that Examples (31) and (32) represent the most frequent type of pancake construction, this makes it reasonable to look for the origin of pancake agreement in constructions with subjects denoting processes of this kind. We will elucidate this in the following section, where we will take a closer look at infinitive subjects.

4.2 Infinitive subjects

Wellander (1973: 194) argues that pancake clauses (33) are "contaminations" of clauses with infinitive subjects, taking neuter predicatives (34), and NP subjects taking regular agreement (35):

(33) *Rökning   är   här   förbjudet*
      Smoking(CMN):INDF.SG be:PRS here forbidden:N:SG
      'Smoking here is forbidden'
      (Swedish, Wellander 1973: 194)

(34) *Att röka   är   här   förbjudet*
      To smoke:INF   be.PRS here forbidden:N:SG
      'To smoke here is forbidden'
      (Swedish, Wellander 1973: 194)

(35) *Rökning   är   här   förbjuden*
      Smoking(CMN):INDF.SG be:PRS here forbidden.CMN:SG
      'Smoking here is forbidden'
      (Swedish, Wellander 1973: 194)

This is certainly an interesting hypothesis, which fits with a recent suggestion made by De Smet (2013) that blending is not such a peripheral mechanism in syntactic change as has traditionally been assumed, and not so easily distinguished from other mechanisms, either.[14]

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14 A similar point is made for morphological change by Fertig (2016).

Infinitives, as in Example (34), share many common features with de-verbal nouns that take pancake agreement (33): They both impose what Langacker (2008: 118) calls summary scanning on the verbal process; i.e. the processes are not conceptualized as extending through time. Furthermore, they both lack grounding of the processes involved. As Langacker (2008: 259) points out, clausal grounding pertains to the fixation of a process in time and to an assessment of the reality of the process, both relative to the discourse context. In other words, grounding pertains to the grammatical categories of tense and modality. Indeed, de-verbal nouns as in Examples (31) and (32) are grounded in their conceptualization as virtual things, but the processes they refer to are not grounded.

Infinitives are also connected to neuter gender; it is well known that already in the older Germanic languages and in other European languages with predicative adjective agreement, processes, i.e. infinitives and clauses, were referred to by neuter pronouns in the singular. Nygaard (1966 [1905]: 80) gives the following examples from the ancestor language of Norwegian, Old Norse (around 1200):

(36) *Einarr tók því   úbrátt   at minka   ríki   sitt*
      Einar   took it:DAT:N.3SG gradually to decrease:INF kingdom his
      'Einar then starts to gradually decrease his kingdom'
      (Old Norse/Old Icelandic, Nygaard 1966 [1905]: 80)

(37) *snýr Eyvindr þá   til Ásmundarvágs,*
      turns Eyvind then to Ásmundarvág,
      [place-name, 'Osmundwall', now Kirk Wall],
      ok   lá   hann veðrfastr   nǫkkura hríð;
      and lie:PST.3SG he   weatherbound   some   time;
      en   er   þat   spurði Einarr jarl,
      and when that:ACC:N:SG learned Einar   Earl,
      þá   heldr hann þangat liði   miklu
      then sails he   there fleet   large
      'Eyvind then travels to Kirk Wall and there he lay weatherbound for some time. When Einar jarl learns that he sails to Kirk Wall with a large fleet'
      (Old Norse/Old Icelandic, Nygaard 1966 [1905]: 80)

In (36), the neuter pronoun *því* refers to the infinitive *at minka ríki sitt*, whereas the neuter pronoun *þat* in (37) refers to the preceding clause, with the finite verb *lá* 'lay'.

Interestingly, (Nygaard 1966 [1905]: 81) points out that if the pronoun refers to a notion or object which is thought of in general terms ("i ubestemt alminde-lighed"), the pronoun is also in the neuter singular. Hence, the neuter singular is connected not only to processes, but also to indefinite, general notions.

It is well known that non-finite verb forms tend to share properties with nouns, and, by traditional accounts, the Old Norse infinitive is a nominal form of the verb (cf. Hanssen et al. 1975: 112). If we go further back, the Germanic infinitive is usually considered a verbal noun – *ein Verbalsubstantiv* (Krahe and Meid 1969: 96). Even for current Scandinavian, the infinitive has clear nominal features, and grammars will tell us that if preceded by the infinitive marker/subjunction *å* (Norwegian)/*at* (Danish), the infinitive is used in the same way as a noun (see e.g. Kulbrandstad 2005: 130 for Norwegian; Hansen and Heltoft 2011: 277 for Danish); alternatively that the infinitive phrase fills the same functions as a noun phrase (Teleman et al. 1999: 562 for Swedish). Thus, the idea that the infinitive has something in common with nouns is not new.

In modern Norwegian, the most frequent kinds of deverbal nouns are nouns with the suffix –*ing*, exemplified in (31) and so-called zero derivations made from the verb stem, exemplified in (32) (cf. Andersen 2007). According to Trosterud (2001), the zero derivations are generally neuter,[15] whereas the –*ing* nouns are feminine. Hence, in cases where the gender does not follow from the suffix applied in the derivation, the gender of deverbal nouns is normally neuter. This strengthens the connection between processes and neuter, and as we have seen in Example (31), nouns with the suffix –*ing* also take neuter on the adjective when they refer to virtual processes. Andersen (2007) points out that –*ing* nouns are especially frequent in technical texts presenting the results of processes like experiments etc., and that such nominalizations often result in neologisms. He also observes that "In Norwegian, the typical form of this type of nominalization is the naked form of the head noun (i.e. without any pre-posed determiners or adjectives)" (Andersen 2007: 68). In Andersen's sample, 90 % of the 88 types of –*ing* nouns found, occurred in "the naked form". Hence, the form of these nouns where we would expect pancake agreement is highly productive in usage. This is very different from more prototypical nouns, such as *jente* 'girl', *bil* 'car', where the naked form is rare. The naked form is, as it were, the most "un-grounded" way in which a Scandinavian noun can occur (cf. Hansen and Heltoft 2011: 473–74). The naked form is restricted to some constructions and usages, and one of them is with mass nouns.[16]

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15 This rule is not without exceptions, see Bobrova (2013), but they are not so relevant here.

16 Vinje (2002: 235) points out that pancake constructions are also frequent in newspaper headlines, where the subject is often in the naked form.

To sum up: Pancake agreement with *–ing* nouns is associated with three features: virtuality, processuality, and lack of processual grounding. The processuality of *–ing* nouns is not per se sufficient to trigger pancake agreement. With a subject in the definite form, the process in question is normally interpreted as actual and grounded, and pancake agreement is less likely:

(38) *Syklinga   er   sunn*
       Biking(F):DEF:SG be:PRS healthy:CMN:SG
       'The cycling is healthy'

We see that even though a process is clearly present in Example (38) as well, we do not get pancake agreement as long as the process is interpreted as actual and grounded. The lack of processual grounding both in infinitives and in de-verbal nouns makes it reasonable to look for the origin of pancake agreement here, and the question is also whether there is a direct conceptual link between virtual, ungrounded processes and the unboundedness in the subjects of the classical pancake constructions in Examples (4) and (5), i.e. ConstrP-complement. In Section 5, we will therefore take a closer look at these notions, and at the relationship between infinitives and de-verbal nouns.

5 The relationship between virtuality, grounding, and boundedness

5.1 A general relation and a diachronic investigation in Swedish

We have seen that processes were connected to neuter gender already in Old Norse (cf. Examples 36–37). Infinitives and clauses are referred to with neuter singular pronouns, and de-verbal nouns made from the verb stem are frequently neuter. The most frequent kind of de-verbal noun, however, *–ing* nouns, are generally not neuter in Norwegian (as long as we consider their lexical gender, as it usually shows on the pre-posed determiner). Nevertheless, we have seen in ConstrP-verbal, exemplified in (31), which is frequent and productive, that such nouns take neuter when the processes are conceptualized as virtual things and interpreted as ungrounded. Hence, pancake constructions seem to be linked both to ungrounded processes and to virtual things. The question therefore needs to be asked whether there is a (more or less direct) conceptual link between these notions on the one hand and, on the

other hand, the notion of unboundedness, which characterizes the subjects of ConstrP-complement.

Infinitive subjects refer to ungrounded processes, which means that they are not in themselves fixed in time relative to the speech event. Discussing fictivity in conceptualization, Langacker (2008: 526) notes in passing that lack of grounding results in virtual instances. This claim is certainly very interesting in relation to the diachronic development of pancake constructions, and we have investigated it further in the historical part of the Swedish *Språkbanken* (henceforth SB), from which we extracted 509 instances of infinitive subjects placed at the beginning of the clause.[17]

It is indeed the case that the processes of the infinitive subjects in the material are interpreted as virtual, i.e. they are imagined instances which are not understood as actually taking place:

(39)   *Att stoppa eller backa   var omöjligt*
       To stop:INF or go.back:INF was impossible[18]
       på grund   av tidvattnet
       on account of the.tidewater
       'To stop or go back was impossible because of the tide'
       (Swedish, SB [1910's])

(40)   *Att anfalla   Alexandria från sjösidan   är otänkbart*
       To attack:INF Alexandria from the.seaside is unthinkable
       'To attack Alexandria from the seaside is unthinkable'
       (Swedish, SB [1830's])

(41)   *Att anföra   flera torde   vara öfverflödigt*
       To mention:INF more should be   superfluous
       'Further examples ought to be superfluous'
       (Swedish, SB [1870's])

(42)   *Att vänta   till   ett annat år   är dumt*
       To wait:INF until an other year is stupid
       'To wait until another year is stupid'
       (Swedish, SB [1910's])

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17 For historical examples, we provide the time of publication in square brackets, since this is important to our argument, especially in Section 6.

18 In this Section, the focus is the meaning of the infinitive processes, and in the glosses we therefore provide grammatical information only on the infinitives.

(43) *Att röka   med tom   mage,   såsom många göra,*
To smoke:INF with empty stomach, as   many do,
är skadligt
is harmful
'To smoke on an empty stomach, as many people do, is harmful'
(Swedish, SB [1900's])

(44) *Att koka   potatis kan vara riskabelt nog,*
To boil:INF potato can be   risky   enough,
om man nämligen utan   vederbörligt tillstånd
if   one namely   without proper   license
kokar den på det sätt att deraf blir   bränvin
boils it   in the way that thereof becomes spirit
'To boil potato can be risky enough, that is, if, without proper licence, one
boils it in such a way that the result is spirit'
(Swedish, SB [1860's])

Adjectives with a negative prefix, like *omöjlig* 'impossible' in Example (39) and
otänkbar 'unthinkable' in Example (40) are frequent in the material. It is
unsurprising, that the subjects characterized by such adjectives should be
ungrounded/have virtual reference more often than other subjects. However,
we also find many processes which are evaluated as possible, as in Examples
(41) and (42), and even commonly taking place, as in Example (43) (and,
presumably, also 44). Importantly, however, no specific instance is singled
out, and the processes are therefore interpreted as virtual.

There are also a very few cases where it is less clear that the processes are
virtual:

(45) *Att göra   rent   hus   med den "revolutionära dogmen" är*
To do:INF clean house with the "revolutionary dogma"   is
gott   arbete, men det får   ej glömmas,   att det var den
good work,   but it must not be.forgotten, that it   was the
lättare uppgiften
easier task
'To eradicate the "revolutionary dogma" is good work, but it should not be
forgotten that that was the easier task'
(Swedish, SB [not dated])

Here, the infinitival process in the subject of the first clause might be interpreted as actually having taken place. Still, the process is conceptualized not as a specific instance, but as an example of something with which a current task is compared, and the infinitival process is imagined for this purpose only.

Also in examples like the following it might be argued that the infinitival processes are actually carried out:

(46) *Att döma   af dessa uttalanden synes det sålunda vara visst*
      To judge:INF by these statements seems it   thus   be   certain
      att   tullfrågan   återkommer vid nästa riksdag
      that the.customs.duty.question returns   with next parliament
      'To judge from these statements it thus seems certain the question of customs duties will return in the next parliament'
      (Swedish, SB [1880's])

(47) *Att bemärka   är vidare, att sågverket   varit   beläget å*
      To mention:INF is further, that the.sawmill has.been situated on
      ett odelat   markområde
      a   coherent landpiece
      'It is furthermore worth mentioning that the sawmill has been situated on a landpiece that has not been split up'
      (Swedish, SB [1910's])

These infinitives seem to function like a mood adjunct (46) and a textual adjunct (47) (Halliday and Matthiessen 2014), and they are virtual processes in the sense that they serve to modify the modality of another process and link one process to preceding processes, respectively. In (46), for example, the *döma* 'judge' process is used to soften the epistemic modality of the clause as a whole. In any case, these examples do not alter the main finding, namely that infinitive subjects are overwhelmingly interpreted as virtual processes.

5.2 Investigations of current Norwegian

Of course, infinitives are also used in other clause functions, and it is interesting to see if they behave in the same way when they function as objects. In order to investigate which verbs combine with infinitive objects, we carried out a collocational analysis (log likelihood) of bigrams to the left of the combination *å* 'to' + *infinitive* in the Lexicographical corpus of modern Norwegian Bokmål (henceforth LBC). Among the strongest verb collocates we find verbs like *prøve*

'try', *ønske* 'wish', *forsøke* 'try', *synes* 'seem', *tenke* 'think, intend to', and *nekte* 'refuse', with which the infinitive processes are virtual in the sense that they are hypothetical and not actually happening:

(48) *Jeg prøvde å innbille   meg   at det ikke var henne*
      I   try:PST to persuade:INF myself that it   not was her[19]
      jeg manipulerte
      I   manipulated
      'I tried to persuade myself that it was not her I was manipulating'
      (LBC)

(49) *Dersom virksomheten i en slik situasjon ønsker   å gå*
      If   enterprise   in a such situation wish:PRS to go:INF
      til oppsigelser...
      to dismissals
      'If the enterprise in such a situation wishes to dismiss employees...'
      (LBC)

(50) *De   forsøker   å få   barna   til å forstå*
      They attempt:PRS to get:INF children to to understand
      hva   kjøpepress   er for noe
      what buying.pressure is for something
      'They try to make the children understand what "pressure to buy" means'
      (LBC)

(51) *Disse forhold synes   å være i strid   med*
      These factors seem:PRS to be:INF in violation with
      flere   paragrafer
      several paragraphs
      'These facts appear to violate several paragraphs'
      (LBC)

(52) *Hun hadde   tenkt   å gå   videre med psykologien*
      She have:PST think:PST:PTCT to go:INF further with psychology
      'She had intended to continue with the psychology'
      (LBC)

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19 The focus in this section is on the meaning of the infinitive processes and the processes of the superordinate clauses. In the glosses, we provide grammatical information on these processes only.

(53) *Den første bonden han spurte*, *nektet   å hjelpe*
      The first   farmer he asked, refuse:PST to help:INF
      'The first farmer he asked refused to help'
      (LBC)

Absence of grounding correlates with virtuality in these examples. There are, however, also cases where infinitival processes are interpreted as actually taking place, although they are unspecified in time:

(54) *De   fant   så lite   at   enkelte begynte   å lure*
      They found so little that some   begin:pst to wonder:INF
      på om   det var   med vilje
      on whether it   was with purpose
      'They found so little that some began to wonder whether it was on purpose'
      (LBC)

(55) *To   menn klarte   å ta   seg   i land*
      Two men manage:PST to take:INF themselves on shore
      ved egen hjelp
      by   own help
      'Two men managed to get ashore on their own'
      (LBC)

Hence, it is not the case that infinitival processes are always interpreted as virtual. The verbs *begynne* 'begin' and *klare* 'manage' which typically combine with actual processes, are also among the strongest collocates to the left of the combination *å* 'to' + infinitive.

An investigation of 500 random occurrences (extracted from the corpus) of finite verb + *å* 'to' + infinitive, however, reveals that 71 % (357) of the occurrences are interpreted as virtual instances of the respective processes. The verbs *begynne* 'begin' and *klare* 'manage' together account for 56 % of the instances where the infinitival process is interpreted as actually occurring (70 and 10 instances, respectively). Also as objects, infinitives thus seem to be strongly correlated with a virtual interpretation of the infinitival process.

Admittedly, some verbs behave differently. Most of the examples whose infinitival processes are not interpreted as virtual also have interesting features in common, however. First, 52 % (74) of these examples contain infinitival processes that lack an endpoint, i.e. the processes are unbounded in time.

Again, the verb *begynne* 'begin' is a frequent example at hand, and we also have verbs like *fortsette* 'continue', *vedbli* 'remain', *elske* 'love', and *hate* 'hate':

(56) *Drømmelandet   Bali begynte   å   bli   fryktelig kjedelig*
     The.dream.country Bali begin:PST to become:INF terribly boring
     etter noen år
     after some years (LBC)
     'The dream country Bali began to be terribly boring after some years'
     (LBC)

(57) *Han fortsatte   å   se   på meg uten   å   si   et ord*
     He   continue:PST to look:INF at   me   without to say *a   word*
     'He kept on staring at me without saying a single word'
     (LBC)

(58) *Omgangsskole   vedble   å   være   den normale ordningen*
     Ambulatory.school continue:pst to be:inf the normal   arrangement
     'Ambulatory school kept on being the normal state of affairs'
     (LBC)

(59) *Jeg elsker   å   bo   i Oslo*
     I   love:PRS to live:INF in Oslo
     'I love to live in Oslo'
     (LBC)

(60) *Hun hatet   å   bo   på denne måten*
     She hate:PST to live:INF on this   way
     'She hated to live in this way'
     (LBC)

Absence of boundedness is a feature we recognize from the subjects in the classical pancake constructions, i.e. ConstrP-complement: The subjects of ConstrP-complement (and ConstrN) lack boundedness in space, whereas the infinitival processes in Examples (56)–(60) lack boundedness in the form of an endpoint in time. The parallelism between these dimensions in terms of boundedness is an interesting conceptual link between infinitives and the subjects of pancake constructions.

   A further interesting finding in the investigation of infinitive objects is that many infinitival processes are interpreted as recurrent. The prototypical

examples are found with the verb *pleie* 'use to', and we have examples with verbs like *være* 'be' and *klare* 'manage':

(61) *Britt Hansen pleide   å   lese   opp stilene   hans på*
Britt Hansen use:PST to read:INF up the.essays his   at
ungdomsskolen
the.secondary.school
'Britt Hansen used to read aloud his essays in secondary school'
(LBC)

(62) *Man pleier   å snakke om   sommerfugleffekten*
One use:PRS to talk:INF about the.butterfly.effect
'One usually talks about the butterfly effect'
(LBC)

(63) *Et spesielt   kjedelig arbeide var   å kviste opp gran   og*
A particularly boring work   be:PST to cut:INF up spruce and
furukvist etter hogst
pinesprig after chopping
'A particularly boring task was that of cutting up spruce and pine sprig after wood-chopping'
(LBC)

(64) *Tertnes   klarte   å demme opp for sin*
Tertnes [handball team] manage:PST to dam:INF up for its
tidligere toppscorer, Natalia Koudriavtseva
former   topscorer, Natalia Koudriavtseva
'Tertnes [name of handball team] managed to neutralize its former top scorer, Natalia Koudriavtseva'
(LBC)

In Example (61), the subject *Britt Hansen* is understood to be reading the essays of the pupil on several occasions. Several instances of the same type of process are referred to, and in this conceptualization, the individual differences between these processes are disregarded. In other words, the individual instances of the process are not individuated. This reminds us of an important feature characterizing mass nouns, namely that they can be divided into several instances of the same substance. This homogeneity is one of the central distinguishing factors between count and mass nouns (Langacker 2008: 139–140), and we see that it also pertains to ungrounded processes as in Examples (61)–(64).

5.3 The general link

We have seen thus far that infinitival processes are frequently virtual, they can be unbounded in time, and they can refer to recurrent processes. We believe that these features are important keys to unlocking the conceptual link between infinitives and the emergence of pancake constructions. The relationship between virtuality and unboundedness was alluded to in Section 3, where we said that mass nouns are virtual by nature, since such concepts lack the boundaries that would make it possible for us to point out specific instances. The same can be said about ungrounded processes. In the case of such processes, however, it is the absence of fixation in time that gives them their virtual nature. This makes it possible for us to interpret them as recurrent.

Our investigation of infinitives has strengthened the hypothesis that there is a conceptual link between infinitives and the subjects of pancake constructions. It is clear that they both overwhelmingly refer to virtual instances, and we have several pieces of evidence indicating that virtuality might be the crucial link between ungrounded processes (infinitives) and unbounded things (mass nouns). In the middle, we have de-verbal nouns, which indeed refer to ungrounded processes when they take pancake agreement, and at the same time, they are conceptualized as virtual things. Recall also from Section 3 that a ConstrP-verbal is typically interpreted as meaning that the processual subject has a certain characteristic whenever and wherever it occurs, i.e. the subject is both virtual and recurrent, which we have seen are also common features of infinitives.

It is well known from the cognitive literature that verbs and nouns, although maximally distinct word classes, exhibit important parallels (Langacker 2008: Ch. 5; Talmy 2000). For example, as mentioned earlier, the notion of boundedness is important both in the verbal (time) and in the nominal (space) domain. In the verbal domain, boundedness is normally used to describe the inner structure of a process, i.e. whether the process is conceptualized as having a starting point and an end point etc. Here, we have shown that virtual instances of things and processes yield further intriguing parallels. In the same way as the particles of virtual mass nouns are conceptualized as homogeneous, the virtual instances of ungrounded processes are homogeneous. For example, a small amount of water is still water, and another instance of *å lese* 'to read' in Example (61) is still *å lese*. In the same way as there is no bounding surrounding the particles of a mass noun, there is no bounding around the individual instances of an ungrounded process.

It is well known from the literature on Scandinavian that infinitive subjects are much older than pancake constructions. Therefore, our hypothesis would be that pancake agreement started with ungrounded processes that were interpreted as virtual, and that virtuality is the conceptual link that has made it possible to extend absence of processual grounding to absence of boundedness in space. In the final stage, absence of boundedness in space has been interpreted as the decisive factor for pancake agreement in ConstrN (7). This hypothesis of course needs to be tested in a full-fledged diachronic investigation, and we will present the results from such an investigation in the following section.

6 Diachronic investigation

6.1 Traditional claims on dating

Faarlund (1977: 248) says that the first attested examples of pancake constructions are "from around the turn of the century" (i.e. around 1900), and refers to Beckman (1904: 49) who gives examples like *Ärter är gott* 'Peas: INDF:PL be:PRS good:N:SG' and *Hafregrynsgröt är ondt* 'Oatmeal porridge (CMN):INDF:SG be.PRS bad:N:SG'. It is not clear whether Beckman's examples are authentic. For Dano-Norwegian, Western (1921: 186) quotes the novelist Aanrud, whose example *Mat er godt* 'Food(M):INDF:SG be:PRS good:N:SG' dates from 1895. Somewhat similarly to Faarlund, Josefsson (2014b) says as follows:

> The introduction of pancake sentences in Swedish is fairly recent. According to Wellander (1949: 184) the construction was introduced at the beginning of the 1900s. We have no reasons to doubt that this observation is correct, even though it is difficult to pinpoint an exact point of time. [...] If one looks in contexts in older texts where the pancake construction would be expected, it is not there. According to Malmgren (1984 [1990]: 115) the construction is older in Danish. The same applies to Danish Norwegian (Western 1921 [...]). This, taken together, indicates that the construction was in fact imported from Danish. It should be pointed out that several other innovations have taken the same path and spread from Denmark, north to Sweden. Josefsson (2014b: 75)

While the innovation may well have started in Denmark, there are in fact solid empirical reasons to doubt the exactness of Wellander's dating. As will become clear below, the first attested examples in Swedish may be pushed more than 50 years back, for Norwegian Nynorsk a little less.

6.2 An empirical study

For the Scandinavian languages, suitable treebanks are not available for the time period we are looking into here, and for this reason it has been necessary to rely mainly on morphologically tagged corpora. The available corpora have different functionalities, which means that it has been necessary to apply different strategies to extract data.

The oldest Norwegian material we have investigated is Diplomatarium Norvegicum, which consists of texts from the period 1050–1590. This corpus is not morphologically tagged, and for this reason, searches were limited to combinations of suffixes frequently found in de-verbal nouns and the copula *vera* 'be' (more specifically, the present tense *er* 'is' and the past tense *var* 'was'). The suffixes we searched for were *–ing*, *–else*, and *–tion*, which are all suffixes of de-verbal nouns in masculine/feminine gender. No relevant examples were found. The same searches were carried out in the Old Swedish part of the Swedish *Språkbanken*, also with no relevant examples found. These latter texts stem mainly from the period 1300–1600.

For the second part of the investigation we then concentrated on newer texts, and this part is based on a much larger material, namely the 130 corpora in the historical part of the Swedish *Språkbanken* (SB), and the oldest texts in the lexicographical corpus of *Norsk Ordbok* (henceforth LNC), mainly restricted to texts published before 1900. These sources both mainly contain texts from 1800 onwards. Unfortunately, only the Swedish material is morphologically tagged, and different search strategies were therefore applied.

Starting with the Swedish material, we first searched for combinations of masculine/feminine/plural nouns directly followed by the copula *vara* 'be' and an adjective in the neuter singular. To avoid too much noise in the data, we searched for combinations following a full stop or the subordinating conjunction *att* 'that'. The oldest instance we found of the classical pancake constructions, i.e. ConstrP-complement, is from the 1850s:

(65) *man   kunde   tillämpa   Holbergs   filosofiska   anmärkning   att*
      one   might   use   Holberg's   philosophical remark   that
      mjölgröt   är   södt   men   för   mycket   mjölgröt
      porridge(M):INDF:SG   be:PRS sweet:N:SG but   too   much   porridge
      skadar   magen
      harms   stomach
      'One might apply Holberg's philosophical remark – that porridge is sweet but too much porridge is harmful for the stomach'
      (Swedish, SB [1850's])

In addition, we found these ConstrP-complement examples containing adjectives ending in *–igt:*

(66) *att   katastrof   vore   liktydigt   med*
     that disaster(CMN):INDF:SG be:SBJV synonymous:N:SG with
     tilldragelse
     happening(CMN):INDF:SG
     'that the event would be synonymous with disaster'
     (Swedish, SB [1830's])

(67) *dagarnes   händelser   visat,   att   enfald*
     the.days' incidents   shown,   that stupidity(CMN):INDF:SG
     är   skadligt   för   hvarje   framåtstridande   samhälle
     be:PRS harmful:N:SG for   every   progressing   society
     'the events of these days have shown that stupidity is harmful for every progressive society'
     (Swedish, SB [1880's])

(68) *att   sparbank   vore   liktydigt   med*
     that savingsbank(CMN):INDF.SG be:SBJV synonymous:N:SG with
     solidariskt   bankbolag
     solidary   banking.company(N):INDF.SG
     'that a savings bank would be synonymous with a solidary banking company'
     (Swedish, SB [1900's])

(69) *Det   säges   med   sanning   att   tobak   är*
     It   says   with   truth   that tobacco(CMN):INDF:SG be:PRS
     skadligt   för   hälsan
     harmful:N:SG for   the.health
     'It is said, and truthfully, that tobacco is unhealthy'
     (Swedish, SB [1913])

(70) *att   fred   är   möjligt   på   den   grund*
     that peace(CMN):INDF:SG be:PRS possible:N:SG on   that ground
     'that peace is possible on that ground'
     (Swedish, SB [1913])

(71)   *att*   *materialism*   *är*   *liktydigt*   *med*
       that   materialism(CMN):INDF:SG   be:PRS   synonymous:N:SG   with
       frosseri,   *dryckenskap*   *och*   *dylikt*
       gluttony(N):INDF:SG   alcoholism(CMN):INDF.SG   and   similar.N.SG
       'that materialism is synonymous with gluttony, alcoholism and similar vices'
       (Swedish, SB [1917])

(72)   *att*   *sparsamhet*   *är*   *liktydigt*   *med*   *en*
       that   thrift(CMN):INDF:SG   be:PRS   synonymous:N:SG   with   a
       inskränkning   *av*   *behovstillfredsställelsen*
       reduction(CMN):INDF:SG   of   the.satisfaction.of.needs
       'that thriftiness is synonymous with a reduction of the satisfaction of needs'
       (Swedish, SB [1917])

As we see, the oldest example in this group is from the 1830s.

     For the Norwegian material, a different search strategy was applied due to the lack of morphological tagging in this part of the corpus. Here, we searched for the specific adjectives found in ConstrP-complement in the modern, tagged part of the corpus in the investigation carried out in Haugen and Enger (2014).[20] Query combinations with these adjectives following the copula *vera* (with the forms *er* 'is' and *var* 'was') yielded only one relevant example:

(73)   *Store*   *Talar*   *og*   *lange*   *Ordkast*   *er*
       Big   speech(M):INDF:PL   and   long   wordthrow(N):INDF:PL   be:PRS
       godt   *til sitt Bruk*
       good:N:SG   to   its   use
       'Grand speeches and advanced wording is well enough for its purpose'
       (Norwegian Nynorsk, LNC [1878])

In addition, the following example was found in the searches for the deverbal noun suffixes *–ing*, *–else*, and *–tion*:

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20 *dum* 'stupid', *dyr* 'expensive', *effektiv* 'effective', *enkel* 'simple', *fin* 'fine', *god* 'good', *keisam* 'boring', *kjekk* 'handy', *lekker* 'delicious', *meiningslaus* 'meaningless', *normal* 'normal', *positiv* 'positive', *sentral* 'central', *sikker* 'certain', *smittsam* 'contagious', *straffbar* 'punishable', *sunn* 'healthy', *trygg* 'safe', *uakseptabel* 'unacceptable', *uaktuell* 'not of interest', *usunn* 'unhealthy', *vakker* 'beautiful', *vond* 'bad', *vonlaus* 'hopeless'.

(74) *for honing*[21]   *er*   *utruleg*   *godt*   *baade for*
      for honey(M):INDF:SG be:PRS incredibly good:N:SG both   for
      smaken og   for helsa
      taste   and for health
      'for honey is incredibly good, both for your taste and for your health'
      (Norwegian Nynorsk, LNC [1895])

As we see, this is an early parallel to the ConstrP-complement in Example (2), where the subject is a singular mass noun. In less systematic searches, we have also come across the following examples:

(75) *Etter unionspakti*   *er*   *ein ufred*   *millom*
      After the.union.treaty be:PRS an unpeace(M):INDF:SG between
      Sverike   og   Norig   *statsretslegt umoglegt*
      Sweden and Norway state.legally impossible:N:SG
      'After the union treaty an armed conflict between Sweden and Norway is legally impossible'
      (Norwegian Nynorsk, LNC [1895])

(76) *ein neve*[22]   *til ost*   *av 15 liter mjølk er*   *høvelegt*
      a   fistful(M):INDF:SG to cheese of 15 liter milk be:PRS suitable:N:SG
      'a fistful is suitable for the cheese one gets from 15 liter milk'
      (Norwegian Nynorsk, Garborg 1899)

(77) *Hakka   frisk   persille*   *er*   *godt*
      Chopped fresh parsley(M):INDF:SG be:PRS good:N:SG
      'Chopped fresh parsley is good'
      (Norwegian Nynorsk, Garborg 1899)

(78) *Lefse*   *er*   *vanlegt*
      Potato.flatbread(F):INDF:SG be:PRS common:N:SG
      'Potato flatbread is common'
      (Norwegian Nynorsk, Garborg 1899)

The searches for the deverbal noun suffixes otherwise gave the following examples with deverbal nouns as subjects, i.e. ConstrP-verbal:

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21 Somewhat ironically, *-ing* is not a verbal suffix in the word *honing* 'honey'.
22 In this context, *ein neve* functions as a numeral describing an amount.

(79) *Slik   Lesning*   *var   inkje so mykje vyrdt*   *av*
Such   reading(F):INDF:SG   be:PST not   so much respected:N:SG by
Aalvors   Folk
seriousness's people
'Such reading was not so much respected by serious people'
(Norwegian Nynorsk, LNC [1883])

(80) *Lauging   og symjing   er   so gamalt,   som*
Bathing(F):INDF:SG and swimming(F):INDF:SG be:PRS as old:N:SG, as
folke   sjølv her i   Noreg
people(N):DEF:SG itself here in Norway
'Bathing and swimming are as old as the people itself here in Norway'
(Norwegian Nynorsk, LNC [1885])

(81) *Men um ein gut tykkjer   rekning   er   svært*
But if a   boy think:PRS maths(F):INDF:SG be:PRS very
keidsamt,   og   seier det[23] *er fælt   han skal vera tvungen   til*
boring:N:SG, and says it   is awful he   shall be   compelled to
aa lære slikt   noko,   so vert   han ikkje difor
to   learn such:N:SG something:N:SG, so becomes he not   therefore
friteken   for   rekning
exempted from maths
'If, however, a boy finds maths boring and calls it awful to be compelled to
learn such stuff, he will not therefore be exempted from maths'
(Norwegian Nynorsk, LNC [1911])

As we see, the oldest examples of ConstrP-complement and ConstrP-verbal date
from about the same time in our material (1878 and 1883 respectively). As both
are older than Western's first example from Dano-Norwegian, it is no longer
quite so certain how different Nynorsk and Dano-Norwegian are with respect to
pancake agreement.

Unsystematic reading of the linguist Ivar Aasen's collection of proverbs,
Norske Ordsprog (1856) has also brought forward an interesting Nynorsk
example:

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23 *det* is here a so-called expletive pronoun.

(82)   *Julefrost*   *og*   *Kyndesmess*   *Tøyr*   *er*
     Christmas.frost(N):INDF:SG and Candlemas   thaw(M):INDF:SG be:PRS
     godt   *paa Garden som tolv*   *Lass*   *Høy*
     good:N:SG on   farm   as   twelve wagonloads hay
     'Frost at Christmas and Candlemas is as good for the farm as twelve
     wagon-loads of hay'
     (Norwegian Nynorsk, Aasen 1856)

In his dictionary, Aasen (1873) lists masculine gender on *tøyr*, neuter on *frost*. Thus, the agreement pattern in (82) cannot be due to the last conjunct *tøyr*; the most plausible interpretation is that (82) is a pancake construction. This example fits well with our analysis, in that Example (82) describes an imagined (and recurrent) phenomenon (cf. Section 5). Moreover, it is almost forty years older than Western's first example from Dano-Norwegian.

     The Swedish examples of ConstrP-verbal come from two different searches: Since the Swedish corpus is morphologically tagged, there were deverbal nouns among the subjects we found when we searched for masculine/feminine/plural subjects as described above. In addition, we searched for the deverbal noun suffixes *–ing*, *–else*, and *–tion*. The oldest example here is, as was the case with the oldest Swedish example of ConstrP-complement above, also from the 1830s:

(83)   *att*   *ett*   *gynsamt*   *år*   *lemnar*   *något*   *öfverskott*   *så*
     that   a   bountiful year leaves   some   surplus   so
     modifikation   *är*   *tillämpligt*   *på närliggande*
     modification(CMN):INDF:SG be:PRS applicable.N:SG on adjacent
     socknar
     parishes
     'that a good year will leave some surplus, so that modification can be applied to neighbouring parishes'
     (Swedish, SB [1830's])

Most of the later examples are with adjectives ending in *–igt* (84)–(90). There are, however, also examples with other adjectives as we see in Example (91).

(84)   *att*   *en*   *sådan*   *berättelse*   *är*   *liktydigt*
     that   a   such   story(CMN):INDF:SG be:PRS synonymous:N:SG
     med   *ett*   *matematiskt*   *problem*
     with   a   mathematical   problem(N):INDF:SG
     'that such a story is synonymous with a mathematical problem'
     (Swedish, SB [1870's])

(85) *att   bekännelse   är   menskligt;*
that   confessing(CMN):INDF:SG be:PRS human:N:SG;
vi   se   det   af   Guds   ord
we   see   that   by   God's   word
'that confessing is human; we see that from God's word'
(Swedish, SB [1870's])

(86) *att   protektion   är   liktydigt   med*
that   protection(CMN):INDF:SG be:PRS synonymous:N:SG with
röfveri
robbery(N):INDF:SG
'that protection is synonymous with robbery'
(Swedish, SB [1880's])

(87) *räddning   var   omöjligt*
saving(CMN):INDF:SG be:PST impossible:N:SG
'saving was impossible'
(Swedish, SB [1890's])

(88) *ty   intervention   vore   liktydigt   med*
for   intervention(CMN):INDF:SG be:SBJV synonymous:N:SG with
överflyttande   av   inbördeskriget   till   vårt   land
transferring(N):INDF:SG of   the.civil.war   to   our   country
'because intervening would be synonymous with transferring the civil war
to our country'
(Swedish, SB [1910's])

(89) *I   sammanhang   härmed   förklarade   fröken   Furuhjelm,*
In   connection   herewith   declared   Miss   Furuhjelm
att   motion   är   liktydigt   med
that   proposal(CMN):INDF:SG be:PRS synonymous:N:SG with
ett   färdigbehandlat   lagförslag
a   completed   law.proposal(N):INDF:SG
'In this connection, Miss Furuhjelm declared that a proposal is synon-
ymous with a completed law proposal'
(Swedish, SB [1914])

(90) *Eftersom   mutation   är   liktydigt   med*
Since   mutation(CMN):INDF:SG be:PRS synonymous:N:SG with

plasmats   förändring   till   den   grad   att   även
plasma's change(CMN):INDF:SG to   the   degree that even
könscellerna   påverkas
reproduction.cells are.affected
'Since mutation is synonymous with the change of plasma to such an
extent that also the reproductive cells are affected'
(Swedish, SB [1916])

(91) *deras ofta   skeende   förnyelse   är*
     their frequently happening renewal(CMN):INDF:SG be:PRS
     bekymmersamt
     worrying:N:SG
     'their frequent renewal is worrying'
     (Swedish, SB [1870's])

Five of these eight examples involve the string *liktydigt med* 'synonymous with',
as do four of the seven examples in (66)–(72). Also in these constructions, it is
the subjects that trigger "pancake agreement"; we get pancake agreement also
in cases where the compared noun is common gender, as we see in (90). *Liktydig*
'synonymous' is frequently used to compare virtual entities, and by our analysis,
it is thus not arbitrary that "pancake agreement" should turn up so early in
Swedish with exactly this adjective.

From the data we have extracted, there is no basis for claiming that ConstrP-
verbal is older or newer than ConstrP-complement. The investigation does,
however, give us reason to assume that the pancake constructions involving
virtual processes are older than ConstrN as in Example (7), where the virtual
subject is not interpreted as participant in a process. In our material, there is
only one individual example of ConstrN, and this example is markedly newer
than the oldest examples we have with the other types above:

(92) *Studenten blef   förvirrad och svarade*
     Student   became confused and answered
     att   kamfer   var   hvitt,   mjukt
     that camphor(CMN):INDF:SG be:PST white:N:SG, soft:N:SG,
     genomskinligt   o. s. v.
     transparent:N:SG   etc.
     'The student became confused and answered that camphor is white, soft,
     transparent etc.'
     (Swedish, SB [1910's])

Also a remark made by Widmark (1966: 98), and a suggestion made by Haugen and Enger (2014: 192) indicate that ConstrN is newer than ConstrP (cf. also Note 3 above).

6.3 Summary of the diachronic investigation

Summing up the diachronic investigation, we find reason to argue that the basis for pancake agreement is the combination of (i) virtuality and (ii) the lack of both processual grounding and spatial boundedness. In the oldest construction type, the infinitive subjects are virtual, ungrounded processes. When the first clauses with pancake agreement occur, they turn up with adjectives that allow infinitive subjects, and the subjects in the constructions are either themselves virtual processes (de-verbal nouns) or they are interpreted as participants in such processes, cf. Haugen and Enger's (2014) distinction between ConstrP-verbal and ConstrP-complements. On the basis of the data presented above, the latest development seems to be ConstrN, where the subjects are mass nouns, and where there is no virtual process involved (other than the one invoked by the copula).

Hence, it seems that absence of grounding has been reinterpreted as absence of boundedness. As argued in Section 5, these notions show striking parallels in the domain of time and in the domain of space, respectively.

We have also presented examples of the first pancake constructions that are more than 50 years older than those usually cited, thereby showing that there are reasons to doubt the dating suggested in earlier investigations.

Is there any additional evidence to support the hypothesis that pancake constructions have spread from infinitive subjects? A long-standing intuition in the generative literature, at least since Faarlund (1977), has been that the subjects of pancake constructions are deep structure infinitives. Hellan (1986), Enger (2004) and Wechsler (2013) present strong arguments against a derivational analysis (cf. Section 2.1), and in our view, there is no need for deep structure stipulations. Rather, the development of pancake constructions can be seen as a change in the paradigmatic network of valency constructions associated (in the first phase) with adjectives taking infinitive subjects, in which virtuality and absence of processual grounding seem to be the decisive features that have spread to the earliest pancake constructions, and which later have been reinterpreted as absence of boundedness in space.

The hypothesis that pancake agreement may have spread from infinitive subjects is also strengthened by frequency data. To assess the overall frequency of the different kinds of processual subjects, we searched for constructions

consisting of the following combinations: a subject in the form of the pronoun *det* + lemma *vara* 'be' + adjective in neuter singular + subjunction/infinitive marker *att*. The subjunction and the infinitive marker are tagged differently in the Swedish Språkbanken (SB), and they precede infinitives (93) and *that* clauses (94), respectively, which are potential subjects in these constructions.

(93) *det är   omöjligt   att bestämma huruvida de   äro äkta*
       it   be:PRS impossible:N:SG to decide:INF whether they are real
       eller oäkta
       or   unreal
       'it is impossible to decide whether they are real or unreal'
       (Swedish, SB [1830's])

(94) *det är   godt   att den arbetande klassen ej   vänjer*
       it   be:PRS good:N:SG that the working   class   not   get.used.PRS
       sig   vid några ovanor
       itself to any   bad.habits
       'it is good that the working class does not get used to any bad habits'
       (Swedish, SB [1830's])

The historical part of the Swedish Språkbanken contains as much as 1,30 G tokens, and the combination *det* + *vara* 'be' + adjective in neuter singular + *att* (infinitive marker) yields 2,2 times as many hits as the combination *det* + *vara* 'be' + adjective in neuter singular + *att* (subjunction) (12,741 vs. 5794 hits, respectively). This indicates that infinitives are markedly more frequent subjects than *that* clauses in constructions with predicative adjectives.

    Unfortunately, the historical Norwegian corpus we applied does not allow us to extract the same frequency data. In the Lexicographical corpus of modern Norwegian Bokmål (LBC), however, the combination det + *være* 'be' + adjective in neuter singular + *å* 'to' (infinitive marker) is 2,6 times as frequent as the combination *det* + *være* 'be' + adjective in neuter singular + *at* 'that' (subjunction). Hence, the frequency data suggest that adjectives taking processual subjects are most strongly associated with virtual ungrounded processes, i.e. with the very same features that are found in pancake constructions.

7 Conclusion

In the classical pancake constructions exemplified in Examples (4) and (5), the subjects are interpreted as unbounded participants in virtual, ungrounded

processes, and such pancake constructions are found with adjectives that otherwise allow infinitive subjects. We have seen that infinitive subjects are overwhelmingly interpreted as virtual processes, and since they lack tense, they are ungrounded. Midway between infinitives and classical pancake subjects we find deverbal nouns, which also take pancake agreement when they are interpreted as ungrounded processes, as in Example (31). With NP subjects, boundedness in space enters the picture, and deverbal nouns and classical pancake subjects are both interpreted as unbounded in this domain. The classical pancake subjects are, as we have seen, interpreted as unbounded participants in virtual, ungrounded processes.

Crucially, we have argued that absence of processual grounding and unboundedness in space show striking parallels, and that virtuality is the conceptual link that connects them. The emphasis on virtuality is an important new feature of our analysis.

In the same way as there is no limit to the particles of a mass noun, there is no limit to the individual instances referred to by an ungrounded process. For example, there is no limit to the drops of *water* in *water*, and there is no limit to instances of the activity referred to by *å sykle* 'to cycle' or by *sykling* 'cycling'. Hence, we could speak about unbounded processes as 'a mass of process'.

In light of the fact that infinitive subjects are much older than pancake subjects and that infinitive subjects take neuter agreement, we have suggested that pancake agreement stems from infinitives, which are overwhelmingly interpreted as virtual, ungrounded processes. Crucially, the classical pancake constructions in Examples (4) and (5) involve both a virtual, ungrounded process (of eating the pancakes) and a participant in the process (the pancakes) which is interpreted as unbounded, whereas the type in Example (7), ConstrN, involves an unbounded thing (the mustard) only. Our diachronic investigation supports the hypothesis that (7) is a later development and thereby that our conceptual analysis is on the right track; the classical pancake constructions seem to have appeared at the same time as the constructions with a deverbal noun as subject, whereas the type in (7) appears almost a century later.

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