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Danglers in patient information leaflets and technical manuals: an issue for specialised translators?

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ABSTRACT

Dangling participles and other types of ambiguous or unclear sentence constructions in directive and informative medical and technical texts, such as patient information leaflets (PILs) and technical manuals, render instructions unclear and potentially dangerous for the layman reader, i.e. a patient or a layman user of air condition units. Dangling constructions also constitute a constant challenge for translators with English as their second or third language.

The objective of this article is to discuss dangling constructions with special emphasis on grammaticality, acceptability, and readability on the basis of two corpora: a corpus of PILs (PILcorp) and a corpus of technical manuals (TECHcorp). The hypothesis is that patient information leaflets will contain fewer dangling constructions than technical manuals because of the strict regulations on product information texts including PILs. The two corpora are analysed and categorised by means of selected theoretical considerations on dangling constructions, and selected examples from the two corpora are analysed by means of a Readability Test Tool (see Simpson 2012), which produces a number of readability indicators.

This hypothesis has in fact been proved. The analysis and the discussion showed that dangling participles are not very frequent in PILs, but much more common in technical manuals. The data showed that there were no "ludicrous" danglers, (see Matthews and Matthews 2008:146), in PILcorp. However, the analysis showed that both corpora contained a number of dangling constructions, which may pose a cognitive problem for patients or laymen users because they necessitate considerable personal assumption and satisfactory reading proficiency.

KEYWORDS

Dangling participles, dangling constructions, patient information leaflets, technical manuals, grammaticality and readability.

1. Introduction

Dangling participles and other types of ambiguous constructions in directive and informative medical and technical texts such as patient information leaflets (thereafter PILs) and technical manuals, render instructions unclear and potentially dangerous for the layman reader.

The objective of this article is to discuss these constructions with special emphasis on grammaticality, acceptability, readability and safety on the basis of a corpus of PILs and a corpus of technical manuals. The hypothesis is that PILs will contain fewer dangling constructions than technical manuals because of the strict regulations on product information texts, including PILs.

The empirical analysis and subsequent discussion will show whether that hypothesis is correct.

2. Theoretical and empirical scope of the study

Theoretically, this article is confined to three areas. First, selected contributions on the grammatical concept 'dangling participles' and 'other types of danglers' are included. Second, the article makes use of selected literature on technical and medical translation and writing, with reference to Vermeer's Skopos theory (1996). Third, grammaticality and acceptability are considered theoretically, with a view to defining what is understood by these terms. Empirically, the article is concerned with PILs and technical manuals.

A discussion will provide the theoretical basis for deciding whether a construction is dangling from a grammatical point of view and to ascertain whether a dangling construction may constitute a safety issue in either PILs or in technical manuals.

3. Methodology

The empirical data was subjected to grammatical scrutiny on the basis of a concordance analysis, and once identified, the context of each occurrence was analysed. Finally, the occurrences were subjected to a readability analysis to identify readability scores. This data consist of PILs and technical manuals. Two corpora, PILcorp and TECHcorp, were prepared with a view to discussing danglers in the two text types.

PILs are official, publicly available documents and have already been submitted to a number of readability tests before approval by the relevant agencies. For the purpose of this article, only PILs starting with the letters A, H, I and S were selected, downloaded, ordered and converted into text only format.

Technical manuals have not necessarily been submitted to any readability tests, even though DIRECTIVE 2006/42/EC in fact stipulates that the wording and layout of manuals should be adapted to the level of education and reading proficiency of the intended user. In this study, only technical manuals from two technical domains were downloaded, tabulated and converted into text only format. Once prepared, both PILcorp and TECHcorp were loaded into MonoConc Pro (see http://athel.com/index.php), and a number of concordance analyses were carried out.

The following search strings were defined in advance and used as search strings to look for occurrences of danglers in the two corpora:

'*ing'
'by + *ing'
'by + *ed'
'when + *ing'
'when + *ed'
'based on'
'Following'
'Considering' and
'using.'

To optimise the analysis, a concordance stop list containing the most frequent words with '*ing' and '*ed' and other types of words with '*ing", for example nouns such as "evening" was prepared and used during the corpus analysis to limit the number of irrelevant hits. Once identified, a detailed content analysis of the context of every single occurrence was carried out.

In addition to the grammatical analysis, a readability analysis was also carried out. The Readability Test Tool (Simpson 2012) was used on each of the examples to produce scores for the most commonly used readability indicators. The readability indices used in the Readability Test Tool are Flesch Kincaid Reading Ease, Flesch Kincaid Grade Level, Gunning Fog Score, Coleman Liau Index and the Automated Readability Index. Low readability scores on these indices indicate that the text is rather complicated to read and to understand.

4. Theory

Dangling participles pose an interesting linguistic challenge for readers and producers of medical and technical texts. Dangling constructions also constitute a constant challenge for specialised translators and medical writers with English as their second or third language.

Medical texts, such as PILs and packaging texts must meet strict quality standards and should be clear and safe to use (see Askehave and Zethsen 2000), who discuss the importance of translating package leaflets. Verbal phrase danglers are abundant in scientific writing (Rogers 2007:59), and it is argued that danglers may constitute a safety issue because patients using medicine or users of technical equipment cannot and should not be expected to deduce the intended meaning of a sentence. But what is understood by danglers? Danglers can be divided into two types: dangling participles and dangling gerunds.

Dangling participles:
According to Kirkman (1992:75), a "misrelated participial construction" is one of the most common errors. According to Kirkman (1992:75) "In English, we have a grammatical rule that a participle (formed usually by the addition of *–ing, -ed, or –d* to the infinitive form of a verb) relates to the

noun or pronoun that precedes it." Kirkman furthermore explains that "If there is no noun or pronoun at the beginning of the sentences, the participial group is interpreted as relating to the subject of the main statement that follows" Kirkman (1992:76) uses the following sentence to illustrate what a dangling participle is:

> Example 1:
>
> Before installing the battery, the function switch must be in the OFF position.

As will appear from Example 1 the participle "installing" is dangling, because it seems to modify "function switch" instead of the logical subject 'you' or a similar subject, and the writer here seems to have lost sight of the proximity rule described by Kirkman (1992:75).

Another definition of a dangling participle is offered by Ehrlich, who explains that a dangling participle occurs when the "participle is not clearly identified with the word(s) it modifies" (Ehrlich 2000:73). According to Ehrlich, a dangling participle can also sometimes be called a dangling modifier. In the same line of thought, Stilman (2004:232) explains that "the entity to be modified is implied rather than explicitly stated" and gives the following sentence to illustrate his point:

> Example 2:
>
> When installed, you should keep the appliance away from children.

Here it is somewhat unclear what has been installed. Consequently, "installed" is a dangling participle, because it modifies "you" instead of the intended "appliance" and that does not make sense from a logical or a grammatical point of view.

Rogers (2007: 59) also offers a useful definition of dangling participles. According to her, "a participle is said to 'dangle' if its implied subject is not the subject of the main clause of the sentence." She discusses the following line:

> Example 3:
>
> Paying attention to the rules of the good writing, most texts can be improved.

Obviously, it is not the texts that should pay attention to the rules, but the implied actor — the writer.

Furthermore, constructions with 'based on,' 'following' and 'using' are often used incorrectly and may consequently be seen as dangling. Rogers states that such constructions should be avoided whenever possible (2007:61).

However, not all researchers and grammarians share the above views on the grammatical severity of dangling participles. Some of the most prominent advocates for a somewhat different interpretation of the linguistic phenomenon include Swan, who argues that "normally the subject of an adverbial participle clause is the same as the subject of the main clause in a sentence" (2009:411).

A similar view is offered by Bache and Davidsen-Nielsen, who substantiate Swan's interpretation of dangling participles. They explain that "in non-finite or verbless adverbial clauses without an overt subject, the 'understood' subject form normally has the same reference as the subject form of the superordinate clause" (Bache and Davidsen-Nielsen 1997:267).

Greenbaum and Quirk share the same view. They argue that "when a subject is not present in a non-finite or verbless clause, the normal attachment rule for identifying the subject is that it *is assumed to be identical* in reference to the subject of the superordinate clause" (see Greenbaum and Quirk 1990:327) (my underlining). In other words, the interpretation of the subject is based on the attachment rule and on a personal assumption by the reader. This is no doubt a very useful grammatical observation, but from a safety point of view, such "personal assumption by the reader" is not acceptable. Safety here refers to patient safety and the prevention of medication errors that adversely affect patient care outcomes.

Rubens also discusses and defines a dangling participl*e as* "a modifier whose connection to the sentence is simplified or intended but not actually made explicit is said to dangle" (2001:73) and by Lynch, who argues that "a present participle is a verb ending in *-ing*, and is called dangling when the subject of the *-ing* verb and the subject of the sentence do not agree." Lynch argues that one way to test whether a participle is dangling "is to put the phrase with the participle right after the subject of the sentence" (2011). Finally, Borg (2003:300-301) and LePan (2000:15) discuss dangling participles.

For the purpose of this article, the definition proposed by Rogers (2007:59) will be used because the scope of this definition fits well with the problem under scrutiny in this article.

Dangling gerunds:
According to Rogers (2007:62), gerunds may also be dangling. Rogers argues that "like dangling participles, dangling gerunds imply an actor without specifying the person or thing." The example offered by Rogers reads as follows:

Example 4: After terminating drug treatment, behavioural therapy is recommended.

The gerund "terminating" is dangling, or implying an actor, who is assumed to stop the therapy.

Based on these theoretical considerations on danglers, it might be relevant to discuss the concept of grammaticality. Lyons argues that "grammaticality is nothing more than acceptability to the extent that this can be brought within the scope of a particular set of rules" (see Lyons 1968:152) The degree of acceptability, that is, whether native speakers or non-native speakers see specific types of 'errors' as more acceptable than others is also relevant for this discussion. The impact of Global English and the many varieties of English on both grammaticality and acceptability no doubt play a role here. Grammaticality and acceptability are also affected by the fact that the translation profession is becoming increasingly international, where translators with different cultural backgrounds and educations deliver translations to sometimes unknown customers, and the extensive outsourcing of translation services where the lowest price quotation is the most important factor also affects grammaticality (see also Pym et al. 2012) for an interesting account of the status of the translation profession in the European Union.

Grammatically, a dangling participle is incorrect in Standard English. However, based on the different views discussed above, and depending on the context, audience and situation, a dangling participle may in fact be seen as acceptable or merely as a regional variety of the English language (Dürmüller 1983:34).

A discussion of the relationship between grammaticality on one hand and acceptability on the other hand may be shown by means of Figure 1 below. The left side of the continuum displays the grammaticality of an utterance as defined by Lyons (1968). This inherently signifies it is deemed acceptable by most people. The right side displays the ungrammaticality of an utterance, meaning that "it cannot be brought within the scope of a particular set of rules" (Lyons 1968:152).

The question is: when does an utterance become unacceptable? The point of intersection in Figure 1 can be seen as the point of acceptability. Grammaticality obviously influences the degree of acceptability, even though an ungrammatical utterance may sometimes be deemed acceptable by some readers.

For the purpose of this discussion, the point of acceptability is placed approximately one third from the point of ungrammaticality. This location may be challenged of course, but for the purpose of this discussion, Figure 1 only illustrates the fact that an ungrammatical utterance (in this case a dangling participle) may be seen as acceptable by some, for instance Swan (2009:411), Bache and Davidsen-Nielsen (1997:267) or Greenbaum and

Quirk (1990:327), as long as the context of the utterance is included in the interpretation of the utterance.

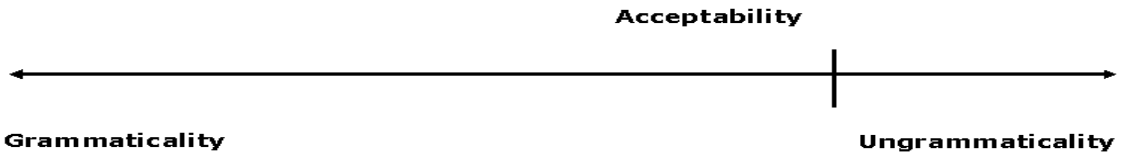

Figure 1. Grammaticality and acceptability (Simonsen 2014)

The concept of grammaticality versus acceptability is fundamental for this discussion and in deciding whether or not a dangler in PILs is seen as "ludicrous" (Matthews and Matthews 2008:146). The degree of acceptability is undoubtedly lower in some text genres. The degree of acceptability in PILs is thus lower than the degree of acceptability in technical manuals because PILs are written in such a way that none or very little "personal assumption by the reader" is made.

The high standards in the PILs analysed are perhaps the direct result of Articles 59(3), 61(1) and 62(2) of DIRECTIVE 2001/83/EC, which stipulates that (author's emphasis):

> Article 59(3):
> The package leaflet *shall reflect the results of consultations with target patient groups* to ensure that it is *legible, clear and easy to use*.
>
> Article 61(1):
> The results of *assessments carried out in cooperation with target patient groups* shall also be provided to the competent authority.
>
> Article 63(2):
> The package leaflet must be *written and designed to be clear and understandable, enabling the user to act appropriately*.
>
> Article 63(2):
> The *package leaflet must be written in clear and understandable terms* for the users and be clearly legible in the official language or languages of the Member State where the medicinal product is placed on the market.

Yet technical manuals and instructions are also regulated. DIRECTIVE 2006/42/EC, which regulates machinery in the EU, contains similar regulations on the drafting and translation of technical manuals and instructions, albeit not as comprehensive as DIRECTIVE 2001/83/EC. Especially, Articles 1.7.4 and 1.7.4.1 are relevant for this discussion (author's emphasis):

> Article 1.7.4:
> The instructions accompanying the machinery must be either 'Original instructions' or a 'Translation of the original instructions', in which case *the translation* must be accompanied by the original instructions.

> Article 1.7.4.1.(b):
> Where no 'Original instructions' exist in the official language(s) of the country where the machinery is to be used, *a translation into that/those language(s) must be provided* by the manufacturer or his authorized representative or by the person bringing the machinery into the language area in question. The translations must bear the words 'Translation of the original instructions'."
>
> Article 1.7.4.1.(d):
> In the case of machinery *intended for use by non-professional operators, the wording and layout of the instructions for use must take into account the level of general education and acumen that can reasonably be expected from such operators.*

There is thus every reason to believe that both text types contain few danglers.

In conclusion, what might be considered grammatically correct is often not acceptable from a readability point of view because very complex sentence constructions necessitating personal assumptions are difficult to understand and may be misunderstood. In other words, it seems that the Skopos (Vermeer 1996:184) of the text types in question has not always been taken in consideration when writing PILs or technical manuals. One thing is grammaticality and acceptability, another thing is readability and patient safety.

Readability is the ease with which a text can be read and understood, and is often measured by means of a number of readability indicators. Some of the most common indicators are Flesch Kincaid Reading Ease, Flesch Kincaid Grade Level, Gunning Fog Score, Coleman Liau Index and the Automated Readability Index (Simpson 2012). Most of the automated readability test tools are based on reading level algorithms, which are used to determine how readable a text is.

Readability indicators no doubt have a number of limitations (see DuBay 2004: 2-3). According to DuBay readability formulas do not sufficiently take into consideration aspects such as content, organisation and coherence of a text (DuBay 2004: 32). However, even though readability indicators are only indicative, DuBay (2004:36) argues that despite the fact that the readability formulas are based on surface features such as sentence length, word length etc., these indicators have proved to be the best predictors of text difficulty.

The level indicators mentioned above will not necessarily show the same reading grade level for the same text. Some grade level indicators predict scores two grades higher than other grade level indicators (DuBay 2004: 47). This difference is because the different indicators use different variables (DuBay 2004: 56). In the Coleman Liau Index and the Automated Readability Index Index characters, words and sentences are counted, whereas in the other indices mentioned above, syllables and complex words are counted. So when using the different readability formulas, it is

important to remember that they merely "provide probability statements or, rather, rough estimates of text difficulty" (DuBay 2004: 56). That means that when analysing a text by means of the Flesch Kincaid Reading ease, Flesch Kincaid Grade Level, Gunning Fog Score, Coleman Liau Index and Automated Readability Index, the result of the analysis is merely indicative. Furthermore, all six readability formulas focus on sentence length and word length. They do not take into account text coherence or grammatical errors. This in fact means that it is possible to categorise an incoherent and grammatically challenged text as easy to read. Furthermore, most readability tests based on algorithms tend to reward short sentences which contain a few simple words, which to some extent is typical of technical manuals for example. For a detailed and critical discussion and review of the principles of readability and readability formulas, see DuBay (2004).

5. Results and Discussion

The empirical basis of this article consists of two corpora, PILcorp and TECHcorp. PILcorp contains 123 PILs and TECHcorp contains 59 technical manuals.

The two corpora were analysed by means of MonoConc Pro, (see http://athel.com/index.php) which is a professional concordance programme that allows users to load texts, compile a corpus and search for key words in context in the corpus. Concordance programmes are typically used to perform sophisticated and powerful text analyses on the basis of regular expression searches and tag searches etc. Searches for the following occurrences were carried out in both corpora (number of hits in parenthesis):

PILcorp	**TECHcorp**
'*ing' (6,015 hits)	'*ing' (40,250 hits)
'by + *ing' (151 hits)	'by + *ing' (1142 hits)
'by + *ed' (102 hits)	'by + *ed' (174 hits)
'when + *ing' (131 hits)	'when + *ing' (2801 hits)
'when + *ed' (100 hits)	'when + *ed' (915 hits)
'based on' (10 hits)	'based on' (141 hits)
'Following' (5 hits)	'Following' (17 hits)
'Considering' (1 hit)	'Considering' (1 hit)
'using' (377 hits)	'using' (2853 hits)

The last search for occurrences of 'using' was made to test the contentions made by Rogers (2007:61).

The table above lists the total amount of occurrences in the two corpora. Prior to the content analysis, the most frequent nouns, adjectives and prepositions with '*ing' were discarded from the concordance lists, and the remaining occurrences were screened and analysed with a view to decide whether the hit in question could be perceived as a dangler. Potential candidates were exported to a separate document and analysed in detail

before inclusion. Obviously, the two corpora are not completely comparable for a number of reasons, but it is nevertheless argued that dangling constructions seem to occur more frequently in technical manuals than in PILs.

5.1. Dangling constructions in PILs

A closer look at the PILcorp will now be taken. Not surprisingly, and as hypothesised, this corpus contained very few real danglers. However, the corpus contained a few examples of other types of unclear constructions, which at least from a readability point of view, may be seen as very implied constructions as the readability scores in Figure 2 also indicate:

Example 5:

Determine the volume of the solution required: *based on* (author's emphasis) a loading dose of 4 mg trastuzumab/kg body weight, or a subsequent weekly dose of 2 mg trastuzumab/kg body weight: Volume (ml) = Body weight (kg) x dose (4 mg/kg for loading or 2 mg/kg for maintenance) 21 (mg/ml, concentration of reconstituted solution).

This construction occurs twice in the corpus and is unclear from both a grammatical and a safety point of view. The construction assumes an implied subject and may be said to be dangling. The unclear construction also yields rather low readability scores as shown in Figure 2.

Figure 2. Readability Scores of Example 5.

Example 6:

Based on (author's emphasis) the rare occurrence of haemophilia A in women, experience regarding the use of Helixate NexGen 1000 IU during pregnancy and breast-feeding is not available.

Example 6 is not dangling, but it is rather complex. The past participle form of "based on" actually means "as haemophilia A in women rarely occurs," and from a grammatical point of view it is not incorrect. However, from a readability and safety point of view, a sentence like example 6 is not optimal, because it demands the reader to presuppose too much

information. In fact, Figure 3 also to some extent substantiates that argument.

Figure 3. Readability scores of example 6

Example 7:

Following (author's emphasis) orthopaedic procedures: 100-150 mg daily in divided doses. Elderly: Your doctor may prescribe you a different dose and monitor your progress more closely.

Here "following" is a preposition. However, in this complex and fragment-like example with two colons the reader's personal assumption is a prerequisite for successful text reception. The combination of the preposition "following" with a fragment "100-150 mg daily in divided doses" is not satisfactory from a safety point of view, because it is complex and difficult to understand for patients. The readability scores shown in Figure 4 do not, however, support that argument. One explanation is that this example consists of fragment-like utterances and that the sentences are relatively short.

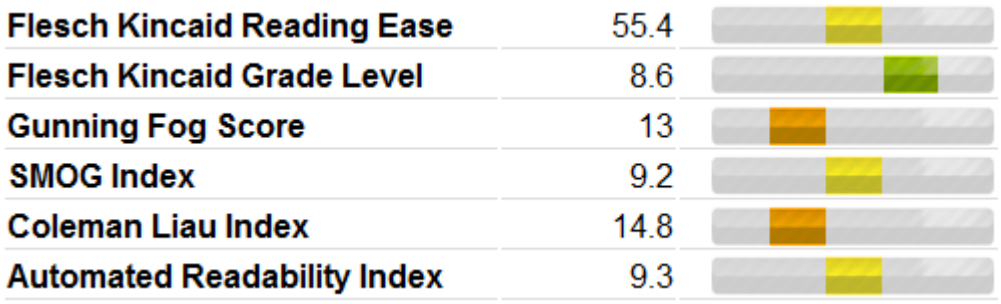

Figure 4: Readability Scores of Example 7

Another type of occurrence found in the corpus contains the present participle or gerund of the verb "use." Thirteen different occurrences of "using" were found in the corpus. These occurrences are not danglers per se, but are relatively complex in varying degrees as the present participle or gerund presupposes an implied conditional if-phrase "if you use" (see also Rogers 2007:61).

Example 8:

Using (author's emphasis) 999999a sterile syringe, slowly inject 7.2 ml of sterile water for injections in the vial containing the lyophilised Herceptin, directing the stream into the lyophilised cake.

This sentence presupposes a considerable amount of personal assumption by the reader. The present participle "using" in the beginning of the sentence means "by means of" or a similar construction, and the implicit agent "you" is implicit. The sentence is further complicated by the fact that it also contains an imperative "inject," which is also based on an implicit "you." A second present participle "containing," whose implicit meaning is a reduced relative clause, and finally a third present participle "directing," which comes very close to a dangling participle because the logical subject of "directing" is implicit and very unclear. From a readability point of view, the sentence in example 8 may easily be misunderstood by patients and health care professionals.

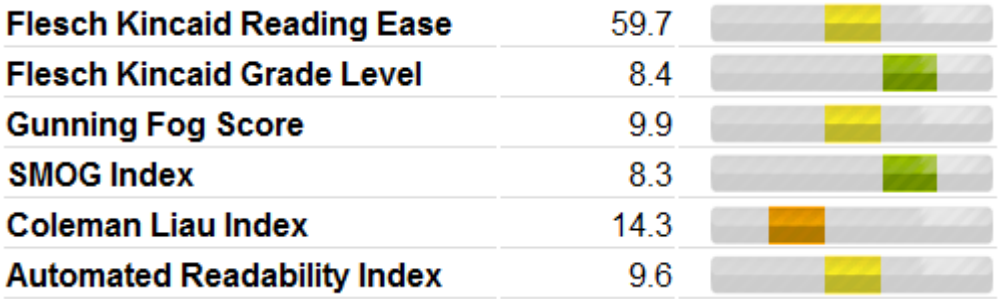

Figure 5. Readability scores of example 8

However, the readability scores produced do not seem to support that contention. Again this may have to do with the fact that this sentence is relatively short and that the words are mostly monosyllabic.

The next sentence found in the corpus is in fact a dangling participle, and the readability scores produced by the Readability Test Tool (see Simpson 2012) substantiate that argument. All scores are red, which indicates that the sentence is difficult to read and to understand.

Example 9:

Considering (author's emphasis) that saquinavir has the weakest CYP3A4 inhibitory potency among all protease inhibitors, midazolam should be systematically reduced during prolonged infusion when administered in combination with protease inhibitors other than saquinavir.

Flesch Kincaid Reading Ease	-18.4
Flesch Kincaid Grade Level	23.5
Gunning Fog Score	26.6
SMOG Index	19.9
Coleman Liau Index	25.2
Automated Readability Index	26.9

Figure 6: Readability Scores of Example 9

The word "considering," however, tends to be almost idiomatic, and in this sentence it is part of a multi-word sequence. The corpus contained only one occurrence of "considering that" and even though it may be described as a dangling participle from at grammatical point of view, it is acceptable because it is almost seen as an idiomatic expression with a hidden 'if you consider' phrase.

5.2. Dangling constructions in technical manuals

As hypothesised, TECHcorp contained a number of danglers and a very high amount of quite unclear constructions.

For the purpose of this article, the following six examples are used to prove the hypothesis and substantiate the argument that TECHcorp in fact contains a number of dangling constructions and other types of unclear constructions.

TECHcorp contained a relatively high number of occurrences with 'when' and 'using' (745). Obviously not all of the 745 occurrences are dangling participles, but the following three examples are all either dangling participles or very unclear constructions from both a grammatical and readability point of view.

Example 10:

When using (author's emphasis) R22, it is necessary to choose adequate materials.

Example 10 is a dangling participle. The construction "When using R22" does not refer to a logical subject, for example "you". Another example of a dangling participle, or at least a very implied and quite unclear construction, is example 11.

Example 11:

Displays the current date, *using* (author's emphasis) the GP's internal calendar.

Grammatically, this sentence is very unclear. The sentence rests on an implied "When you" or "If you" phrase (see Rogers 2007: 61) and must

mean "If you use the GP's internal calendar, it displays the current date" or something along those lines, but as it was found in the corpus, example 11 is very unclear because of the dangling gerund.

Example 12 is also an unclear sentence construction and should be rewritten.

Example 12:

When (author's emphasis), the Device Monitor together with regular screen tags, they must be added to the screen's total tag count.

The present participle form of "use" combined with the preposition "when" presuppose an implied "you" and even though it is not grammatically incorrect, it is unclear and may easily be misunderstood by layman readers.

Example 13 below occurs eight times in TECHcorp and is a dangling participle.

Example 13

The amount of time until Timeout *when executing* (author's emphasis) the command request to the SQL server.

Example 13 not only presupposes an implied 'you,' but also a number indicating the "amount of time until Timeout." A logical subject is missing and because of the fragment-like construction, the utterance may easily be misunderstood by readers.

Example 14 is also a dangling participle.

Example 14:

When installing (author's emphasis)pipes shorter than 3m, sound of the outdoor unit will be transferred to the indoor unit, which will cause operating sound or some abnormal sound.

Again an implied "you" is presupposed and a logical subject is missing. The present participle "installing" is dangling and lacks a logical subject – especially because the following clause "sound of the outdoor unit is subject to the verbal phrase "will be transferred." In fact, TECHcorp contains a number of sentences like example 14, and all are very unclear for the layman reader.

Finally, the corpus contains a number of occurrences with 'after + *ing.' Example 15 below is one out of six examples in TECHcorp.

Example 15:

After placing this text on the Base screen, *saving* the screen, and then *sending* (author's emphasis) the data (i.e. the Base screen and the Mark file) to the GP, instead of the 'e' character, the Mark screen's 'III' will appear.

Example 15 contains three present participles: "placing," "saving" and "sending." From a grammatical and readability point of view, this example is clearly unsatisfactory. In fact, the sentence lacks a number of logical subjects, and this means that the three present participles are dangling.

The purpose of the corpus analysis and the theoretical outline above was to discuss danglers and other types of unclear constructions in two different text types: PILs and technical manuals.

A number of examples from the two corpora were selected and discussed, and as hypothesised and expected, both corpora contained dangling participles. There were no outright "*ludicrous"* dangling participles as Matthews and Matthews (2008:146) put it, but some of the danglers identified in TECHcorp came close.

From a grammatical point of view, the occurrences identified do not constitute a major problem, especially, when the context of the occurrence is taken into account. However, from a readability point of view, the occurrences are unfortunate in both text types because patients or users of technical devices should not have to make personal assumptions or assessments.

6. Conclusion

The purpose of this article was to discuss danglers and other ambiguous sentence constructions in PILs and technical manuals. The hypothesis was that, in comparison with technical manuals, PILs would contain very few dangling constructions, primarily because of Council Directive 2001/83/EC and Council Directive 2004/27 EC, which stipulate that PILs should be "written in clear and understandable terms."

The hypothesis was in fact proved. The analysis and the discussion showed that dangling participles are not very frequent in PILs, but more common in technical manuals. Dangling participles in PILs and technical manuals presuppose too much personal assumption by the reader and in both text types they may constitute a readability issue and may lead to medication errors, low medical compliance and potentially life-threatening situations when operating technical devices.

Consequently, in an increasingly international world where texts are often translated by the lowest bidder and sometimes translated by translators with English as their second or even third language, dangling participles are

sometimes an issue for both translators, who translate specialised texts, and for readers, who might have to presuppose too much information.

Bibliography

- **Askehave, Inger and Zethsen, Karen Korning** (2000). The Patient Package Insert of the Future: Report for the Danish Ministry of Health. Århus, Denmark: Aarhus School of Business, 2000.
- **Bache, Carl and Davidsen-Nielsen, Niels** (1997). *Mastering English – An Advanced Grammar for Non-native and Native Speakers.* Berlin, New York: Mouton de Gruyter.
- **Borg, Torben** (2003). *Engelsk Grammatik – med komparative aspekter.* Aalborg: Institut for Sprog og Internationale Kulturstudier.
- **DuBay, William, H.** (2004). *The Principles of Readability*. Impact Information, California.
- **Dürmüller, Urs** (1983). *Towards a Varieties Grammar of English.* Berne: Peter Lang Publishers Inc.
- **Ehrlich, Eugene** (2000). *Schaum's Outline of Theory and Problems of English Grammar (Schaum's outline series).* 3rd edn. New York: McGraw-Hill.
- **Greenbaum, Sidney and Quirk, Randolph** (1990). *A Student's Grammar of the English Language.* Essex: Longman.
- **Kirkman, John** (1992). *Good style – Writing for science and technology*. London, New York: SponPress.
- **LePan, Don** (2000). *The Broadview Book of Common Errors in English – A Guide to Righting Wrongs.* 4th edn. Ontario: Broadview Press Ltd.
- **Lynch, Jack** (2011). *Guide to Grammar and Style*, online at http://andromeda.rutgers.edu/~jlynch/Writing/index.html (consulted 1 August, 2012).
- **Lyons, John** (1968): *Introduction to Theoretical Linguistics*. London: Cambridge University Press.
- **Matthews, Janice R. and Matthews, Robert W.** (2008). *Successful Scientific Writing.* 3rd ed. Cambridge: Cambridge University Press.
- **Pym, Anthony, Grin, Francois, Sfreddo, Claudio and Chan, L. J. Andy** (2012). *The status of the translation profession in the European Union,* online at http://ec.europa.eu/dgs/translation/publications/studies/translation_profession_en.pdf (consulted 10.11.2013)
- **Rogers, Silvia M.** (2007). *Mastering Scientific and Medical Writing. A Self-help Guide.* Berlin-Heidelberg: Springer Verlag.
- **Rubens, Philip** (2001). *Science and Technical Writing – A Manual of Style*, New York: Routledge.

- **Stilman, Anne** (2004). *Grammatically Correct – The Writer's Essential Guide to punctuation, spelling, style, usage and grammar.* Cincinnati, Ohio: Writer's Digest Books.

- **Swan, Michael** (2009). *Practical English Usage.* 3rd ed. Oxford: Oxford University Press.

- **Vermeer, Hans** (1996). *A Skopos Theory of Translation (Some arguments for and against*). Heidelberg: TEXTconTEXT-Verlag.

Webpages

- **Athelstan**
http://athel.com/index.php (consulted 31.01.2013)

- **DIRECTIVE 2001/83/EC**
http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2001:311:0067:0128:EN:PDF (consulted 01.08.2012).

- **DIRECTIVE 2004/27/EC**
http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:136:0034:0057:EN:PDF (consulted 01.08.2012).

- **DIRECTIVE 2006/42/EC**
http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:157:0024:0086:en:PDF (consulted 01.08.2012).

- **Simpson, David** (2012). The Readability Test Tool
http://www.read-able.com/ (consulted 01.08.2012).

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