English supplementive *ing*-clauses and their German and Swedish correspondences

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Abstract: This paper investigates English supplementive *ing*-clauses (e.g., *Hitler exploded, demanding examples.*) in German and Swedish contrast. The material consists of popular non-fiction originals and their translations from the Linnaeus University English-German-Swedish corpus (LEGS) (version 0.1). The results show that coordination is the most frequent correspondence of supplementive *ing*-clauses in German and Swedish translations and originals. Like the supplementive *ing*-clause, a coordination is a compressed and semantically indeterminate structure. The other major correspondences include subordination, main clause and prepositional phrase. German translators more often use main clauses than Swedish translators, which seems to be related to an increasing German tendency for parataxis rather than hypotaxis. A number of German and Swedish instances involve different kinds of explicitation, including conjunctions and German pronominal adverbs.

Keywords: supplementive *ing*-clauses, free adjuncts, explicitation, the Linnaeus University English-German-Swedish corpus (LEGS), English/German/Swedish

1. Introduction

Nida (1964: 209) notes that "[t]he most acute problem in clause correspondence [in translation] occurs when a clause type that is important in the source language simply does not exist in the receptor language." A prime example of this kind of clause is the English supplementive *ing*-clause, which lacks productive equivalents in many languages. In the present study we define supplementive *ing*-clauses as zero-introduced subjectless non-finite, subordinate clauses in adverbial function (see, e.g., Quirk *et al.* 1985: 1123–1125; Biber *et al.* 1999: 820).[1] What makes supplementive *ing*-clauses particularly difficult to translate is that they "typically have an implicit and somewhat ill-defined relationship with the main clause" (Biber *et al.* 1999: 782–783).

The variation resulting from the lack of equivalent target-language structures along with the semantic indeterminacy of these clauses is illustrated in (1) and (2) from the

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[1] For an overview of the variable terminology, free adjuncts being the most common variant, see Kortmann (1991: 18).

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Linnaeus University English-German-Swedish corpus (LEGS). English source texts (EN ST) are followed by their German and Swedish translations.

(1) In a bird the wing bones and leg bones are chopped through, *leaving the wings and feet attached to the skin*. (LEGS; EN ST)
Bei Vögeln werden die Flügelknochen und Beinknochen durchschnitten, *Flügel und Füße bleiben mit dem Balg verbunden.*
"wings and feet remain attached to the skin"
Hos en fågel hugger man igenom vingbenen och benknotorna *och låter vingarna och fötterna sitta kvar vid skinnet.*
"… you cut through … and let the wings and feet remain attached to the skin"

(2) *Having run out of anti-tank ammunition*, soldiers of the exhausted and badly depleted 2nd Royal Norfolk Regiment were reduced to dashing out with hand-grenades to drop them into the tracks of the panzers. (LEGS; EN ST)
Da ihnen die Panzerabwehrmunition ausging, konnten die Soldaten des erschöpften und stark dezimierten 2nd Royal Norfolk Regiment nur noch mit Handgranaten kämpfen, die sie in die Raupenketten der Panzer warfen.
"since they ran out of ammunition"
När den utmattade och svårt decimerade 2. bataljonen ur infanteriregementet "Royal Norfolk" fick slut på pansarvärnsgranater tvingades männen rusa ut med handgranater och släppa dem i stridsvagnarnas band.
"when the exhausted and badly depleted 2nd battalion from the infantry regiment "Royal Norfolk" ran out of anti-tank ammunition"

In (1) the German and Swedish translators have chosen different target-language structures for the supplementive *ing*-clause. The German translator uses a main clause in which the subject 'wings and feet' is asyndetically linked to the first main clause. The Swedish translator retains one main clause by using a VP coordination. In (2) both translators have chosen the same structure, a subordinate clause, but the implicit link between the two clauses has been interpreted differently. The German version contains the causal conjunction *da* ('since') and the Swedish the temporal conjunction *när* ('when'). Thus, translations may involve more explicit alternatives (see, e.g., Blum-Kulka (2004 [1986]: 292) on explicitation). In examples such as (2), when translators opt for a dependent adverbial clause, it is even obligatory.

Supplementive *ing*-clauses have previously been studied from a contrastive perspective (e.g., Lindquist 1989; Blensenius 2006; Fischer 2013), but to date there has been no large-scale quantitative study. The present investigation of more than 1300 supplementive *ing*-clauses includes comparisons between English, German and Swedish, and addresses the following research questions:

1) how frequent are supplementive *ing*-clauses and which sentence positions do they occupy in English originals and translations from German and Swedish,

2) what German and Swedish target-language correspondences are used as translations of supplementive *ing*-clauses, and to what extent are Translation Universals (cf. Baker 1993; Chesterman 2004), such as explicitation, reflected in these choices,

3) how is the very same instance of an *ing*-clause rendered into German and Swedish, i.e. to what extent is there (non-)congruency between translations,[2]

4) what German and Swedish ST structures are rendered as supplementive *ing*-clauses.

2. Background

2.1 English supplementive *ing*-clauses

The English supplementive *ing*-clause has received attention both in traditional grammars and monographs (Quirk *et al.* 1985: 1123–1126; Kortmann 1991; Biber *et al.* 1999: 782–783, 820, 829–833, 840, 907–908). These studies often focus on its grammatical properties and relation to similar constructions such as the absolute (Stump 1985; Kortmann 1991),[3] but also its semantic flexibility. The following examples illustrate the semantic diversity of the supplementive *ing*-clause, where (3) induces a temporal, (4) a causal and (5) a circumstantial reading, often referred to as accompanying circumstance (Kortmann 1991).

(3) *Driving home after work*, I accidentally went through a red light. (Quirk *et al.* 1985: 1121)

(4) John, *knowing that his wife was expecting a baby*, started to take a course on baby care. (Quirk *et al.* 1985: 1123)

(5) "Oh all right, then," she said, *concealing her disappointment*. (Biber *et al.* 1999: 832)

As is evident from the examples above, the supplementive *ing*-clause can take three different positions within the complex sentence, initial (as in (3)), medial (as in (4)) and final position (as in (5)). There seems to be consensus that the final position is by far the most common position (see, e.g., Kortmann 1991: 9, 139; Biber *et al.* 1999: 830–833). As for the medial position, it can be difficult to distinguish the adverbial reading from the relative clause reading (Quirk *et al.* 1985: 1125; Kortmann 1991: 9). In writing, most supplementive *ing*-clauses are set off from the matrix clause by punctuation marks, such as commas or dashes. As pointed out by Stump (1985: 4), the punctuation criterion is not water-tight, as seen in (6), where the medial clause is not separated from the surrounding discourse by any punctuation marks.

(6) Obama's much-heralded move in June 2014 *mandating emission reductions from power plants* was certainly the right direction, but the measures were (…) (LEGS; EN ST)

Thus, the material for this paper includes examples of both medial and final positionwith and without punctuation marks (as also, for instance, in Malá 2005), the requirement being that both authors independently perceived a looser semantic attachment to the matrix clause than seen with attributive relative clauses.

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[2] In this paper congruency refers to a structural comparison between two target texts. Two translations are deemed to be congruent if they belong to the same category, such as coordination. This is in contrast to Johansson (2002–2003), who defines congruence as a relation between a source-text structure and a target-text structure.

[3] Absolutes include non-verbal instances, such as *Not a penny over, we had to leave the town* (Kortmann 1991: 10).

As already indicated in (2)–(5) above, supplementive *ing*-clauses can have a number of adverbial interpretations. Biber *et al.* (1999: 783) exemplify this with (7):

(7)   The result of the operation is placed in the accumulator, *destroying its previous contents.*

This *ing*-clause is ambiguous between three readings: the result reading, and two different temporal readings, i.e. simultaneity and posterity. According to Kortmann (1991), the interpretation process is mainly inference-driven, but verb semantics has also been considered an important factor (e.g., Stump 1985; Behrens 1998). Kortmann (1991) identifies as many as fourteen different semantic categories, ranging from different temporal interpretations to concessive, instrumental and result readings. In his view, the supplementive *ing*-clause is "an ideal problem-solving device for remaining obscure" (Kortmann 1991: 114) and different readings may coexist (ibid.: 112). Because of this semantic indeterminacy, this paper, in contrast to Kortmann, will not discuss semantic aspects to any great extent, but rather focus on German and Swedish correspondences from a structural perspective.

Supplementive *ing*-clauses also have a bearing on information structure. Due to their subordinate nature *ing*-clauses are generally considered backgrounded (Behrens and Fabricius-Hansen 2005: 9). Thus, according to Kortmann (1991: 113), "[i]t is at least this piece of information, i.e. the presentation of one proposition as backgrounded which always gets lost in paraphrases of free adjuncts/absolutes by means of coordinate clauses" [or main clauses [our addition]].

Previous studies (Kortmann 1991: 39; Biber *et al.* 1999: 821) indicate that supplementive *ing*-clauses are a highly genre-specific feature (see Table 1 below). They seem to be the most frequent in fiction, but so far no large-scale quantitative study has been performed on translated texts. The next section discusses the relevant previous contrastive work.

2.2   Supplementive *ing*-clauses from a contrastive perspective

One of the largest contrastive datasets on translations of supplementive *ing*-clauses is provided by Lindquist (1989: 120–128) on English adverbials in fiction translated into Swedish. His source-text material contains 93 adverbial *ing*-clauses. The four most frequent translation types (except for "deletion") are as follows: finite clause (45%), which includes the three subtypes VP coordination, new full finite clause and adverbial subclause introduced by a conjunction; infinitive (11%); non-finite *ing*-clause[4] (8%), and PP (8%).

Below are two of Lindquist's (1989: 126–127) examples from his category of finite clauses. The first of these, (8), is translated into a VP coordination and the second one, (9), into a subordinate clause, like the Swedish translations of (1) and (2) above. Lindquist notes that the translator of (8) has rendered the simultaneous event in the original as a temporally ambiguous structure in Swedish, while (9) is expressed as a causal relation. These translations support Cosme's (2008: 105) observation that a finite adverbial clause in general is more explicit than coordination.

(8)   […] said Mabs, watching through field glasses from the bedroom of Cadbury Farm.
      […] sa Mabs, och studerade dem i kikaren från sovrumsfönstret på Cadbury Farm.
      "and studied them through the field glasses"

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[4] Lindquist's term; in Swedish formed with the *-ande/-ende* suffix.

(9)   Moral confusion excited him sexually […] giving him time to think […].
      Moralisk förvirring hetsade upp honom sexuellt […] eftersom det gav honom tid att tänka efter […].
      "since it gave him time to think"

Blensenius (2006) investigates supplementive *ing*-clauses in a corpus of English economics texts translated into Swedish. His results from non-fiction (2006: 33) seem to be in line with Lindquist's in that the majority of the Swedish translation equivalents are finite clauses. However, there are no quantifications of his rather limited data to support this claim.

Behrens (1998) also presents a qualitative study of the translation of English supplementive *ing*-clauses, in this case into Norwegian, which is closely related to Swedish. Behrens claims that semantics (the event structure of the *ing*-clause's verb phrase) plays a major role in the semantic resolution of the *ing*-clause, thus partly arguing against Kortmann's (1991) inference-driven approach. One notable finding is that Norwegian translators occasionally add explicit markers, "discourse particles" in Behrens' (1998: 259ff.) terminology, making the relevant interpretation overt (see Section 4.3.3).

Behrens and Fabricius-Hansen (2005: 5) notice a similar translation strategy in translations into German, as illustrated in (10). In this case the German translator has added the temporal connective *dabei* (lit. 'thereby'), thus spelling out the co-temporal relation holding between the two coordinated conjuncts.

(10) He smiled slyly, *nodding*.
      Er lächelte verstohlen *und nickte dabei*.
      "and nodded thereby"

Fischer (2013) compares German and English sentence structure in a parallel corpus of fiction that includes originals and translations in both directions. He notes (ibid.: 169, 171) that the English texts have almost twice as many non-finite VPs – infinitives and participles – than the German texts, with present participles being as much as five times more common in English. Moreover, present participles are more frequent in German translations than in German originals. According to Fischer (ibid.: 171), this is probably a translation effect, resulting from the translator copying the source-text structure.

Finally, contrastive studies have been made with other languages than German and the Scandinavian languages. Cosme (2008) is a corpus-based contrastive study of clause-linking patterns in Dutch, English and French, focusing on the distribution of subordinating and coordinating structures – the latter interpreted in the broadest sense (also including juxtaposition of two independent main clauses) – in these languages. A finding relevant for the present study is that *ing*-clauses are often translated into Dutch as coordination, either as coordination of VPs or full finite clauses.

The previous contrastive work is thus rather limited and largely qualitative in nature. Nevertheless it seems that finite target-language structures predominate as correspondences in various Germanic languages. The present study, which draws on the most extensive dataset investigated to date, will indicate to what extent finite clauses are used as German and Swedish correspondences of supplementive *ing*-clauses in non-fiction.

3.   Material and method

This study is based on the Linnaeus University English-German-Swedish corpus which is being compiled at Linnaeus University, Sweden, by the present authors. The corpus contains

recently published popular non-fiction books in English, German and Swedish with translations into the other two languages. Due to the low numbers of non-fiction books translated from Swedish and German and the few translators who produce a sizeable proportion of these translations, we settled for a large number of words from each text – at least 50,000 words or the whole book. Introductory chapters were excluded. No authors or translators are represented by more than one text each.

At the time of writing (version 0.1), LEGS comprises five English originals with translations into both German and Swedish, and three originals each from German and Swedish with their respective translations. The English originals amount to 272,000 words, the translations from German 184,000 and the translations from Swedish 150,000. Of the sixteen translations included in this study, six were translated by more than one translator. Although it is not clear exactly how many translators were involved in the sections selected for the corpus, there are certainly more than sixteen translators represented in the three subcorpora.

The sub-genres covered for each source language so far are largely comparable. For each source language there is one biographical text. Popular science and history are represented in both English and German, and English and Swedish both have texts concerned with political and societal issues.

Texts for inclusion were identified through searches for translated books with the respective source and target languages in the national Swedish library database Libris. Included are English originals published in the 2010s, while for the German and Swedish originals we include volumes from the whole of the 2000s.

The texts were scanned and manually corrected. The source texts were aligned semi-automatically with their respective target texts by a research assistant using the alignment function in the SDL Trados Studio translation software.[5] Laurence Anthony's parallel corpus software tool AntPConc[6] was used to search the aligned files using the search string *ing. This produced a large amount of noise, such as progressives and gerunds, that was weeded out manually. Both researchers agreed on which instances to include and how to classify the supplementive *ing*-clauses and their correspondences.

4.   Results

4.1   Translation categories identified in the material

Four major categories of German and Swedish correspondences of supplementive *ing*-clauses were identified in LEGS: coordination, subordination, main clause and prepositional phrase (PP), and nine minor categories that were conflated into the Other category.

The main clause category comprises instances with full finite clauses. As exemplified in (11), these may involve new sentences separated by full stops, semicolons (as in (28) below), or, as in (1), commas, but sometimes also two coordinated full main clauses with subjects, as in (12). The coordination category instead includes VP conjunction where the subject is always omitted in the second conjunct, as in (13), and sometimes also the auxiliary. Thus, in contrast to the category main clause, coordination always entails some kind of reduction. Subordination covers adverbial clauses (as in (14)), sentential relative clauses and post-modifying relative clauses. The PP category consists of prepositional phrases introduced by simplex or complex prepositions, e.g. *med hjälp av* in (15).

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[5] http://www.sdl.com/store/
[6] http://www.laurenceanthony.net/software.html

- Main clause
  (11) […] "Gobble, gobble, gobble, gobble," he said, *cracking up Smith and Hertzfeld.* (LEGS; EN ST)
       […] unterbrach ihn Jobs: "Bla, bla, bla." *Smith und Hertzfeld mussten lachen.*
       "Smith and Hertzfeld had to laugh"

  (12) Dumyat is the westernmost of the Ochils, *rising only 400 metres or so*, but […] (LEGS; EN ST)
       Dumyat är det västligaste berget i Ochilkedjan *och det är bara cirka 400 meter högt* men […]
       "and it is only circa 400 metres high but…"

- Coordination
  (13) Hitler exploded, *demanding examples*. (LEGS; EN ST)
       Hitler war außer sich *und wollte Beispiele genannt haben*.
       "Hitler was beside himself and wanted to hear examples"

- Subordination
  (14) Walking past the lineup of tables set up by the Heartland conference's sponsors, it's not terribly hard to see what's going on. (LEGS; ENG ST)
       När man går förbi de bord som ställts upp av Heartlandkonferensens sponsorer är det inte alls svårt att inse vad som är på gång.
       "when you walk past the tables that have been set up by the Heartland conference's sponsors, it is not at all …"

- Prepositional phrase (PP)
  (15) […] the Japanese crossed the Soochow Creek *using small metal assault boats* […]. (LEGS; ENG ST)
       […] gick japanerna […] över Suzhoufloden *med hjälp av små landstigningsbåtar av metall* […]
       "with the help of small landing craft of metal"

The minor categories represent various translation solutions, as illustrated in (16)–(24) below. Example (16) shows one of the rare instances where the *ing*-clause has been rendered as an adjective phrase.

- Adjective phrase (adjP)
  (16) Weygand […] demanded more RAF fighter squadrons, *knowing that the British must refuse*. (LEGS; ENG ST)
       Weygand […] krävde fler jaktflygdivisioner från RAF, *väl medveten om att britterna skulle tvingas neka*.
       "well aware that the British would have to refuse"

The supplementive *ing*-clause in (17) is translated into an adverb phrase.

- Adverb phrase (advP)
    (17) These results underscore the importance of regulating attention to control and cool down stress, *beginning early in life*. (LEGS; ENG ST)
    Dessa resultat understryker vikten av att *redan tidigt i livet* styra uppmärksamheten till kontroll och nedkylning av stress.
    "already early in life"

The Swedish infinitives generally consist of prepositions followed by the infinitive marker *att*, e.g., *efter* ('after'), *för* ('in order to') and, as in (18), *på* ('on'). German infinitives mostly involve *um zu* ('in order to') (see further section 4.3.3 on explicitation).

- Infinitive clause
    (18) […] while the government wasted hundreds of millions (at least) *trying to clean up the unnecessary messes*. (LEGS; ENG ST)
    […] medan provinsregeringen slösade bort hundratals miljoner (minst) *på att försöka städa upp en aning i den onödiga röran*.
    "on to try to clean a bit in the unnecessary mess"

The noun phrase category involves examples such as (19) where the content of the *ing*-clause is rendered as a complex noun phrase.

- Noun phrase (NP)
    (19) *Reflecting its cheeky confidence*, Apple took out a full-page ad […]. (LEGS; ENG ST)
    Ett tecken på det fräcka självförtroendet var att man köpte en helsidesannons […].
    "a sign of the cheeky confidence [was that…]"

Participles, as in (20), cover both present and past participles.

- Participle
    (20) […] the Germans rushed the river in their heavy rubber assault boats, *paddling furiously*. (LEGS; ENG ST)
    […] überquerten die Deutschen den Fluss, *heftig paddelnd* in ihren schweren Gummibooten.
    "furiously paddling"

In the small category of verb phrases, we have included structures constituting parts of a matrix clause. As in (21), these only include a non-finite verb (*setzen*) and an optional adjunct (the participial adverb *zitternd* ('shivering')). Note that the German rendering itself contains a VP coordination where the second conjunct (*und damit Wärme erzeugen*) makes the causal relation explicit. Example (21) thus illustrates the complexity of many target-text structures found in the material, sometimes bordering on the rephrased category.

- Verb phrase (VP)
    (21) With a stomach full of sugar she can start to fire up her flight muscles, *shivering them to produce heat*, and once she gets up to about 30°C, off she goes... (LEGS; ENG ST)
    Wenn ihr Magen voller Zucker ist, kann sie ihre Flugmuskulatur *zitternd in Bewegung setzen und damit Wärme erzeugen*, und wenn sie eine Temperatur von über 30°C erreicht hat, fliegt sie davon...
    "to set shivering in motion and thereby produce heat"

Rephrased instances, as in (22), contain much the same content as the supplementive *ing*-clause but in a syntactically and lexically altered form. The rephrased and omission (in (23)) categories form a continuum where the most extreme case, omission, contains no trace of the original *ing*-clause (marked by Ø in (23)). Addition (as in (24)) adds new information in the translation (see similar German-English examples in Fischer, 2013: 171) and can be seen as a mirror image of omission.

- Rephrased
    (22) The whole village or neighbourhood, *paying homage to these martial values,* would usually turn out to bid farewell to a conscript departing to join the army. (LEGS; ENG ST)
    Soldatische Werte wurden so hoch gehalten, dass ein ganzes Dorf oder Wohnviertel einen Wehrpflichtigen verabschiedete, wenn er zur Armee ging.
    "martial values were so highly regarded that"

- Omission
    (23) *Giving the country partial credit for the collapse of the Russian economy,* a New York Times Magazine piece in 2000 pronounced that "amid the recent proliferation of money-laundering centers that experts estimate has ballooned into a \$5 trillion shadow economy, Nauru is Public Enemy #1." (LEGS; ENG ST)
    Ø New York Times Magazine förklarade i en artikel från år 2000 att "i den senaste tidens ökning av centraler för penningtvätt som enligt experter har växt till en skuggekonomi på fem biljoner dollar är Nauru allmänhetens fiende nr 1." […].
    "New York Times Magazine explained in an article from the year 2000 that […]"

- Addition
    (24) Unter dem Mikroskop sieht ein Arzt dann ovale Eier. (LEGS; GE ST)
    "under the microscope a doctor then sees oval eggs"
    The doctor will examine the fruits of your labors under the microscope, *hunting for little oval eggs*.

The overview of examples shows that there is considerable variation regarding the construction types used as correspondences of supplementive *ing*-clauses. Nevertheless, the result section will mainly be focusing on the four major categories, coordination, subordination, main clause and prepositional phrase (PP).

Section 4.2.1 presents the counts of supplementive *ing*-clauses in originals and translations and compares these frequencies with previous studies, while Section 4.2.2 discusses some findings in relation to sentence position.

4.2 Quantitative overview

4.2.1 *The frequency of supplementive ing-clauses*
Figure 1 presents the frequencies of supplementive *ing*-clauses in the three subcorpora. This study is based on 709 English original examples translated both into German and Swedish, 456 German and 192 Swedish original structures translated into supplementive ing-clauses, in all 1357 *ing*-clauses and 1165 German and 901 Swedish correspondences.[7]
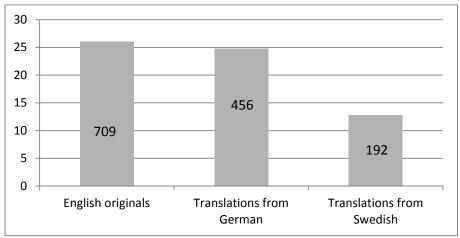

Figure 1. The frequencies of supplementive *ing*-clauses per 10,000 words.

The frequency of supplementive *ing*-clauses is lower in translations from Swedish than in English originals and translations from German but it is hard to draw firm conclusions because only three Swedish original texts are included in the study. It is noteworthy, however, that the two texts with the lowest token frequencies (4 and 10 *ing*-clauses/10,000 words) are based on Swedish originals. One of these largely contains short sentences and sentence fragments, making complex sentence structures less likely in translations. However, while there are notable differences across texts, no clear genre-specific differences emerge. For instance, the highest ratio for an individual text (47/10,000) occurs in one of the English popular science originals. This is three times higher than that of the lowest ratio in the English original biography (15/10,000). In contrast, the translation from Swedish with the highest frequency was the biography, and this contained more instances (22/10,000) than the English original biography.

In spite of the variation between individual texts, Table 1 shows that the frequencies in the three LEGS subcorpora, English originals, translations from German and translations from Swedish, are within the range of the non-fiction genres investigated in previous studies. While the semantically implicit *ing*-clauses are a typical feature of fiction and especially rare in unplanned conversation, they seem to be of intermediate frequency in various non-fiction genres. Among the non-fiction genres in Table 1, the English originals and translations from German produce a fair number of instances.

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[7] We would like to thank Professor Jukka Tyrkkö, Linnaeus University, for assistance with statistical tests.

Table 1. Frequency comparisons with Kortmann (1991: 39)[8], Biber *et al.* (1999: 821) and Blensenius (2006).[9]

	Ing-clauses per 10,000 words
Fiction (Kortmann 1991)	60.9
Fiction (Biber *et al.* 1999)	c. 40
News (Kortmann 1991)	26.5
ENGLISH ORIGINALS (LEGS)	26.1
TRANSLATIONS FROM GERMAN (LEGS)	24.7
Science (Kortmann 1991)	16.6
TRANSLATIONS FROM SWEDISH (LEGS)	12.8
Economics text (Blensenius 2006)	11
Spoken language (Kortmann 1991)	10.1
Academic (Biber *et al.* 1999)	c. 10
News (Biber *et al.* 1999)	c.10
Conversation (Biber *et al.* 1999)	"almost non-existent"

In many ways, the LEGS material is similar to fiction and news reporting. For instance, the narrative parts of the biographies and history texts are comparable to fiction, while the popularized descriptions of scientific processes and phenomena seem closer to those found in newspapers rather than in academic texts. In view of these observations, it can be expected that the frequencies in LEGS would fall within the range of those found in the previous studies.

4.2.2 *Sentence position*
For the different positions within the complex sentence – initial, medial, and final –, we base our classification on Quirk *et al.* (1985: 490–501). As mentioned above, Biber *et al.* (1999: 830–833) found sentence-final position to be the unmarked choice for non-finite adverbial clauses and the medial position to be very rare.[10] Our results on the positions of supplementive *ing*-clauses in English originals and in translations from German and Swedish given in Figure 2 support these findings.

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[8] The frequency information from Kortmann (1991) is based on a limited set of texts. The fiction data comprises a handful of texts, the news material was collected from one issue each of *The Guardian* and *International Herald Tribune*, and the science subcorpus consists of about 120 pages of linguistics texts from a single volume. Moreover, the texts do not appear to have been available in electronic format, which means that the most solid quantitative information can be found in Biber *et al.* (1999).

[9] Behrens and Solfjeld's (2014: 274) frequency (200/10,000 words) in English original fiction from the Oslo Multilingual Corpus is based on an extrapolated estimate and differs greatly from all the other studies.

[10] Behrens and Solfjeld's (2014: 274) estimates deviate greatly from the other findings in Table 1. Their results suggest that sentence-final position is almost 80 times more frequent than the sentence-initial one. In each case, the first 100 instances were classified and then the proportions were extrapolated by Behrens and Solfjeld.
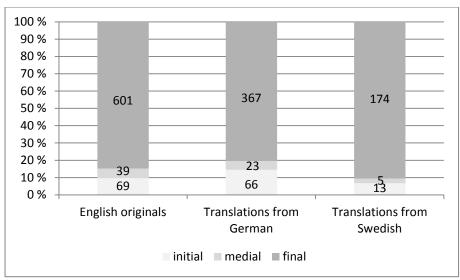
Figure 2. Positions of supplementive *ing*-clauses in English originals and in translations from German and Swedish.

Most of the translations are kept in the same sentence positions as their corresponding source-text structures.[11] For instance, of 601 sentence-final *ing*-clauses in English originals 77% (464) are translated into sentence-final correspondences in German and 90% (543) in Swedish, while slightly fewer of the 69 English sentence-initial clauses are kept in that position in translations (72% (50/69) in German; 78% (55/69) in Swedish).[12] The rarest position, the sentence-medial one, is an exception, however, as it has a lower level of "matching" position in German and Swedish translations.[13] It is likely that the marked and difficult-to-process (Biber *et al.* 1999: 830; Hasselgård 2010: 107–110) positions in the middle of a sentence is often avoided in translations due to a normalization strategy of unusual constructions (cf. Baker 1996: 183) even if the same position would be syntactically possible in the target languages.

Sentence-final *ing*-clauses are the most frequent in the translations from Swedish and the least frequent in the translations from German. The relative preference for sentence-initial position in translations from German mostly stems from sentence-initial German PPs and participles being retained in initial position as *ing*-clauses. It is nevertheless difficult to draw conclusions about translations from Swedish as there are too few instances.

Translations of *ing*-clauses in initial and medial positions are similar to each other in that both positions favour renderings into subordinate clauses in both German and Swedish, but there are notable differences in the preferred kinds of subordinate clause. There is a trend for sentence-initial *ing*-clauses to be translated into subordinate clauses: 43% (30/69) into German and 42% (29/69) into Swedish.[14] Of these, a large majority are translated into adverbial clauses (97% (29/30) in German and 83% (24/29) in Swedish). As exemplified in (25), initial *ing*-clauses can be rendered as temporal clauses introduced by *als/när* ('when')

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[11] Behrens and Fabricius-Hansen (2005: 111) discuss such cases in terms of discourse structure and "downgrading effect", arguing that a final *ing*-clause keeps its backgrounded discourse status when translated into a sentence-initial conjunct.

[12] Not all correspondences could be classified according to specified sentence positions. This mainly applies to main clauses occurring in separate sentences, as in (11) above.

[13] 49% (19/39) are translated into medial German correspondences and 44% (17/39) into Swedish medial correspondences.

[14] This is significantly higher (according to a chi-square test) than the proportion of adverbial clauses in sentence-final position both in German (22% (133/601); p < 0.01) and in Swedish (25% (149/601); p < 0.01) translations from English.

(see further Section 4.3.3 on explicitation), the *ing*-clause here introducing a frame in which the activity of the main clause occurs (cf. Biber *et al.* 1999: 832).

(25) *Showing off the Homestead campus four decades later,* Jobs paused at the scene of the escapade and pointed.
Als Jobs 40 Jahre später über den Homestead-Campus schlenderte, blieb er stehen und deutete auf einen Balkon:
"when Jobs 40 years later strolled across the Homestead campus"
När Jobs visade mig Homesteads skolgård fyra årtionden senare stannade han till vid skådeplatsen för upptåget och pekade.
"when Jobs showed me Homestead's schoolyard four decades later"

In contrast to the initial position, medial *ing*-clauses are typically translated into relative clauses, which could perhaps be expected from their similarity with relative clauses, as discussed by Quirk *et al.* (1985: 1125) and Kortmann (1991: 9) above. 56% (22/39) of the medials were translated into subordinate clauses in German and 44% (17/39) into Swedish ones. Of these, most are post-modifying relative clauses (68% (15/22) in German and 71% (12/17) in Swedish).[15] The position immediately after the subject and a function close to that of a relative clause make post-modifying relative clauses readily available choices, as seen in (26).

(26) Most Germans, *having feared another bloodbath in Flanders and Champagne,* were overjoyed by the astonishing victory.
Die meisten Deutschen, *die ein weiteres Blutbad in Flandern und der Champagne befürchtet hatten,* waren angesichts des erstaunlichen Sieges überglücklich.
De flesta tyskar, *som hade fruktat ett nytt blodbad i Flandern och Champagne,* var överlyckliga över den häpnadsväckande segern.
"most Germans, who had feared another bloodbath…"

In conclusion, most supplementive *ing*-clauses occur in sentence-final position. This holds true for both originals and translations. Furthermore, there are some indications that translators avoid the marked medial position for adverbial clauses, but when the position is kept the clause is often rendered as a post-modifying relative clause. The next section presents an overview of the German and Swedish correspondences.

4.3 Quantitative overview of correspondences

4.3.1 *German and Swedish translations of English supplementive ing-clauses*
The German and Swedish translations of English source text *ing*-clauses are given in Table 2.

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[15] Although only 5.5% of the supplementive *ing*-clauses occur in medial positions, they account for fair proportions of all post-modifying relative clauses found in both German (25%; 15/60) and Swedish (18%; 12/65) translations.

Table 2. German and Swedish translations of English supplementive *ing*-clauses.

	Translations into German		Translations into Swedish	
	N	%	N	%
coordination	246	34.7	287	40.5
subordination	185	26.1	197	27.8
main clause	167	23.6	90	12.7
PP	47	6.6	58	8.2
Other	*64*	*9.0*	77	10.9
infinitive	17	2.4	44	6.2
NP	7	1.0	14	2.0
participle	12	1.7	7	1.0
rephrased	13	1.8	2	0.3
omission	9	1.3	3	0.4
VP	4	0.6	3	0.4
adjP	2	0.3	1	0.1
advP	0	0	3	0.4
Total	**709**	**100**	**709**	**100**

The distributions across the two target languages are fairly similar. The four main categories coordination, subordination, main clause and PP follow in the same order and together account for around 90% of all translations. There is only one significant difference between the translations, a greater German preference for main clauses. This will be discussed below.

There is a striking difference between Lindquist's (1989: 121) Swedish fiction data and those from the LEGS corpus. Lindquist's finite clause category, which covers the three most frequent categories (coordination, subordination and main clause), accounts for only 45% in his fiction material, but in our non-fiction material these three cover more than 80%. In contrast, Lindquist's material contains more translations from the Other category (21%). Still, the content of Lindquist's Other category is more restricted than in the present study in that it does not include infinitives, or rephrased or omitted instances. However, Lindquist does not elaborate further on what his category contains, which rules out any further comparisons. The high degree of variation in Lindquist's material may indicate greater translator creativity in fiction than in non-fiction. The distributions of some of the minor categories in LEGS are fairly similar to Lindquist's: 8% PP for both Lindquist and the present study and 11% (Lindquist) vs. 6.2% (LEGS) for infinitives. The more frequent use of participles in Swedish fiction translations (8% as compared to 1%) is probably genre-related, since the short (one-word) examples of *ing*-clauses given by Lindquist (1989: 122) seem to be typical of fiction. The marginal use of participles (only 2% (42/2066) of all correspondences in the LEGS corpus) in the translation of supplementive *ing*-clauses shows that participles are no close German[16] or Swedish equivalents of these English constructions.

Figure 3 gives a visual representation of the findings, indicating the only significant difference in the greater German preference for main clauses.[17]

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[16] The low German numbers are noteworthy in view of Fischer's (2013: 169, 171) finding that non-finite clauses are more common in German translations from English than in German originals.

[17] According to a chi square test and a post hoc test with a Bonferroni correction; df=4, X2=28.95, p=***.
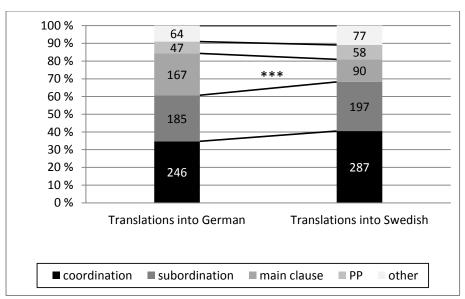
Figure 3. German and Swedish translations of English supplementive *ing*-clauses.

German translations produce more main clauses than the Swedish ones do. This result is probably related to changing preferences in Present-Day German. Evidence of an increased German tendency of using parataxis rather than hypotaxis for causal clauses has been observed both for popular science by Becher (2011) and for business articles by Bisiada (2013), and both in original texts and translations. Becher (2011: 199) explains this trend towards parataxis with reference to readability. In subordinate clauses German uses verb-final position, which has been found to lead to processing difficulties for readers, and therefore the V2 position of parataxis is increasingly being used. Examples of supplementive *ing*-clauses translated into German main clauses are seen in (1) and (11) above and (28) and (29) below. In (1) and (29) the main clause corresponding to the *ing*-clause is separated by a comma, in (11) by a full stop and in (28) by a semicolon.

There is a notable consistency in the German and Swedish translations in that coordination is the most common choice in both target languages. There appear to be two main reasons for the correlation between the English supplementive *ing*-clause and the German and Swedish coordination. Coordination is a compact structure allowing the omission of the subject and sometimes the auxiliary, thereby matching the subject-less non-finite supplementive *ing*-clause. Moreover, coordination is also often semantically indeterminate in much the same way as the source structure.[18] This is illustrated below in (27) where the Swedish rendering, just as the English original, is ambiguous at least between a temporal reading (simultaneous or succession) and specification (cf. Kortmann 1991: 121). The description of Gore's utterance, offering his blessing, can either be interpreted as him expressing his private opinion and then referring to what energy experts are saying, or as Gore offering his blessing by the very act of declaring that the experts are united in their assessments.

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[18] Dirdal (2017: 216) found that Norwegian novice translators use coordination more often than professional translators as correspondences of supplementive *ing*-clauses.

(27) On a visit to Toronto, Al Gore offered his highest blessing, proclaiming it "widely recognized now as the single best green energy [program] on the North American continent."

Vid ett besök i Toronto gav Al Gore programmet sin välsignelse och utropade det till "nu erkänt i vida kretsar som det allra bästa [programmet] för grön energi på den nordamerikanska kontinenten."

"and proclaimed it "now widely recognized…""

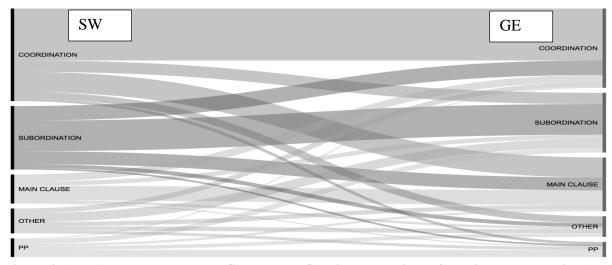The alluvial flow diagram in Figure 4 illustrates the (non-)congruency of the German and Swedish translations.

Figure 4. (Non-)congruency between German and Swedish translations of English supplementive *ing*-clauses.

There is a relatively high proportion of congruency between translations: 46.4% (329/709) of all supplementive *ing*-clauses are translated in the same way. Instances translated into coordination, subordination or PP in one target language are also fairly often translated into the same structure in the other.[19] This suggests that translators independently of their target languages often resort to similar choices when translating supplementive *ing*-clauses. Many of these choices involve clause building (Dirdal 2014) and more explicit structures. Dirdal (2014: 122) defines clause building as all changes moving towards independent main clauses. Thus, for instance, words or phrases rendered as clauses or non-finite clauses rendered as finite clauses are examples of clause building.

Some minor trends can be gleaned from the significantly greater preference for main clauses in German than in Swedish translations. From the 122 *ing*-clauses rendered as German main clauses while producing different Swedish translations (such as subordinate clauses) it appears that: (a) German translations more often than Swedish use semicolons to separate main clauses, (b) Swedish translators use certain subordinate clauses when German translators opt for main clauses, and (c) German sometimes uses main clauses linked by commas where the Swedish translators choose other strategies.

Firstly, German translators opt for main clauses separated by semicolons in 29 instances where the Swedish translators chose other options. These instances are distributed across translations of four out of five English original texts. A semicolon creates a clause

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[19] Of the 709 instances, 161 (22.7%) are translated into coordination in both target languages, 95 (13.4%) are subordinate clauses, 45 (6.3%) are main clauses and 22 (3.1%) are translated into PPs in German and Swedish. In the Other category, 3 infinitives, 2 rephrased instances and 1 NP were translated in the same way.

boundary stronger than a comma but weaker than a full stop. This "intermediate" level of clause division, which is overall considerably more common in the German target texts,[20] would seem to facilitate the more frequent use of main clauses for translators not wishing to split up sentences. We here define sentence splitting more narrowly than Solfjeld (2008), restricting our definition to cases where supplementive *ing*-clauses correspond to separate main clauses, while Solfjeld (2008: 116) also includes different kinds of coordinations. The frequent German use of semicolons in the LEGS material may be a translation effect since semicolons are three times more common (15/10,000 words) in translations from English than in German originals. This issue, however, merits further study beyond the scope of this paper.

An example of a German translation with a main clause after a semicolon is given in (28). The Swedish translation illustrates the second tendency mentioned above, that of Swedish subordinate clauses when German translators choose main clauses. Sentential relative clauses (introduced in Swedish by the relative pronoun *vilket*; for similar Norwegian translation data, see Behrens 1998: 147) are more common in the Swedish than in the German translations (see below).[21] Sentential relatives are used 18 times in Swedish when the German translators make use of main clauses,[22] as illustrated in (28).

(28) The longer stress persists, the more those cognitive abilities are hurt and the more permanent the damage, *ultimately leading to mental as well as physical illness.*
Je länger der Stress anhält, umso stärker werden diese Fähigkeiten beeinträchtigt und umso dauerhafter ist die Schädigung; *dies führt letztlich ebenso zu psychischen wie zu körperlichen Erkrankungen.*
("this leads ultimately to…")
Ju längre stressen kvarstår, desto mer skadas de kognitiva förmågorna och desto mer permanent blir skadan, *vilket till sist leder till psykisk och fysisk ohälsa.*
("which ultimately leads to…")

Finally, there are 15 instances of main clauses linked by commas in German[23] among the examples of non-congruency. This is exemplified in (1) above and (29) below where the Swedish translators opt for coordination. In both examples, German and Swedish linguistic structure permit either translation method, but, as seen in Figure 3, there are different language-specific preferences which combine to create a significant difference between the target languages. The use of main clauses alters the discourse structure in that the subordinate clause is upgraded to a main clause and now forms an independent information unit (cf. Kortmann 1991: 113; Behrens and Fabricius-Hansen 2005: 111).

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[20] Semicolons are three times more common in the German translations from English originals than in the Swedish ones. Notably, there are slightly more semicolons in the German translations than in the English originals.

[21] 54 supplementive *ing*-clauses are translated into sentential relative clauses in Swedish, and only 14 in German.

[22] In an additional 22 cases, the Swedish translators use other types of subordinate clauses, mostly adverbial ones.

[23] 58 German and 48 Swedish translations were linked asyndetically in the whole corpus.

(29)   Unlike wasps or honeybees, most bumblebees don't even seem to mind very much if you poke around their nest, *stinging only as an absolute last resort.*
Anders als Wespen oder Honigbienen scheint es Hummeln nicht einmal sonderlich zu stören, wenn man in ihrem Nest herumstochert, *sie stechen wirklich nur im absoluten Notfall.*
"they sting really only…"
Till skillnad från getingar och bin verkar de flesta humlor inte ens bry sig särskilt mycket om ifall man rotar runt i boet, *och sticks bara i yttersta nödfall.*
"and sting only…"

The only notable difference in subordinate clauses in German and Swedish translations is, as mentioned above, that Swedish uses more sentential relative clauses than German.

Prepositional phrases are the final major category. Most involve similar prepositions in German and Swedish. These are three pairs of related prepositions *in/i* ('in'), *mit/med* ('with') and *mithilfe/med hjälp av* (lit. 'with the help of').[24] *In/i* mostly occurs in lexicalized complex prepositions, such as *im Gegensatz zu* ('in contrast to') or *i hopp om* ('in the hope of'). Swedish *med* has a slightly wider range of usage than German *mit*, for instance in some (semi-)lexicalized Swedish complex prepositions (e.g., *claiming it robbed the company of its right to* [...] translated as *med motiveringen att* ('with the motivation that') *det fråntog företaget dess rätt att* […].). *Mithilfe* and *med hjälp av* occur 19 times as correspondences of *ing*-clauses (one of which was found in a German source text and four in Swedish source texts). 18 of these *ing*-clauses are introduced by *using* (e.g., *using a beard of bristles on their mandibles* translated into *mithilfe der Borsten an den Mandibeln/med hjälp av skäggborst på käkarna*). This would seem to suggest that *using* is felt to be close to a preposition. Similar cases of preposition- and conjunction-like *ing*-forms in supplementive clauses are discussed by Visser (1972: 1218) (cited in Kortmann 1991: 191).

In summary, the translations into German and Swedish indicate fairly high degrees of correlations. Coordination is the most frequent alternative in both German and Swedish because of its indeterminate and compressed nature. The main difference between the target languages, i.e. the greater German use of main clauses, is probably a reflection of the ongoing German change towards parataxis identified by Becher (2011) and Bisiada (2013). So far the results have only concerned translations from English. Section 4.3.2 shows to what extent the translations into English produce similar findings.

4.3.2 *Comparisons with supplementive ing-clauses translated from German and Swedish*
Table 3 presents the German and Swedish source-text structures rendered as supplementive *ing*-clauses. As for the German and Swedish target-text structures in Table 2 above, coordination is by far the most common alternative. The order among the other alternatives, subordination, main clause, PP and Other, is slightly different and the frequencies are more equal than for the target-text structures. The Other category is slightly larger in the German and Swedish source texts than in the target texts.

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[24] There are 12 *in*, 10 *mit* and 6 *mithilfe* in German (of 47 instances), and 13 *i*, 22 *med* and 8 *med hjälp av* in Swedish translations (of 58 instances).

Table 3. German and Swedish source-text structures translated into supplementive *ing*-clauses.

	German source-text structures		Swedish source-text structures	
	N	%	N	%
coordination	149	32.7	74	38.6
subordination	91	20.0	31	16.1
PP	69	15.1	32	16.7
main clause	69	15.1	24	12.5
Other	*78*	*17.1*	*31*	*16.1*
infinitive	17	3.7	10	5.2
NP	13	2.9	5	2.6
participle	14	3.1	9	4.7
rephrased	11	2.4	1	0.5
VP	12	2.6	0	0
addition	5	1.1	1	0.5
advP	4	0.9	2	1.0
adjP	2	0.4	3	1.6
Total	**456**	**100**	**192**	**100**

The differences between the German and Swedish source-text structures in Table 3 are not significant. As is evident from Figure 5 below, however, there are a number of significant differences between the *ing*-clause correspondences in the source texts and the target texts in both German and Swedish.
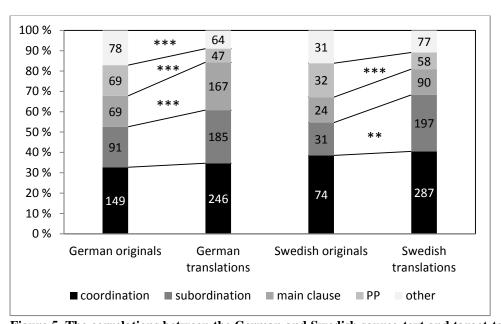

Figure 5. The correlations between the German and Swedish source-text and target-text correspondences of supplementive *ing*-clauses.

Three out of five categories produce significant differences between German source texts and target texts,[25] and two out five for the Swedish texts.[26] It is nevertheless noteworthy that the largest category, coordination,[27] does not produce any significant differences in either German or Swedish (see discussion above in Section 4.3.1). This means that it is equally likely for a translator into English to choose a supplementive *ing*-clause when translating a

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[25] According to a chi square test with a Bonferroni correction; df=4, X2=49.47, p=***.
[26] According to a chi square test with a Bonferroni correction; df=4, X2=22.65, p=***.
[27] Cosme (2008) found coordination to be a frequent correspondence of *ing*-clauses also in Dutch translations.

coordination like in (30) below, as it is for a translator from English to choose a coordination when translating a supplementive *ing*-clause, as seen in, e.g., (13).

(30)   Stiegs mormor följde med och bodde tillsammans med dem under den första tiden. (LEGS; SW ST)
"Stieg's maternal grandmother went too and lived together with them during the initial period"
His grandmother went too, initially also *living with them*.

There is a significant difference for PPs in both German and Swedish, PPs being more frequent in originals.[28] There is also a significant difference for subordinate clauses in Swedish. This is a result of all subtypes of subordinate clauses (adverbials, sentential and post-modifying relative clauses) being rarer in the originals than in the translations of *ing*-clauses. The reason is probably that most of these subordinate clauses in Swedish source texts can be conveniently translated using the same structures in English, e.g., subordinate clauses introduced by *when* or *since* corresponding to the frequent Swedish *när/eftersom*. The less explicit supplementive *ing*-clauses less readily emerge as alternatives in these cases. An example of a Swedish temporal adverbial clause translated into a supplementive *ing*-clause is seen in (31). A temporal clause similar to the English gloss would have been an acceptable alternative translation. Supplementive *ing*-clauses nevertheless provide advantages for translators into English. By using a supplementive *ing*-clause the translator avoids having to repeat the same referent twice (*she*). This strategy is used at the expense of decreased explicitness in the link between the subordinate clause and main clause.

(31)   *När hon på kvällen kom fram till S:t Göran* fick hon det chockartade beskedet. (LEGS; SW ST)
"when she that evening arrived at the S:t Göran [hospital] she got the devastating news"
Arriving at the hospital that evening, she was given the devastating news.

The greater use of prepositional phrases in German and Swedish source texts than in German and Swedish translations from English is difficult to explain in terms of translation strategies and general language-specific preferences, even though there is a consistency in that both German and Swedish source texts contain more prepositional phrases than the German and Swedish target texts. The numbers are low and the individual source texts seem to have a strong influence on the outcome.

Figure 5 shows that the high frequency of main clauses in German target texts produces a significant difference in comparison with German source texts. Using Dirdal's (2014) terminology, it is thus more likely that translators into German 'build' main clauses from supplementive *ing*-clauses than English translators 'reduce' German main clauses to supplementive *ing*-clauses. *Ing*-clauses also seem to be the most frequent source in English-to-Norwegian clause building (2014: 127), but these *ing*-clauses are neither clearly defined nor analyzed in detail by Dirdal. The greater tendency for sentence building from supplementive *ing*-clauses in German is perhaps unexpected in view of Solfjeld's (2008) suggestion that information density in German non-fiction leads to a high degree of sentence splitting in translations into Norwegian. The reason for our divergent finding is probably our restriction to a single English construction lacking a German counterpart. It seems reasonable

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[28] According to a chi square test with a Bonferroni correction; German df=4, X2=21.44, p=***; Swedish df=4, X2=11.81, p=***.

that it is easier to divide information-dense non-fiction sentences into two than merging two into one. It nevertheless seems that there is a language-specific preference for more clause building in the German than in the English texts in the LEGS corpus (apart from the greater use of semicolons mentioned above): the five German translated texts contain more full stops (+9%) than their English originals, while English translations from German instead contain fewer full stops (–8%) than their German originals (other punctuation marks being very rare).

Below, in example (32), is one of the fairly rare instances of two German main clauses being reduced to a main clause and a supplementive *ing*-clause. The translation avoids mentioning the subject (*Merkel/she*) twice (as also seen in (31)), and condenses (in (32) by eliding the subject *sie* and the adverbial *lieber*, while nevertheless adding the verb *choosing*) and backgrounds the information from the second main clause into the subordinate clause (cf. Kortmann 1991: 113) while maintaining the order of the direct object preceding the dative object / prepositional object.

(32)   Staatsbesuche absolviert Merkel überhaupt nur in begrenzter Zahl. *Diese höchsten protokollarischen Ehren überlässt sie lieber dem Bundespräsidenten.* (LEGS; GE ST)
"these highest honours she rather leaves to the President"
Merkel makes only a small number of state visits, *choosing to leave this highest honour to the President of the Republic.*

The final significant difference between German source texts and target texts relates to the greater proportion of other equivalents in German originals. This is an effect of most of these minor categories (infinitive, NP, participle, rephrased, VP, adjP and advP) combining to increase the frequency in originals with only one (omission/addition) marginally going against the trend.

4.3.3 *Explicitation*

As seen above, some of the structures used to translate the often semantically indeterminate supplementive *ing*-clauses involve more explicit structures in German and Swedish. This is in line with translations typically being more explicit than their originals, as suggested by Baker (1996: 180). In the following discussion of explicitation we will include conjunctions, adverbials, German *um zu* ('in order to') infinitives and Swedish infinitives consisting of prepositions together with the infinitive marker *att* as explicitation devices (for explicitation in translations of *ing*-clauses into Norwegian, see Behrens 1998: 259ff.).

Table 4 presents the explicitations occurring more than ten times in each target language as well as the number of other structures found.

Table 4. Explicitations in German and Swedish target texts from English originals.

Translations into German		Translations into Swedish	
als ('when')	16	*när* ('when')	23
da ('since')	16	*eftersom* ('because')	18
dabei ('thereby/at the same time')	11	*där* ('where')	16
indem ('while/by')	11	*efter att* ('after that')	14
so dass/sodass ('so that')	11	*så att* ('so that')	13
		därmed ('thereby/thus')	12
other	124	other	58
Total	**189**	**Total**	**154**

The Swedish translations contain fewer instances of explicitation. There are more instances and more variation in German translations which produce a large proportion of 'other'

explicitation strategies.[29] The most frequent explicitations involve temporal and causal conjunctions in both languages, as exemplified in (2), (14) and (25) above. The higher proportion of explicitations in German is largely due to the use of pronominal adverbs, which come in many different forms and express various relations. Kortmann (1991: 110, 122) notes that English lacks conjunctions expressing instrument (such as German *indem*), accompanying circumstance (*wobei*) and those making two events form a unit (*und dabei*, *wobei*). Thus, an English structure largely absent in German is sometimes translated by a German class of words not occurring in English. Apart from the frequent *dabei* and *indem* listed in Table 4,[30] other examples include *dadurch* ('thus/thereby'), *womit* ('whereby') and, as in (33), *nachdem* ('after'). The Swedish translator uses a different type of explicitation: a preposition together with the infinitive marker *att*, expressing a similar meaning to the German. This is one of the 64 instances explicitated in both target languages.[31]

> (33) *Having studied their gardens,* these volunteers were asked to repeat the exercise in one countryside habitat, chosen at random from a range of options.
> *Nachdem sie dieses Experiment in ihrem Garten durchgeführt hatten,* wurden die Freiwilligen gebeten, es in einem ländlichen Habitat zu wiederholen, das nach dem Zufallsprinzip ausgewählt wurde.
> "after they had performed this experiment in their garden"
> *Efter att ha studerat trädgården* ombads de frivilliga att upprepa övningen vid ett av olika alternativ slumpmässigt valt förekomstställe på landsbygden.
> "after INF. have studied the garden"

Our findings suggest that there are partial overlaps between the most frequent German and Swedish lexical manifestations of explicitation (see Table 4). However the German preference for various pronominal adverbs also produces notable differences between the target languages.

5.   Conclusions

This study has shown that there are both similarities and differences between the German and Swedish correspondences of English supplementive *ing*-clauses. Coordination is the most frequent correspondence in translations both into and from German and Swedish. This seems to be due to the fact that coordination, just as the supplementive *ing*-clause, are compact and semantically rather indeterminate. Coordination occurs in three to four out of ten instances in both languages, which means that the correlation between this German and Swedish construction and the English supplementive *ing*-clause is not very strong, however. The second most common correspondence, subordination, backgrounds the subordinate clause to the main clause, similar to what the *ing*-clause does. Main clauses and prepositions are the final major alternatives in both German and Swedish. Main clauses are a significantly more common alternative in German translations than in Swedish ones. This is probably an effect

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[29] Explicitation is used in 26.7% (189/709) of the German and 21.7% (154/709) in the Swedish translations. There is a marginal statistical significance for a greater German preference for explicitation (chi-square test: p = 0.035; phi coefficient = 0.058).

[30] Behrens and Fabricius-Hansen (2005: 4) write that *dabei* is used "quite often" in German translations of *ing*-clauses expressing 'accompanying circumstance', but do not provide quantitative support for this claim.

[31] This means that 33.9% of the 189 explicitated German instances are also explicitated in the Swedish translations, and that, conversely, 41.6% (64/154) of the explicitated Swedish instances are also explicitated in the German translations.

of an ongoing shift in German from hypotaxis to parataxis, as noted by Becher (2011) and Bisiada (2013). Like coordination, a prepositional phrase is a compressed alternative. They often occur as correspondences of *ing*-forms that appear to be preposition-like, such as *using*. Among the minor alternatives, it can be noted that participles only occur as correspondences in 2% of the instances, which shows that German and Swedish participles are not close equivalents of the English supplementive *ing*-clause.

In view of the semantically indeterminate nature of supplementive *ing*-clauses, it is noteworthy that a number of translations contain overt explicitation markers. The most common types involve subordinators such as *als/när* ('when'), *da/eftersom* ('since/because') and German pronominal adverbs (e.g., *dabei*, *indem*). German translations produce slightly more explicitations than the Swedish ones, possibly because of the wide range of German pronominal adverbs. It is nevertheless evident that more in-depth analyses are needed on the relation between translations and the semantics of supplementive *ing*-clauses.

One considerable advantage with the LEGS corpus is that it makes it possible to compare each source text with two target languages (cf. Egan 2016). This is particularly fruitful when comparing translations of a structure lacking a productive equivalent in more than one target language. Although English supplementive *ing*-clauses are semantically indeterminate, the German and Swedish translators in this study choose the same translation solutions for almost half the English source-text instances. This suggests that there is systematicity in the translation choices which can be explained both by the target languages being closely related structurally and by the source-text structure steering the translators in specific directions. This is illustrated by the fact that only four translation categories (coordination, subordination, main clause and PP) account for 90% of all translations into both German and Swedish.

At this stage the LEGS corpus is fairly restricted as regards the number of texts. Still it is large enough to produce adequate numbers of instances of medium-frequency phenomena such as supplementive *ing*-clauses, which previously have only been studied in relatively small and partly opportunistically collected data-sets.

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