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Contrastive strategies for intensification in English, Dutch, and French

A case study from the translation of intensified English compound adjectives

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Academic year: 2021-2022

Master Thesis in Linguistics (LING2 MS/LM)

Specialization: Linguistics and its Applications for a Multilingual Society

“If you torture the data long enough, it will confess to anything."

- Ronald Coase

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1. INTRODUCTION

In a comparative study of causative constructions in English and French, Gilquin (2008, p. 32) concludes:

> "[E]ach language has a wide range of alternatives available to express a similar meaning, more in accordance with its distinctive characteristics".

This statement could equally well have been written about the linguistic topic of this thesis, namely intensification, a form of evaluative language that indicates the high degree of a quality on a scale. Here too, a "similar meaning" (a semantically uniform function) can be expressed using a wide range of forms. For instance, to express the "similar meaning" of 'very clear', English speakers have available, at least in some contexts: *very clear, extra clear, abundantly clear, crystal-clear, clear as day, clear as a bell, loud and clear, clear and present, most clear, the clearest possible, clear-cut, palpable, evident, with utmost clarity*, and many others besides. In addition, different languages favor particular forms "in accordance with their distinctive characteristics".

The literature on intensification has tended to focus only on morphological means and has until recently included almost no cross-linguistic studies. Encouraged by calls for more systematic cross-linguistic comparisons, especially on the level of language use (Napoli & Ravetto, 2017; Van der Wouden & Foolen, 2017, p. 98), I have undertaken a corpus-driven exploration of intensification in English, Dutch, and French, in which I explicitly include all formal means and address the role of figurative language. It consists of two complementary components: a study of Dutch and French translations of English compound adjectives and a contrastive study of intensification strategies in all three languages.

The three languages selected for study have well-known typological differences, and these are likely to be reflected in their expression of intensification as well as in more general aspects of translation. They are also chosen in part for their social and cultural relevance in Belgium, particularly in relation to language acquisition and translation (cf. König, 2012).

As illustrated above, English compound adjectives represent one of the formal options to express intensification. They were selected as topic for the translation study due to the combined morphosyntactic and semantic challenges they pose. As a preliminary step, I explore their wide structural diversity and identify suitable study objects in the formally cohesive class of compound adjectives constructed as [Noun+Adj]. This class includes items where the noun

metaphorically intensifies the quality of the adjective, such as *crystal-clear* (mentioned above), *razor-sharp,* and *rock-solid*.

The translation study is based on an earlier pilot project (Prinzie et al., subm.). The present work triples the sampling, adds the Dutch translations, and explores additional factors and interactions. Specifically, translation solutions from three parallel corpora are described and analyzed to learn how Dutch and French translators express the intensification function and whether they do so using figurative language. This is done by coding separate morphosyntactic and conceptual-semantic translation procedures.[1] Furthermore, I analyze the little-investigated aspect of translation variation, i.e. the number of different solutions observed for each item.

As it happens, the [Noun+Adj] class of adjectives also contains three other semantic subtypes, without figurative or intensifying elements (e.g. *olive-green*, *nation-wide,* and *cost-effective*; described in more detail below), and its members occur at a wide range of frequencies. This is seen as an opportunity to explore the potential effects of the presence or absence of a figurative-intensifying element and of the individual items' frequency of use. I also examine the effect that syntactic position and register may have on translation choices.

The second component consists of a contrastive exploration of intensification strategies in the three languages. Starting from six simple English adjectives and their main equivalents in Dutch and French, I examine their context in general language reference corpora to identify the range of morphological and syntactic constructions used for intensification. I also consider other strategies that are not directly based on these adjectives but were uncovered in the preceding study. The relative use of different strategies is then ranked, and preferences are compared between the languages, also considering whether they involve figurative language.

The contrastive findings are instructive in their own right and are discussed in view of the existing literature. In addition, they provide an opportunity to reinterpret the translation results. In particular, comparing the frequencies of use in translated and non-translated language sheds light on the complex interplay of influences on translators.

[1] The term 'procedure' is used in the English translation of Vinay & Darbelnet (1995) and by Delisle et al. (1999, p. 191). Other authors use 'technique' (Molina & Hurtado Albir, 2002) or 'solution type' (Pym & Torres-Simón, 2015; Pym, 2016). The term 'strategy' is also sometimes used; however, 'strategy' should be reserved for a translator's global approach to the text, while 'procedure' applies to local decisions regarding a particular translation unit (Delisle et al., 1999; Bardaji, 2009). See also Sun's (2013) attempt to clarify this terminology.

The results of this work are expected to have practical as well as theoretical relevance. Differences in the relative use and productivity of intensification strategies in different languages likely poses difficulties for both language learners and translators. The densely packed content of English compounds and the presence of figurative and idiomatic constructions poses additional formal and semantic challenges. The diversity of constructions documented here, both in translation and in general use, can thus be useful in pedagogical materials for language teaching and translator training.

The presentation of the research is organized as follows.

Section 2 provides an overview of the literature on intensification and an introduction to English compound adjectives, the study objects for translation. I then discuss the two approaches of translation and contrastive research, with a focus on the factors that affect translation, on my approach to contrastive comparison, and on the combination and interaction of these two methods. Finally, I list the research questions that guide my explorations and analysis.

Section 3 presents the methodologies used for extraction, identification, and annotation of target items in both parallel and reference corpora. I particularly address difficulties encountered in obtaining reliable frequency data, and I propose a two-dimensional taxonomy of translation procedures tailored to capture morphosyntactic and conceptual-semantic features.

Section 4 presents and discusses the results of the two studies. Qualitative descriptions are followed by quantitative characterizations and statistical analyses of different factors. Finally, the translation results are reinterpreted in light of contrastive findings.

Section 5 summarizes the results and draws broader conclusions, notably regarding the diversity of intensifying forms. In addition, I mention some practical applications, discuss the limitations of this research, and suggest avenues for future research.

2. OVERVIEW OF THE LITERATURE

2.1. Intensification

Evaluative language assigns a value that deviates from a standard or default value (Grandi, 2017a, p. 10). The implied judgments range from relatively objective descriptions to expressions of attitude or emotion (Van der Wouden & Foolen, 2017). This function of language has been studied from the perspective of social interaction; a review by Pounds (2015) highlights influential recent models by Lemke (on evaluation and attitudinal meaning) and Martin and White (on the notion of appraisal). Among its linguistic manifestations, Grandi (2017a) distinguishes intensification, which indicates the high degree of a quality on a scale, from augmentation, which is more quantitative. Grading and intensifying are described as primary cognitive operations by Malloggi (2017, p. 251), who also emphasizes their important expressive function in interaction.

Intensification can be expressed with a wide range of formal means or 'strategies'. First, intensification may be applied to different bases, including gradable adjectives (e.g. *very high, sky-high, clear as a bell*), nouns (*hyperinflation*), verbs (*overwork*), and adverbs (*exceptionally well*; cf. Grandi, 2017a). Second, as these examples demonstrate, strategies may be morphological (compounding or prefixation) or syntactic (adverbial modification, simile constructions). Third, strategies may or may not involve the use of figurative language.

In spite of the diversity of formal means used for intensification, most studies reflect a narrow focus on morphology. Grandi (2017a) describes most work on evaluatives to date as being excessively focused on inflection and derivation (which may be due in part to early work in Italian), and he aims to broaden the scope to include compounds and reduplication. Still, his review does not extend beyond morphological realizations, even though he acknowledges that evaluative constructions do "cross the boundaries of morphology" (Grandi, 2017a, p. 3; see also Grandi & Körtvélyessy, 2015). Rainer's (2015) overview of intensification delimits it from other functions and qualifies the notion of gradability, but the perspective is again explicitly morphological, with an additional restriction to adjective intensification. Other studies by Malloggi (2017) and Van der Wouden & Foolen (2017), discussed below, also reflect this restriction.

A second limitation of the literature concerns its focus on only a few languages and, until recently, the near-absence of cross-linguistic comparisons; this is in spite of a recognition that languages often differ significantly in their preferred ways to express intensification (Rainer, 2015; cf. Ito and Tagliamonte, 2003). In Napoli & Ravetto's important contribution to the field, *Exploring intensification* (2017), the authors acknowledge this gap and propose an agenda for more systematic contrastive research: to identify which means of intensification are widespread across languages and what are the language-specific preferences. One of the contributors to their volume provides a cross-linguistic study of morphological forms of adjective intensification in Italian and German (Malloggi, 2017). This work emphasizes that despite fundamental differences, Germanic and Romance languages also share some intensification strategies. Another study demonstrates the complexities of augmentatives in Italian and German by combining contrastive and translation approaches, as I do here (Costa, 2017). However, both of these studies rely on dictionary equivalents, which do not always correlate well with actual usage.

In another recent study, Van der Wouden & Foolen (2017) contribute a comparative account of German, Dutch and German adjective intensification. These authors do use corpus evidence, although it remains a rather small-scale exploration (and leaves out English data due to problems with different spelling conventions; p. 87). Van der Wouden & Foolen (2017) confirm that these three languages use the same forms but differ in their preferences; these generally follow the expected 'Germanic Sandwich' cline (Van Haeringen, 1956) with Dutch in an intermediate position between more synthetic German and more analytic English forms (which are here identified with morphological and syntactic structures, respectively). The authors also examine two means of intensification that have received less attention in these languages: the superlative and constructions with *possible*.

One of the most significant contributions to comparative research on intensification is made in several studies on the second language acquisition (SLA) of Dutch and English intensifying constructions by French-speaking students (Hendrikx et al., 2017; Hendrikx et al., 2019; Hendrikx, 2019). One component of these studies is a corpus-based contrastive study of intensification means in English, Dutch, and French, the same languages I examine. The authors extrapolate from the 'Germanic Sandwich' mentioned above to propose a typological cline of German – Dutch – English – French, from synthetic to analytic, and thus expect more use of morphological constructions in Dutch and more syntactic constructions in English and French

(cf. Lamiroy, 2011). Their findings for intensification show that the same constructions exist in all three languages (except for intensifying compounds, which are absent in French); language-specific preferences partly confirm the expected cline, but also indicate that adverbial modification is the dominant strategy in all three languages.

Unlike previous research, Hendrikx et al. aim to include the entire range of constructions available for adjective intensification. In addition, the authors recognize that these constructions occur at the interface between lexis and grammar (Hendrikx et al., 2019, p. 64), and consequently adopt a construction grammar approach. On the other hand, their focus remains on adjective intensification only. For the present study, I will argue that the scope for comparison can be significantly wider and may include non-adjective-based strategies (section 2.3.2.2.).

The role and prevalence of figurative language in intensification has received scant attention in the literature to date. My study objects include compound adjectives containing intensifying metaphors, and these provide a starting point to explore other ways in which figurative language is used to intensify, as well as language-specific preferences for its use and for images from similar or different domains (see also section 2.3.1.2.).

2.2. English compound adjectives

The English compound adjectives selected for this study have three features that are of theoretical and practical interest for both contrastive comparison and for their treatment in translation: they are a compact and efficient form of information packaging, they represent one of the options for intensification, and they do so using metaphors. The morphosyntactic and semantic challenges that these features may pose for translation are discussed below (section 2.3.1.2.). In this section, I introduce the diversity of compound adjectives in English, present the study group, and consider corresponding structures in Dutch and French.

2.2.1. The diversity of English compound adjectives

English compound adjectives are very diverse, both in terms of word-class composition and of semantic relationships between their constituents. A preliminary step in the present study consists of identifying a suitable group of study objects, and a classification is thus needed to organize the diversity and select a formally cohesive class.

Compounds are defined as lexemes that consist of two independent constituents but behave as a single unit of meaning (Bauer, 1983). The English morphology literature has tended to concentrate research on noun compounds, placing less emphasis on verb and adjective compounds. Still, a number of classifications that address adjectives are available (among others, Bauer, 1983; Bisetto & Scalise, 2005; Pastor-Gómez, 2011; Bauer et al., 2013), and also in reference grammars (Quirk et al. 1985; Huddleston & Pullum, 2002). These differ on whether they are organized primarily by word-class composition or on semantic grounds; I follow the former approach.

Bauer (1983) offers one influential classification of compounds; the section on compound adjectives is itself much indebted to earlier work by Marchand (1969) and Adams (1973). He concedes that many patterns are subject to "some dispute" (Bauer, 1983, p. 209); apparently, the delimitation of what constitutes a compound adjective remains controversial, and positions vary on whether to include or exclude certain constructions (Bauer & Renouf, 2001; Huddleston & Pullum, 2002; Pierini, 2015; Bauer, 2019).

For comparison, I also consult a more recent version in Pierini (2015); given some important differences between the two, I adopt a combined classification to guide my corpus exploration (Table 1). The classes are organized by the word class of the right constituent, which usually functions as the morphological and semantic head.

Here follow a few comments regarding particular decisions. First, I follow Pierini (2015) in distinguishing between participles (V-ing and PastPt) and other adjectives; Bauer (1983) does not make this distinction. Second, Bauer (1983) includes several classes with a noun head. Such compounds typically occur in attributive position and function as premodifiers to nouns. While they occur in a prototypically adjectival position, they are not unanimously considered (compound) adjectives (see e.g. Bauer et al., 2013; Pierini, 2015). Bauer (1983) argues for their inclusion in that many have acquired different connotations from their non-attributive usage (e.g. *back-street abortionist*). Huddleston & Pullum admit that this area blurs the line between

syntax and morphology, but conclude that "it may be best to treat them as compound adjectives" (2002, p. 1660; cf. Bauer & Renouf, 2001, p. 106).

Table 1. Summary of a combined word class classifications for compound adjectives.

Class	**Bauer (1983)**	**Pierini (2015)**	**Examples**
Adj + Adj	Adj + Adj	Adj + Adj	*bittersweet, double-helical*
Adj + V-*ing*		Adj + V-*ing*	*good-looking*
Adj + PastPt		Adj + PastPt	*clean-shaven*
Noun + Adj	Noun + Adj	Noun + Adj	*crystal-clear, week-long, host-specific*
Noun + V-*ing*		Noun + V-*ing*	*animal-loving*
Noun + PastPt		Noun + PastPt	*church-owned, home-baked*
Adv + Adj	Adv + Adj	Adv + Adj	*fiercely-competitive*
Adv + V-*ing*		Adv + V-*ing*	*never-ending*
Adv + PastPt		Adv + PastPt	*over-qualified, well-known*
Verb + Adj	Verb + Adj	/	*failsafe*
Noun + Noun	Noun + Noun	/	*back-street (abortionist), coffee-table (book)*
Adj + Noun	Adj + Noun	/	*solid-state (physics)*
V-*ing* + Adj	/	/	*stinking rich*
Dephrasal	Phrasal	Dephrasal	*pay-as-you-go (plan)*
	Verb + Noun	/	*turn-key (contract)*
	Verb + Verb	/	*make-believe, pass-fail*
	Adj (Adv) + Verb	/	*high-rise (tower), quick-change (artist)*
	Particle + Noun	/	*before-tax (profits), in-depth (study)*
	Verb + Particle	/	*tow-away (zone)*
	/	Numeral + N + Adj	*ten-year-old (boy)*
	/	/	*two-year (contract)*
	/	/	*two-dimensional*
Derivational	/	[Adj + Noun] + *ed*	*grey-haired*
	/	[Noun + Noun] + *ed*	*pig-headed*

Third, two of Bauer's classes (i.e. [Particle+Noun] and [Verb+Particle]) and Pierini's [Numeral+Noun+Adj] class are here merged to the larger class of dephrasal compound adjectives, i.e. syntactic strings that have been fused into a single lexical base and function as

a premodifier (Huddleston & Pullum, 2002, p. 1646; cf. Bauer et al., 2013, p. 306). Fourth, Bauer (1983) includes in his [Adj+Adj] class such examples as *large-statured* and *open-ended*; these are more accurately identified as derivational compounds, which consist of [Noun+Noun] or [Adj+Noun] combined with the *-ed* derivational suffix (Adams, 1973, p. 99; also known as an 'ornative adjectival *-ed*' in Bauer et al., 2013); Pierini glosses their meaning as "possessing, provided with, characterised by X" (2015, p. 20). Finally, the [V-ing+Adj] class is not mentioned in either classification; I include it here after accidentally uncovering it during contrastive explorations (section 4.2.1.).

Note that some of the 'core' compound adjectives, i.e. those constructed with an adjective or participle head, are increasingly considered to be derivations and not compounds, in that their constituent (e.g. *-free, -based*) is viewed as having become grammaticalized from a lexeme to an affix or affixoid (Bauer, 2005; Bauer et al., 2013; Hendrikx et al., 2017).

As mentioned, other classifications are based on semantics; I present a brief summary here because several terms are used below. A semantic classification of compounds starts from a primary division based on the semantic relationships between the constituents. Bisetto & Scalise (2005; see also Lieber, 2009) distinguish attributive, coordinative and subordinative compounds: in attributive compounds, the left constituent modifies the head (e.g. *dark blue*); in coordinative compounds, the constituents have equal weight (e.g. *blue-green*).; and in subordinative compounds, one constituent acts as an argument of the other (this includes synthetic or deverbal compounds, where the head is derived from a verb, e.g. *animal-loving*). Each class is further subdivided according to whether the compounds are endocentric or exocentric, i.e. whether they do or do not contain a syntactic or semantic head constituent.

2.2.2. The [Noun+Adj] class

Given my interest in intensification and figurative language, I have decided to focus on the class of compound adjectives constructed as [Noun+Adj], which contains many items where the noun metaphorically intensifies the quality of the adjective. However, other items do not have figurative or intensifying elements. In fact, four semantic subtypes can be distinguished depending on the role of the noun (cf. Huddleston & Pullum, 2002, p. 1656; Pierini, 2015, p. 19):

- **figurative-intensifying** (e.g. *crystal-clear, razor-sharp, sky-high*): the noun is a metaphor that intensifies the adjective; in other words, it figuratively indicates a standard of comparison for a high degree of the quality expressed by a gradable adjective. The comparison can be paraphrased syntactically as "(as) [Adj] as (a) [Noun]" (e.g. *as sharp as a razor*). In some cases, the metaphor loses its intellectual motivation through semantic bleaching and functions as a mere intensifier (Marchand, 1969, p. 84; Rainer, 2015, p.1342).
- **color-specifying** (e.g. *ruby-red, bottle-green*): the noun specifies the shade of a color; as in the first group, a comparison is made, but its function is to 'particularize' (Adams, 1973), not to intensify.
- **spatio-temporal** (e.g. *nation-wide, week-long*): the primary role of the noun is not as a standard of comparison but to specify an extent in space or time; the meaning can be paraphrased as "extending as far as (or throughout) a [Noun]". This is a productive pattern, with many arguably grammaticalized adjectives (*-wide, -long, -old*).
- **subordinative**: the noun functions as an argument of the adjective, rather than comparison or specification. The variety of semantic relationships may be expressed by different prepositions in comparable syntactic constructions (e.g. *site-specific ~ specific to a site, water-soluble ~ soluble by/in water, burglar-proof ~* 'providing protection' *against burglars*, *user-friendly ~ friendly towards users*). Pierini (2015) proposes a generic gloss "[Adj] with regard to [Noun]". Some adjectives are quite productive (-safe, -free, -proof).[2]

The distinct semantic nature of these four subtypes provides an opportunity to explore their potential effect on translation choices.

2.2.3. Compounds in Dutch and French

Like other forms of word-formation, compounds remain underrepresented in both contrastive and translation studies (Lefer & Grabar, 2015, p. 203; Paillard, 2011). Still, with regard to noun

[2] The third and fourth subtypes are referred to as 'measure terms' and 'incorporated complement/modifier' by Huddleston & Pullum (2002, p. 1656).

compounds, typological contrasts in synthetic and analytical tendencies have been extensively documented between Germanic and Romance languages (Arnaud & Renner, 2014; see also Van Goethem & Amiot, 2019; Lefer & De Clerck, 2021). In English and Dutch, [Noun+Noun] compounds are frequent, productive, and right-headed. French compounds differ in two important aspects: they are generally left-headed, and their demarcation from syntactic constructions is not as clear-cut (Van Goethem, 2009; Van Goethem & Amiot, 2019).

While 'true' [Noun+Noun] compounds are rare in French, they do occur; in fact, Paillard (2011, p. 918) notes a contemporary trend (e.g. *coin cuisine* 'kitchenette'), particularly in technical and marketing jargon (e.g. *compte épargne* 'savings account', *espace bagages* 'luggage rack'). More frequently, though, French uses [Noun+Prep+Noun] constructions (e.g. *sac à main* 'handbag'), although [Noun+Adj] (*conseil municipal* 'city council') and derivational suffixation (*théière* 'teapot') are also frequent (Paillard, 2000, 2011; Arnaud & Renner, 2014). The status of the [Noun+Prep+Noun] constructions remains a matter of debate (Paillard, 2011; Van Goethem & Amiot, 2019). Some authors argue that items that can be formed by syntax should not be considered compounds (Corbin, 1992; Villoing, 2012; Booij, 2007). Van Goethem (2009) contrasts this restrictive view with a more common one that encompasses all kinds of lexicalized multiword constructions, regardless of the formation process; this latter view is also favored by Paillard (2000) and Chuquet & Paillard (2017).

Regardless of terminology, however, there is in fact no reason to expect different languages to "make the same use of the available morphological operations" (Booij, 2007, p. 45) or to use exact parallel constructions. As discussed in section 2.3.2.2., the platform for cross-linguistic comparison in this work is the function of intensification, without restricting correspondences to a particular form.

Turning now to compound adjectives, cross-linguistic research on these constructions is quite rare. Pierini's (2015) work on translation of English compound adjectives into Italian provides a useful overview and insights regarding specific challenges; however, her translation study is based on exemplars from a single novel. Compound adjectives are relatively common in English (Adams, 2001). They are also frequent in Dutch (Hoeksema, 2012). For French, Villoing's (2012) overview only includes coordinated [Adj+Adj] constructions (e.g. *aigre-doux*) and a minor [Adj+Noun] form that appears to be restricted to color names (e.g. *vert*

bouteille ‘bottle green’).[3] In the absence of a direct equivalent, and by analogy with the situation for noun compounds, French probably makes more frequent use of the [Adj+Prep+Noun] prepositional paraphrase construction, but that remains to be confirmed.
The research by Hendrikx et al. (2019), already mentioned in section 2.1., includes a contrastive overview of intensification in English, Dutch, and French, which specifically addresses intensifying compound adjectives (coincidentally covering several of the same items examined in the present study). They indicate that ‘elative’ compound adjectives are frequent in Dutch (see also Hoeksema, 2012; Van der Wouden & Foolen, 2017), while intensifying compound adjectives appear to be rare in French (Hendrikx mentions *ivre-mort* ‘dead drunk’ as one example; 2019, p. 88).

2.3. Two complementary approaches

Translations are by nature an integral source of evidence for contrastive linguistic studies. However, it is only recently that the field of Translation Studies has entered into a deliberate and mutually enriching dialogue with that of Contrastive Linguistics, as evoked by Lefer & De Clerck (2021., p. 13) and by Granger & Lefer (2020). The present work aims to contribute to this dialogue by adopting these two approaches to cross-linguistic comparison, both separately and in combination.

2.3.1. Translation study

2.3.1.1. Translation process and product

Translation plays an important role in our global world by assuring communication across linguistic and cultural boundaries. It consists in transferring the meaning of a source text to a new target language in the same way that the writer intended it (Newmark, 1988; Delisle, 1999, p. 188; Munday, 2016). In this complex process, translators establish equivalences between the

[3] Since my study objects include a color-specifying subtype, this [Adj+Noun] form is expected to occur in the French translations.

two languages, minimally at the level of a translation unit, i.e. a word, phrase, or entire sentence that is treated as a single cognitive unit and that is linked by formal and/or semantic aspects (Delisle, 1999, p. 194).

The relatively young field of Translation Studies has already experienced significant shifts in research interests, from early concerns with prescriptive guidelines and questions of translatability to a descriptive interest in investigating both the product and process of translation (Shuttleworth, 2014; Munday, 2016). Translated language often has features that are distinct from both the source and target languages. This is sometimes referred to as 'translationese'; Granger (2018) prefers the term 'third code' and emphasizes similarities with the (equally mediated and constrained) 'interlanguage' of second language learners. One research approach has attempted to identify so-called translation universals, i.e. regular tendencies in translated texts such as simplification and explicitation (Baker, 1995; Olohan & Baker, 2000; Bernardini et al., 2016). In the present study, the intermediate position of a translation is understood more in terms of potential influences from both the source text and the target language (cf. Toury's 'laws' of interference and standardization; Munday 2016, p. 180).

My interest in the present translation study is to understand the decisions made by translators in dealing with specific challenges posed by the study objects. It is to this end that I examine the morphosyntactic and conceptual-semantic procedures they use in formulating translation equivalents (see details in section 3.2.2.3.). Since this study is based on parallel corpus data, it is inherently product oriented, and translation products cannot constitute direct evidence for the underlying decision process – this would ideally involve process-oriented experiments using keystroke logging or eye tracking methods. Still, parallel corpus comparisons provide indirect access, since they show how individual instances are handled (Schäffner, 2017; Lefer, 2020) and can be seen as "parts of the same reality, that is, of the operations performed by the translator while translating" (Bardaji, 2009, p. 162).

2.3.1.2. Challenges in translating English compound adjectives

As indicated in section 2.2., the English compound adjectives selected for this study pose several potential morphosyntactic and semantic challenges for translation to Dutch and French.

First, their bare juxtaposition of noun and adjective presents a compact and efficient way of 'packing' an implied semantic relationship, which explains their frequent use in English academic writing and news reporting (Adams, 2001, p. 98). Few translation studies have specifically addressed how cross-linguistic morphosyntactic differences affect translation. For the case of [Noun+Noun] compounds, recent studies by De Metsenaere et al. (2016) and Berg (2017) address the language pairs German-Dutch and English-German, respectively. Given the typological differences described in section 2.2.3., the effect may be more pronounced for French translations, for which Chuquet & Paillard (1987) offer the most complete discussion. There has been even less translation research with regard to compound adjectives; however, in her study of English-Italian translation, Pierini (2015, p. 18) considers them "a major translation problem" due to cross-linguistic "asymmetries".

For French, given the marginal presence of 'true' compounding (section 2.2.3.), translators presumably 'unpack' the compact [Noun+Adj] structure, at least in part by using the [Adj+Prep+Noun] construction (e.g. *earthquake-prone [region]* → [*region] susceptible aux tremblements de terre*). In such prepositional paraphrasing, the semantic relationship between constituents that is implicit in the English compound needs to be expressed more explicitly in French. This may pose a particular challenge for items of the subordinative subtype, where a variety of semantic relationships are possible (section 2.2.2.). This aspect of explicitation has been a topic of interest in translation studies (Olohan & Baker, 2000; De Sutter & Lefer, 2020), and the present study may demonstrate to what extent this also occurs in Dutch translations.

A second potential challenge for translators concerns the presence of intensification, which requires translators to make additional decisions (consciously or not) on whether to retain intensification and, if so, whether to use figurative means. In the present study, I capture this aspect in my coding of conceptual-semantic translation procedures.

Furthermore, languages often differ significantly in their preferred ways to express intensification (section 2.1.). Based on the limited cross-linguistic research available (Rainer, 2015; Napoli & Ravetto, 2017; Van der Wouden & Foolen, 2017; Hendrikx et al., 2019), I expect that this also holds for English, Dutch, and French, and that this has an effect on translation choices. The present study may thus help clarify to what extent Hendrikx et al.'s (2019) findings of a synthetic-to-analytic cline for Dutch – English – French (along with a dominance of adverbial intensification) in the context of language acquisition, hold for translation as well.

Finally, in the figurative-intensifying subtype of my study objects, the intensification is realized by the metaphor noun, and herein lies a third possible challenge for their translation. A metaphor conceptually transfers an element of comparison from a source domain to a target domain; for instance, in *crystal-clear*, the 'transparency' of the physical object is mapped as a standard of comparison to the abstract quality of 'clarity'. Following the influential work of Lakoff & Johnson (1980), it is now generally recognized that metaphor is not a rare poetic device restricted to literature but constitutes a ubiquitous cognitive process that pervades both human thought and all forms of language communication.

Note that Lakoff and Johnson (1980) distinguish between conceptual metaphors (e.g. UNDERSTANDING IS SEEING) and their linguistic realizations. Since translators are confronted with actual metaphorical expressions and only indirectly with the underlying conceptual mapping (Schäffner, 2017, p. 251), it is these linguistic metaphors that are examined in the present study. I should also clarify that what is at issue here is whether a particular construction itself contains a figurative image, not whether the expression has some degree of perceived metaphoricity in the broader context of the sentence. Thus the 'crystal' in *crystal-clear* is a metaphor, regardless of whether the adjective's quality refers to a mountain lake or to the content of a message.

The challenge results in part from the fact that translation also involves a kind of transfer (namely of meaning from a source language to a target language), so that translating metaphors involves a "double act of transfer" (Shuttleworth, 2014, p. 53), which naturally implies additional complexity. The translator needs to strike a balance between faithfully conveying the meaning of a source text and using means that are idiomatic in the target language (Nacey, 2017) while, at the same time, preserving the element of "force and levity" that figurative language often contributes (Miller & Monti, 2014, p. ix).

Cross-linguistic differences in metaphorical conceptual systems, in the general use of figurative language, and in the culturally specific contexts of use have all contributed to a general perception that metaphors pose a problem for translation (e.g. Pym, 2016; Kövecses, 2014). However, this perception is now less widely held among translation scholars (Miller & Monti, 2014; Schäffner, 2017), and recent functionalist approaches downplay this notion of 'problem', pointing out that translatability is inherently relative and must be considered in relation to the purpose of each act of translation (Nord, 2010).

Still, process-oriented research has produced empirical evidence that cross-linguistic conceptual differences can lead to increased cognitive load when translating linguistic metaphors, both in translation studies (Tirkkonen-Condit, 2002; Sjørup, 2011) and in the field of SLA (De Cock & Suñer, 2018; Suñer, 2018). The insights gained from such process-oriented research may be complemented by product-oriented research. In the present study, I adapt taxonomies of translation treatments for linguistic metaphors proposed in the literature, presented most simply as metaphor into same metaphor (direct translation), substitution by a different metaphor in the target language, and metaphor into sense (literal paraphrasing; Schäffner, 2017, p. 250). So far, corpus-based studies have not found evidence for the entire range of treatments (Rodríguez Márquez, 2010) and suggest that translators do not always opt for similar metaphors in the target language, even when they are available (Al-Hasnawy, 2007).

To conclude, in view of these three potential challenges in translating English compound adjectives, I consider the following factors that may affect the use of morphosyntactic and conceptual-semantic procedures in Dutch and French translations: (1) the two target languages (with their known typological differences and less-explored conceptual-semantic differences); (2) the four semantic subtypes of source items (with their different linguistic phenomena, which may also involve explicitation); and (3) the syntactic position of the compound adjective in the source text.

2.3.1.3. Register

An additional factor that may affect translation, and that I have not discussed so far, is register or text genre. This has often been ignored in translation studies, but its potentially significant effect on the interpretation of results is increasingly recognized (e.g. De Sutter & Lefer, 2020). Lefer & Grabar (2015) also stress the importance of considering this variable in both translation and contrastive studies. In their translation study of prefix intensifiers, the authors note striking differences between the two corpora in their study, although they find it difficult to separate the effect of register from that of translation mode or translator expertise.

In the present translation study, I combine data from three parallel corpora with distinct registers: formal writing, parliamentary speeches, and movie dialogue subtitles. This provides an opportunity to analyze the effect of register on the morphosyntactic and conceptual-semantic

procedures used in Dutch and French translation, subject to the caveat of confounding factors raised by Lefer & Grabar (2015).

Apart from any effect on translation, I also compare the prevalence of intensifying compound adjectives (and thus to some extent intensification overall) in the different registers of the English source texts. Regarding intensification in general, Malloggi (2017, p. 258) claims that adjective intensification is widely used in colloquial registers and in contexts where the speaker wishes to engage emotionally; in his own brief exploration, he also finds much higher use of intensification in spoken registers.

2.3.1.4. Translation variation

Thus far, I have approached translation from the perspective of what decisions are made by translators, insofar as these can be gleaned from my coding of the morphosyntactic and conceptual-semantic procedures they use. Another angle from which these translations can be analyzed is how many different solutions the translators (collectively) formulate for a given source item, in other words, the variation in translations.

I have found no research or discussion on translation variation in the literature. After calculating a few metrics to capture variation for each source item (see section 4.1.3.1.), I consider three factors that may have an effect. Since this study is performed as a corpus-driven exploration, I do not formulate formal hypotheses; yet in this case, I venture some informal expectations.

First, the number of solutions may differ between the Dutch and French translations. Although Lamiroy (2011) emphasizes the similarly analytic overall nature of French and English, there seems to be a greater morphosyntactic difference between English and French than English and Dutch, at least for the present study objects (section 2.2.3.). In addition, French makes greater use of (potentially different) prepositions. As a result, I expect French translations to have a higher number of different solutions.

Second, with regard to the four subtypes of English compound adjectives, I reason that the figurative-intensifying items involve additional decisions regarding the treatment of both intensification and figurative language. I therefore expect more variation in their translations (in both languages) compared to the other three subtypes.

Third, compound adjectives that have a high frequency of use in English are more likely to be lexicalized, in the sense of being listed in the translators' mental lexicon (see below). I argue that translators are therefore more likely to have access to a previous translation and converge

on one or a few solutions. I thus expect high-frequency items to have a lower number of translation solutions.

A note concerning 'lexicalization': my use of the term does not refer to the traditional view of a diachronic process of formal or semantical modification, according to which only idiosyncratic or idiomatic (i.e. unpredictable) items were thought to be lexicalized in the mental lexicon of users (e.g. Bauer, 1983, pp. 45, 292; Di Sciullo & Williams, 1987, as cited in Hohenhaus, 2005, p. 356). Although this view persists to some extent (Huddleston & Pullum, 2002, p. 1629; Bauer et al. 2013, p. 29-33) and Hohenhaus speaks of an "acrimonious debate" (2005, p. 357), others have come to agree with Langacker's observation (cited by Bauer, 1998) that rule-generated (i.e. predictable) items can nonetheless also be listed. Hohenhaus (2005) cites several lines of psycholinguistic evidence in support of a 'full-entry' model, according to which an item's frequency of use is a plausible factor for the likelihood of its being listed in the lexicon. With particular relevance to the present study, Hendrikx's (2020) study identifies frequency as one factor (along with transparency) in the comprehension and acquisition of English intensifying compounds by French learners.

Indeed, in other areas of linguistic research, the advent of cognitive linguistics and corpus evidence has brought about the recognition of a lexicogrammar interface to replace the simplistic 'rule and slot' model of language (cf. Sinclair, 1991). Here, a given rule may apply differently to different words, and a given word may favor a particular construction. Such lexis-specific distributional properties imply that many constructions are 'entrenched' (listed) not for being idiosyncratic or non-transparent but as the result of their frequency of usage (Nakov, 2013), as seen in the application of construction grammar to phraseology (Goldberg, 2006; Colson, 2018). This construction perspective is also pertinent to the platform for cross-linguistic comparison (see section 2.3.2.2.).

2.3.2. Contrastive study

The objective of contrastive linguistics is to describe the systemic similarities and differences between languages (Granger, 2018). Describing one language from the perspective of another is expected to "reveal properties of languages that are not easily visible otherwise" and thus lead to new insights (König, 2012, p. 20; in fact, the same could be said about corpus linguistics

in general). The decision to examine three rather than two languages in the present contrastive study is based on Van der Auwera's (2012) insight that a third language can greatly clarify the contrastive linguistics of the other two.

2.3.2.1. Reference and parallel corpus data

The present study explores the means of intensification for six simple (non-modified) adjectives in English and their equivalents in Dutch and French. I make use of comparable monolingual 'reference' corpora for each language to obtain evidence about the left and right environment of the adjectives and about the frequency of resulting constructions. The morphosyntactic context permits me to identify the full range of intensifying constructions used in each language, while the quantitative frequency data make it possible to rank their relative use and to compare these between languages.

However, I also integrate parallel corpus data from the preceding translation study. Combining the use of reference and parallel corpora has become widespread in contrastive studies, as each type has advantages and disadvantages (Altenberg & Granger, 2002; Gast, 2012, p. 7; Mortier & Degand, 2009; Lefer, 2020). Specifically, the reference corpus data are representative of general natural language use, unaffected by translation effects, but they cannot directly reveal cross-linguistic equivalents; on the other hand, parallel corpora do provide evidence of cross-linguistic correspondences but may retain distinct features of translated language (Altenberg & Granger, 2002; see section 2.3.1.1.).

Thus, in the present study, the translation solutions previously identified from parallel corpus data serve as a starting point by providing evidence for a number of 'candidate' intensifying constructions, which can then be verified and extended in reference corpus explorations. Conversely, once the contrastive comparisons have identified which strategies are available and preferred in each language, this information can shed new light on the findings of the translation study. As Toury described in his 'laws' of interference and standardization (Munday, 2016, p. 180), translators may be influenced by the source text, but are also constrained by target language options. Comparing the frequencies of use in translated and general language can help to disentangle these two potentially opposite effects, as has been done in previous corpus-based cross-linguistic studies (Lefer & Grabar, 2015). In this way, the findings of each study complement the other.

2.3.2.2. The platform for cross-linguistic comparison

In the onomasiological approach to cross-linguistic comparison, the interest is in what forms realize a particular function in different languages. Haspelmath has argued that contrastive analysis should rely more on universal conceptual-semantic concepts than on structural linguistic categories (2010, p. 665, 669). Indeed, all languages share concepts; however, even within a language, one function does not necessarily map onto one form, languages vary considerably in the forms that are available or preferred, and these forms may not have exact equivalents in other languages (Haspelmath, 2007; see also Altenberg & Granger, 2002; Gast, 2012).

In the present study, the platform for comparison (the '*tertium comparationis*'; Altenberg & Granger, 2002) consists in the semantically uniform function of intensification, and I explore how this function is realized, regardless of form. In other words, in my explorations of translation solutions (in the translation study) and intensification strategies (in the contrastive study), I take all formal options for cross-linguistic correspondence into account.

The preceding discussion of intensification (section 2.1.) and compounds (section 2.2.3.) already show that cross-linguistic correspondences do not necessarily remain within the traditional boundaries of morphology and syntax. For instance, such forms as [Noun+Adj] and [Adj+Prep+Noun] clearly appear to be equivalents, both between and within languages, in expressing a unified meaning (e.g. *rock-solid, solid as a rock*, and *solide comme un roc*; see also Hendrikx et al., 2019). Even Grandi, whose approach to Italian intensification is explicitly morphological, acknowledges that not all forms of intensification can be described in morphological terms, and that the semantic category of intensification includes all the formal means that perform this same function (Grandi, 2017b, p. 58). In fact, as the list at the beginning of the introduction demonstrates, the formal means are not restricted to adjective intensification but may employ other bases, and furthermore, they may or may not involve figurative language. I therefore follow the approach of Construction Grammar (Goldberg, 2006), which allows me to identify potential constructions at all levels of language.

2.4. Research questions

As indicated in the preceding discussion, the literature on intensification remains incomplete, especially as regards cross-linguistic research and descriptions beyond morphology. The same can be said for contrastive work on compound adjectives, and for the little-explored topic of translation variation. There is therefore considerable scope for further contributions to be made in these areas.

The present work consists of (1) a study of Dutch and French translations of English compound adjectives, and (2) a contrastive study of intensification strategies in all three languages. As I am convinced of the continued promise of corpus-driven methods to uncover useful linguistic insights (e.g. Tognini Bonelli, 2002; Granger, 2018), both studies are corpus-driven explorations. An empirical corpus approach also permits intensification to be examined on the level of language use, supplementing existing surveys of how intensification is realized in different language systems (i.e. *langue* vs *parole*; cf. Van der Wouden & Foolen, 2017, p. 98).

The first study examines intensification in the three languages through the lens of Dutch and French translations of English compound adjectives. As described above, the study items are selected from four subtypes of [Noun+Adj] compounds, with a particular interest in those containing a figurative-intensifying noun. I consider two aspects of these translations: (1) the morphosyntactic and conceptual-semantic procedures applied by translators, which reflect possible challenges posed by the source items (section 2.3.1.2.), and (2) translation variation, i.e. the number and frequency distribution of different translation solutions for a given item. Both aspects are described qualitatively, then analyzed quantitatively as a function of potential explanatory factors. As discussed in sections 2.3.1., these factors include the two target languages, the four semantic subtypes, the syntactic position (for morphosyntactic procedures), register, and frequency of use (for translation variation).

The second part consists of a contrastive exploration of intensification strategies in English, Dutch, and French. Starting from a set of simple adjectives, I explore the range of formal intensifying constructions in general language use, then rank the strategies by preference within each language and between languages. Finally, I compare these contrastive findings with the preceding translations to consider evidence for source text influence.

To summarize, my explorations are guided by the following research questions:

RQ 1: For a selection of English compound adjectives: (a) What is the relative application of different morphosyntactic procedures in Dutch and French translations? (b) How does their distribution differ between Dutch and French? (c) How does their distribution differ between the four subtypes? (d) What is the effect of syntactic position? (e) What is the effect of register?

RQ 2: For the figurative-intensifying compound adjectives: (a) What is the relative application of different conceptual-semantic procedures in Dutch and French translations? (b) How does their distribution differ between Dutch and French? (c) Is there an interaction with morphosyntactic procedures? (d) What is the effect of register?

RQ 3: For a selection of English compound adjectives: (a) What is the variation (number and distribution) of translation solutions in Dutch and French? (b) How does this differ between Dutch and French? (c) What is the effect of the presence or absence of a figurative-intensifying noun? (d) What is the effect of the items' frequency of use in English?

RQ 4: For the contrastive study: (a) What is the range of intensification strategies available in each language? (b) Which means are preferred in each language, and how do these preferences compare between languages?

RQ 5: Are some intensifying constructions used significantly more or less in Dutch or French translation compared to their relative use in general language?

3. METHODOLOGY

3.1. Extraction and selection of English compound adjectives

3.1.1. Extraction of English compound adjectives

In order to identify and select study objects, a preliminary step consisted of extracting a list of compound adjectives from English Web 2015, a large web-based English reference corpus ('enTenTen15'; 15,411 million tokens; Jakubíček, 2013), using SketchEngine (Kilgarriff et al., 2014).

Given the available classification of compounds based on word class (section 2.2.1.), I initially attempted concordance searches using CQL code based on the POS tagging of constituents (e.g. [tag="N.*"] [tag="J.*"]). This approach had very low precision, yielding 78 million mostly non-relevant hits (e.g. "*Luckily there are powerful plants available to resolve this issue*."). Besides, it was understood that the entire compound should be tagged as adjective. Given that English compound adjectives occur in different spellings (open/separate, hyphenated, and closed)[4], a solution was found thanks to the common recommendation to use hyphenated spelling in attributive position, to avoid semantic confusion (compare *a man eating shark* and *a man-eating shark*; Quirk et al., 1985, p. 1613). It was thus possible to extract a wordlist of all enTenTen15 items containing a hyphen that are POS tagged as adjectives.

The diverse constructions of the 1,000 most frequent corpus items (the maximum output allowed in SketchEngine) were classified according to word class, following Table 1 (section 2.2.1.), here using Bauer's (1983) distinction between [Adj], [V-ing], and [PastPt] as right constituents. Setting aside derivations (constructed with affixes rather than lexemes) and numerals (e.g. *twenty-five*), 771 compound adjectives remained in 13 classes (Table 2). This dataset includes noun-headed modifiers as well as dephrasal and derivational compounds. The [Adj+Noun] class is in fact one of the largest (113 items) and contains 7 of the 10 most frequent items (Table 3).

[4] Unless specifically addressed, the tables and discussions use the hyphenated spelling.

Table 2. Word class composition of hyphenated 'adjectives' extracted from enTenTen15.

POS class	Examples from corpus	N
Adj+Adj	*blue-green, public-private*	28
Adj+V-ing	*good-looking*	2
Adj+PastPt	*full-fledged, clear-cut*	9
Noun+Adj	***brand-new, cost-effective, week-long***	**80**
Noun+V-ing	*award-winning, time-consuming*	35
Noun+PastPt	*community-based, air-conditioned*	171
Adv+Adj	*above-average, highly-skilled*	4
Adv+V-ing	*far-reaching, hard-working*	22
Adv+PastPt	*well-known, above-mentioned*	51
Noun+Noun	*world-class, cost-benefit*	18
Adj+Noun	*long-term, large-scale*	113
Dephrasal Comp	*up-to-date, dial-up, stop-motion, high-rise*	203
Derivational Comp	*open-minded, fine-grained*	35
Total		**771**

Table 3. The 10 most frequent compound adjectives in the enTenTen15 wordlist.

Comp Adj	Freq pm	POS class
long-term	54.46	Adj+Noun
so-called	21.32	Adv+PastPt
full-time	18.78	Adj+Noun
well-known	16.17	Adv+PastPt
real-time	15.87	Adj+Noun
large-scale	14	Adj+Noun
short-term	13.25	Adj+Noun
low-income	12.72	Adj+Noun
high-quality	12.42	Adj+Noun
award-winning	11.24	Noun+V-ing

3.1.2. The [Noun+Adj] class

3.1.2.1. Semantic subtypes

Given the primary interest of this study, I selected the [Noun+Adj] class because it contains both items that involve intensification and figurative language and others that do not. As described in Section 2.2.2., this class can be subdivided into four categories based on the noun's semantic function, which potentially adds further interest regarding differences in translation. The wordlist contained 48 subordinative and 30 spatio-temporal items, but unfortunately contained only two figurative-intensifying (*brand-new* and *age-old*) and no color-specifying compounds.

3.1.2.2. Identification of additional study items

These two subtypes could be supplemented with items listed by Marchand (1969) and Adams (1973), yet I remained interested in identifying additional candidate items from corpus data.

In a discussion of automatic metaphor extraction methods, Stefanowitsch & Gries (2006, p. 4) mention a strategy based on linguistic markers, adding that this promising approach has not been explored systematically. Inspired by this suggestion, I aimed to identify additional compounds indirectly by searching enTenTen15 for comparative expressions using the string "[Adj] + as (a) + [Noun]". I then cross-checked whether the resulting expressions also occur as [Noun+Adj] compounds. This 'comparison marker' approach indeed proved useful, identifying several reasonably frequent color-specifying (*blood-red, coal-black*) and figurative-intensifying items (*paper-thin, bone-dry, whip-smart*).[5]

[5] Incidentally, the compound is in some cases far more frequent than the corresponding comparative expression (*crystal-clear, ice-cold, rock-solid, lightning-fast, razor-sharp, pitch-black*), while other common idioms are never inverted (**pie-easy, *hell-mad, *clam-happy, *bee-busy*), or only occasionally as wordplay (*cucumber-cool, whistle-clean*). It would be interesting to consider whether this difference has some systemic underlying cause or merely results from historical contingency. The expression and compound can also have different meanings (*bird-free* usually means 'free of birds', not *free as a bird*). Finally, while most of these expressions have collocational specificity, a few are far more productive (e.g. *hot as hell, sure as hell, mad as hell*); clearly, *hell* here has undergone lexical bleaching (consider *cold as hell*). Huddleston & Pullum (2002, p. 1657) make a similar observation regarding subordinative compounds: some adjectives favor the compound form (*burglar-proof*), while others require the syntactic form (*fond of animals* but **animal-fond*).

A third method to identify additional compounds consisted of exploring enTenTen15 by extrapolation from constituents identified thus far. For instance, given *razor-sharp*, a search on "*-sharp" found *pin-sharp, laser-sharp, needle-sharp, scalpel-sharp,* and *rapier-sharp* (incidentally, often referring to a person's intellect). Somewhat more frequent items included *razor-thin, wafer-thin, stone-cold, piss-poor*, and *dirt-poor.*[6]

Searching on [Noun] constituents produced a few intriguing series like *stone-dead, stone-blind, stone-broke, stone-deaf,* and *bone-deep, bone-weary, bone-tired, bone-thin*[7], which hint at possible beginnings of delexicalization. Still, these are not nearly as productive or frequent as many Dutch intensifying prefixoids (*kei-, bere-, reuze-*), and English instead appears to favor the *[Adj] as hell* construction mentioned above.

The combination of these three methods yielded 260 candidate [Noun+Adj] compounds: 119 figurative-intensifying, 32 color-specifying, 30 spatio-temporal, and 79 subordinative items (Appendix 1).

The four semantic subtypes are not always entirely distinct; in some cases, I consulted the primary usage. For instance, *jet-black* mainly specifies a shiny form of the color, while *pitch-black* mainly has a meaning of 'very dark'. Again, some spatio-temporal items (*world-famous, life-long*) have a secondary intensified meaning, but the context shows a primary meaning of extent (e.g. *lifelong learning* as 'learning throughout one's life'). Finally, *age-old* was initially classified as spatio-temporal by analogy with other members, but usage of this item clearly indicates its figurative-intensifying nature.

3.1.2.3. Frequencies of candidate study items

The frequency of usage of these compound adjectives in English varies widely and is included in this study as a potential explanatory factor for translation variation. For the more frequent members of each of the four subtypes, this was calculated more accurately by counting their

[6] With the exception of the last two items in this list, most English compounds constructed with *-rich* or *-poor* (or indeed *-heavy* and *-light*) are not intensifying but subordinative, with the meaning of 'containing a lot of / little of a resource x' (*oil-rich, nutrient-poor, jargon-heavy*).

[7] Some intensifiers use metonymy rather than figurative comparison: a *bone-thin* person is 'so thin that you can see the bones'.

open (separate) and closed orthographic forms in enTenTen15, in addition to the hyphenated form. The combined counts were then expressed as a relative frequency per million words ('Freq pm' in Table 4 and Appendix 1).

This relatively minor procedure has required a rigorous approach. First, I found considerable POS mistagging by the TreeTagger module in SketchEngine, presumably due to the uncertain morphosyntactic status and different spellings of these items; as a result, the different search strategies for SketchEngine concordances involved trade-offs between recall and precision. For instance, *crystal-clear* turned out to be tagged almost exclusively as NN, which explains the absence of this relatively common item from my initial adjective wordlist extraction. Thus, for hyphenated and closed spellings, using the more precise "word = adjective" search risked missing many mistagged items; on the other hand, results of the "simple" search lacked precision and had to be manually vetted (see below). For open spelling, using a POS-specifying CQL search ran into similar problems (e.g. the 'crystal' in *crystal clear* is often tagged as adjective); the "phrase" search had better recall but again needed to be checked manually.

Manual vetting was crucial to remove non-adjective instances. These include the common use of figurative terms as brand or product names ("*Crystal-Clear*") and proper nouns ("*Snow White*"), non-relevant inflections ("*rocks harder*"), adverbs ("*These can be redeemed in any of our stores nationwide*"), and non-relevant syntactic juxtapositions ("*It's important to keep your knife sharp*", "*local agriculture has been a way of life long before it was trendy*"). Since checking many thousands of concordance results was not possible, I approximated the proportion of relevant hits from a sample of 100 instances and prorated the search results accordingly to obtain a reasonable estimate. For instance, a "simple" search on *nationwide* gave 293,295 hits; 56 of 100 sampled concordances were adverbs ("*The industry was distributing its products nationwide*"), and the estimated count of relevant closed spellings was calculated as 293,295 x 0.44 = 129,050.

3.1.2.4. Selection of study items

Study items for the exploration of translations and intensification strategies were selected on the basis of three criteria: availability of translation data, frequency of use, and semantic diversity. Since the parallel corpora used in the study (Section 3.2.1.) are considerably smaller than enTenTen15, translation instances were checked from the most common items down to

those where few or no translations occurred. This criterion was limiting for the figurative-intensifying and color-specifying subtypes, which tend to have lower counts, and unfortunately, many of the items identified in the previous sections had to be excluded for lack of translation data.

For the spatio-temporal and subordinative subtypes, I selected items from a range of frequencies to permit comparison and evaluation of the effect of this variable. For instance, in the subordinative subtype, *cost-effective, site-specific,* and *oil-rich* represent the highest, middle and low end of frequencies. I also aimed to sample a variety of semantic relationships between the constituents ('deductible from tax', 'specific to a site', 'soluble in water').

In this way I selected a total of 35 English [Noun+Adj] compound adjectives, which represents a near threefold increase over the earlier pilot study (Prinzie et al., subm.). They are listed in Table 4, along with the counts of their three orthographic forms and their relative frequency per million words in enTenTen15.

The selection of spatio-temporal items might be questioned. *S*ome productive constituent lexemes are increasingly regarded as having become grammaticalized affixoids, in which case their combinations are interpreted as derivations and not compounds (Bauer et al., 2013). However, there seem to be no agreed-upon criteria in the literature. For instance, the MacMillan Dictionary (2022) lists *self-*, *-free,* and *-friendly* as affixes but not *-wide, -long,* or *-old.* I therefore opted to include several items based on the latter, in addition to *world-famous,* so as to be able to compare translations of spatio-temporal items with the other subtypes.

Table 4. [Noun+Adj] compound adjectives selected as study objects for translation and their occurrence (in three spelling forms) in enTenTen15.

N+A compound	Open	Hyphen	Closed	Total	Freq pm
figurative-intensifying					
brand-new	217573	30701	1248	249522	16.19
crystal-clear	27233	4942	24	32199	2.09
age-old	7844	21791	66	29701	1.93
rock-solid	6878	4575	51	11504	0.75
chock-full	6945	3472	399	10816	0.70
sky-high	4503	5229	121	9853	0.64
ice-cold	5396	4121	40	9557	0.62
pitch-black	5637	2035	72	7744	0.50
razor-sharp	3723	3840	60	7623	0.49
lightning-fast	3004	2059	3	5066	0.33
dirt-cheap	2436	684	10	3130	0.20
god-awful	681	951	806	2438	0.16
bone-dry	1134	716	7	1857	0.12
color-specifying					
navy-blue	8890	296	14	9200	0.60
blood-red	3590	2231	127	5948	0.39
lime-green	4568	650	27	5245	0.34
jet-black	3145	1629	49	4823	0.31
olive-green	2789	773	10	3572	0.23
ruby-red	2593	454	14	3061	0.20
cherry-red	1818	413	5	2236	0.15
spatio-temporal					
life-long	13642	50225	150890	214757	13.93
nation-wide	1710	11284	129050	142044	9.22
week-long	12825	35944	13547	62316	4.04
world-famous	29389	19769	117	49275	3.20
century-old	4585	7165	8	11758	0.76
company-wide	645	4780	864	6289	0.41
subordinative					
cost-effective	80918	123096	554	204568	13.27
energy-efficient	67464	37986	130	105580	6.85
tax-deductible	23322	23997	27	47346	3.07
site-specific	11105	29951	117	41173	2.67
age-appropriate	10896	16392	40	27328	1.77
mission-critical	8068	8561	21	16650	1.08
water-soluble	5373	7512	80	12965	0.84
industry-specific	4114	6372	27	10513	0.68
oil-rich	1923	8192	22	10137	0.66

3.2. The translation study

3.2.1. Parallel corpus data

Dutch and French translations of these 35 English compound adjectives were obtained from three parallel corpora available in SketchEngine:

- EUR-Lex (hereafter EL) contains written documents on a wide range of technical and legal subjects (629.72 million tokens; Baisa et al., 2016);
- Europarl7 (EP) contains records of debates held at the European Parliament (53.83 m tokens; Koehn, 2005); and
- OPUS2, subcorpus OpenSubtitles2011 (OS) contains film and television subtitles (815.78 m tokens; Tiedemann, 2012).

Combining data from these three corpora made it possible to obtain translation instances for some low-frequency items. In addition, it permits an analysis of differential usage patterns in different registers: formal writing (EL), speeches that were "written-to-be-spoken" (Lefer & Grabar, 2015, p. 192) in a more interactive context (EP), and subtitling of often informal dialogue (OS).

However, these corpora also represent different translation modes (written translation and subtitling; the latter is subject to additional spatial and temporal constraints) as well as different levels of translator expertise, and these may confound interpretation (Lefer & Grabar, 2015). While the quality of subtitles contributed by non-experts has been criticized, Tang (2014) finds that they are often creative and appeal to the audience's shared cultural knowledge.

In translation studies, the original source language and direction of translation are important factors to be considered. Unfortunately, the metadata in the present corpora are either missing (EL and OS) or unreliable (speaker language in EP is identified as 'none' in 49.5% or often listed differently in different columns). This is expected to be an acceptable limitation for the purpose of identifying cross-linguistic equivalents of intensified adjectives, where the direction of equivalence is less important (and back-translation is also employed in the later contrastive exploration).

Within each corpus, the three spellings of the source items were searched separately, applying the same caveats discussed for enTenTen15 (section 3.1.2.2.). In EL and EP, the Dutch and French translations (aligned sentences) were extracted together for the same source instances;

this improved the comparability of the translations. For OS, the Dutch and French translations often had different sources and were thus extracted separately.
For a few high-frequency items, more concordances were extracted than could reasonably be coded. Where the number exceeded 100 (separately for each spelling and each corpus), I obtained a random sample of 100 concordances before combining the data.

The 5520 sampled translation instances were then vetted manually for relevance. Misaligned and duplicate concordances were deleted; non-relevant uses (mainly adverbs, see section 3.1.2.2.) were removed from further analysis. This resulted in a total of 1904 Dutch and 2003 French translation instances (sampled and relevant).
Finally, to permit analysis of the overall effects of syntactic position and register, the data from 70 files, each combining results from nine searches for an individual source item (for three spellings and from three parallel corpora), were merged into two files, separately for Dutch and French translations (Appendix 2 and 3).

3.2.2. Coding the Dutch and French translations

3.2.2.1. Translation solutions

For each parallel concordance, I first coded the syntactic position of the compound adjective in the English source sentence as attributive, subject complement, or object complement. The two predicative positions were distinguished to permit analysis of certain constructions (e.g. "*make [something] crystal clear*"). I then isolated the nearest translation equivalent for the source compound adjective from the aligned target sentence. As discussed in section 2.3.2.2., these equivalents can be of any form, from a simple adjective to a highly modified paraphrasing clause. Cases where the translator did not express the source item in the target text were coded 'N'.
Individual instances often had minor differences in inflection or determiner which were not relevant for the present analysis, and these were lemmatized to masculine singular forms and combined into simplified translation solutions; for instance, *spécifique(s) à ce site, à un site, aux sites* were all coded as the solution *spécifique au site*. Differences in the main constituents and the prepositions and other linking constructions (e.g. *lié au site, propre à l'installation*)

were retained as separate solutions. Note that I use the term ‘solution’ differently from Pym (2016), and I use ‘translation procedure’ for his ‘solution (type)’.

3.2.2.2. Variation in translation solutions

To present the variation in translation solutions, I counted the number of different solutions (‘N sol’) and those that occur at least twice (‘N sol min 2’). I also calculated the proportion of all translations represented by the ‘top’ solution (‘Prop top sol’) as a way to express the shape of their frequency distribution (see section 4.1.3.1.).

3.2.2.3. Morphosyntactic and conceptual-semantic translation procedures

When formulating equivalents between two languages, translators make many lexical, grammatical, and functional choices. For the present study, I wished to annotate the translation solutions by coding those recurring morphosyntactic and conceptual-semantic translation procedures that may reflect the challenges discussed above (2.3.1.2.). The relative application of these procedures could then be analyzed as a function of potential factors.

One influential taxonomy of translation procedures was devised by Vinay & Darbelnet (1995), specifically for the English-French language pair. In addition to ‘literal’ (or ‘direct’) renditions, their model lists four ‘oblique’ procedures (examples from Molina & Hurtado Albir, 2002):

(i) transposition (a shift in word class; e.g. *No smoking* → *Défense de fumer*);

(ii) modulation (a shift in cognitive categories; *Indian ink* → *encre de Chine*);

(iii) idiomatic translation or ‘équivalence’ (the use of a completely different phrase to account for the same situation; *like a bull in a China shop* → *comme un chien dans un jeu de quilles*);

(iv) adaptation (a cultural adjustment; *cyclisme* → *cricket* (UK) or *baseball* (U.S)).

Chuquet & Paillard (1987) have reduced these somewhat overlapping categories to two main ones, stating that when the result of direct translation is not acceptable, the translator’s primary choice is between transposition (a formal shift) and various kinds of modulation (a conceptual or semantic shift).

This model was extended in several ways for the present study. Unlike Chuquet & Paillard (1987), I consider the translators’ morphosyntactic and conceptual-semantic choices not as alternative options but as potentially independent decisions. I therefore developed a novel two-dimensional coding scheme, inspired in this regard by Crible & Degand (2019).

I started by exploring how translators dealt with the challenges discussed above in the range of solutions observed in French translations of *crystal-clear*. This process of identifying translation procedures also helped to finetune the research questions (an effect also noted by Schäffner, 2017, p. 253). The coding was refined incrementally as additional solutions were identified in other items, and the coding scheme initially presented in Prinzie et al. (subm.) was extended to accommodate the Dutch translations in the present study.

Table 5. Two-dimensional coding scheme of translation procedures used in the annotation of Dutch and French translations.

Morphosyntactic shifts

- **N+A**: a parallel [Noun+Adj] construction.
    - DU *brand new* → *gloednieuw*
    - FR none
- **A+N:** a left-headed [Adj+Noun] construction.
    - DU none
    - FR *ruby-red* → *rouge rubis*
- **A+p+N**: [Adj+Prep+Noun].
    - DU *water-soluble* → *oplosbaar in water*
    - FR *crystal-clear* → *clair comme de l'eau de roche* ; *water-soluble* → *soluble dans l'eau*
- **Ptrans:** Partial transposition: the [Adj] is retained, but the [Noun] constituent is transposed to an adverb or prefix, or is absent.
    - DU *crystal-clear* → *heel duidelijk / overduidelijk / duidelijk*
    - FR *crystal-clear* → *parfaitement clair / limpide*
- **Ctrans:** Complete transposition: both constituents are modified; the entire compound's adjectival function is expressed with an adverb, prepositional phrase, noun, verb, or clause.
    - DU *cost-effective* → *met een minimum aan kosten / hoog rendement / (niet) teveel in de papieren lopen*
    - FR *crystal-clear* → *clairement / d'une clarté absolue / préciser / ne laisser rien au hasard*
- **Omit:** the source item is not expressed in the target text.

Conceptual-semantic shifts (figurative-intensifying items only)

- **Intensification is retained** using:
    - **SimFig:** a similar figurative image from the same source domain.
        - *crystal-clear* → DU *glashelder* / FR *clair comme du cristal*
        - *age-old* → DU *eeuwenoud* / FR *séculaire*

- **DiffFig:** a different figurative image from an unrelated source domain that expresses the same meaning.
  - *brand-new* → DU *splinternieuw* / FR *dernier cri*
  - *chock-full* → DU *barstensvol* / FR *bourré*
- **Explicit:** an explicit non-figurative intensifier, such as an adverb, prefix, or prepositional phrase.
  - *age-old* → DU *zeer oud* / FR *très ancien; depuis très longtemps déjà*
- **Lex:** 'lexical' intensification, i.e. a marked word choice with implicitly intensified meaning.
  - *crystal-clear* → DU *flagrant; benadrukken* / FR *limpide* (vs *clair*); *insister*
- **Duplic:** a duplication with two coordinated adjectives.
  - *crystal-clear* → DU *klip en klaar* / FR *clair et net*
- **Reverse:** using polarity reversal.
  - *crystal-clear* → DU *geen twijfel; ondubbelzinning* / FR *sans la moindre ambiguïté*

- **Lost**: Intensification is lost (including cases of omission).
  - *crystal-clear* → DU *helder* / FR *clair*

The resulting classification is presented in Table 5 with brief descriptions and examples. The morphosyntactic dimension is presented in order of increasing modification and accounts for the fact that, since the source items have two constituents, two potential levels of transposition need to be considered separately. In the first two forms, both the [Noun] and [Adj] elements are retained; the right- and left-headed forms reflect well-known typological differences between the target languages. [Adj+Prep+Noun], where the English pre-modifying noun is expressed as a post-modifying prepositional phrase, is used in both languages (e.g. *water-soluble* → D *oplosbaar in water*, F *soluble dans l'eau*). In partial transposition ('Ptrans'), the adjective head is retained, but the second constituent is either transposed to an adverb or prefix or is absent; the different forms are distinguished by their conceptual-semantic coding below. In 'complete transposition ('Ctrans'), the [Adj] has also been transposed, resulting in a completely modified syntactic construction (see examples in Table 5). Finally, 'Omit' indicates that the source item has no identifiable equivalent in the target sentence.

The second conceptual-semantic dimension captures the decisions made by translators faced with the presence of a figurative and intensifying noun in one subtype of compound adjectives. Numerous taxonomies of procedures have been proposed for the translation of (linguistic) metaphors. For instance, Newmark's (1981) widely cited scheme offers seven translation procedures for 'stock' (conventionalized) metaphors. However, as Schäffner (2017, p. 250)

points out, Newmark's list, arranged in order of preference of use, is more didactic than descriptive in nature. Schäffner (2017) summarizes the options as (1) direct translation to 'the equivalent' metaphor image; (2) substitution with a different metaphor in the target language with a similar sense; and (3) conversion of the same meaning to a non-figurative paraphrase.

For the present coding scheme, I have applied the same logic to procedures for translating intensification, finding no parallel description in the literature. In fact, I have assumed that a translator first decides whether the intensification should be retained, then how to do so. When it is retained, the translator may use a figurative expression, either similar to the source ('SimFig') or different and possibly more idiomatic in the target language ('DiffFig')[8]. Alternatively, the intensifying function is expressed in another way, using an explicit non-figurative intensifier or other more stylistically marked solutions, including duplication, reversed polarity, and 'lexical' intensification ('Lex'). The latter is my term for cases where intensification is implicit in words that "stand out as unusual" (Munday, 2016, p. 99). In some cases, this corresponds to what Paradis (2001, p. 52) terms 'extreme' adjectives, i.e. implicit superlatives that represent the bounded extreme of a scale and are thus less likely to be modified with a scalar degree adverb.

3.2.3. Analysis

After annotating the translation solutions for the morphosyntactic and conceptual-semantic translation procedures, I first described their application in Dutch and French translations (this corresponds to RQ 1 (a) and 2 (a)). I then analyzed differences in their distribution between Dutch and French translations (RQ 1 (b) and 2 (b)), and, where relevant, as a function of the four semantic subtypes (RQ 1 (c)), of register (as approximated by the three parallel corpora; RQ 1 (e) and 2 (d)), and of syntactic position (RQ 1 (d)). In addition, the metrics for translation variation ('N sol', 'N sol min 2', and 'Prop top sol'; section 3.2.2.2.) were analyzed for differences between Dutch and French (RQ 3 (b)), and as a function of the presence or absence of a figurative-intensifying noun (RQ 3 (c)) and of the items' frequencies of use in English (RQ 3 (d)).

[8] When coding the translations, the question is whether the translation solution itself contains a figurative image, not whether the expression is used metaphorically in the broader context of the sentence.

Descriptive and analytical statistical analyses were performed using R (R Core Team, 2016). Shapiro-Wilk and variance F tests indicated that the requirements of normality and variance homogeneity for parametric tests (Student t, Pearson correlation) were not met. I therefore reported median values and interquartile range (IQR) and used non-parametric tests (Wilcoxon signed rank test, Kendall's Tau rank correlation). Since Dutch and French translations are of the same source items, I used the Paired Wilcoxon signed rank test (V-test) for dependent samples when comparing 'N sol' between them (RQ 3 (b)).

When testing the correlation between the compounds' frequency of use in English and two metrics for translation variation (RQ 3 (d)), the relative frequencies underwent a logarithmic transformation (Gries, 2013, p. 160 and 293), resulting in a normal distribution.

For the chi-square tests (other RQs), I report the effect size as Cramer's V, a coefficient of correlation that unlike the χ^2 statistic is unaffected by sample size. This allows interpretation of whether the association is weak ($V < 0.3$), medium ($0.3 < V < 0.5$), or strong ($V > 0.5$). Where useful, I also present association plots to visualize deviations from expected distributions.

3.3. Contrastive comparison of intensification strategies

In this part of the study, I explored the range of intensification strategies available in general (non-translated) use of English, Dutch, and French, ranked their relative use within each language to determine preferences, and performed a cross-linguistic comparison. As a starting point, I selected the same figurative-intensifying subtype of English compound adjectives already examined in the preceding translation study. I took their simple (i.e. non-intensified) adjective constituents (i.e. *new, clear,* etc.) and their main Dutch and French equivalents, and explored the range of formal constructions by which they are intensified in general language use. In the end, only the six most frequent adjectives were used; the frequency of other items was too low to obtain reliable data.

3.3.1. Reference and parallel corpus data

For the exploration of intensification strategies in general language and to calculate their frequency of use, I relied on the following three large, representative, and comparable web-based reference corpora from the TenTen 'family' (Jakubíček et al., 2013):

- English Web 2015 (enTenTen15; 15,411 m tokens),
- Dutch Web 2014 (nlTenTen14; 2.616 m tokens), and
- French Web 2017 (frTenTen17; 6,846 m tokens).

In addition, the translation solutions identified from three parallel corpora in the preceding translation study provided me with one or more Dutch and French equivalents for each simple English adjective, as well as a highly instructive diversity of intensifying constructions used by the translators.

3.3.2. Identification of intensification strategies

A large number of intensifying constructions were already identified in the Dutch and French translations examined earlier and provided a starting point for the contrastive study. They were arranged by strategy in a table, separately for each base adjective (e.g. *overduidelijk* for 'prefix'; *clair et net* for 'duplication'; *allernieuwst* for 'superlative').

I then identified the various intensification strategies in general language by systematically exploring the immediate left and right context of each adjective for relevant constructions. Table 6 demonstrates this process for English adjective *clear*; similar searches were made in Dutch and French. Based on Van der Wouden & Foolen's (2017) discussion, I also included the form "as [Adj] as possible".

Table 6. Intensification constructions in the left and right context of the adjective *clear*.

L	KWIC	R	example	intensification
[Noun] (-)( )	clear		*crystal-clear*	compound
[Prefix] (-)( )	clear		*super clear*	prefix
[Adverb]	clear		*abundantly clear*	adverbial
[Adj] "and"	clear		*loud and clear*	duplication
	clear	"and" [Adj]	*clear and present*	duplication
clear	clear		*clear clear*	repetition
("as")	clear	"as (a)" [Noun]	*clear as a bell*	comparative expression
	clear	"-est"	*clearest*	superlative
"as"	clear	"as possible"	*as clear as possible*	V.d. Wouden & Foolen 2017

In line with Haspelmath's (2010) call for a conceptual-semantic platform for cross-linguistic comparison (section 2.3.2.2.), the interest of this contrastive comparison lies in how intensification is expressed regardless of form; in other words, all formal options were left open. In fact, the previously examined Dutch and French translations contain many solutions that do not retain the source adjective, including those involving reversed polarity (*crystal-clear* → D *geen twijfel*), 'lexical' intensification (*chock-full* → F *bourré*), or completely modified syntactic constructions (*crystal-clear* → D *als een paal boven water*; F *insister*).

These forms of non-adjectival intensification ('Reverse', 'Lex', and 'Other' in the tables) were then further explored by extrapolation and analogy, and also by back-translation to English. For instance, *rock-solid* → F *inébranlable* led back to E *unwavering* and *unshakeable* as alternative means of expressing the meaning of 'very solid'. Or again, *chock-full* → F *bourré* → E *packed* or *stuffed*.[9]

3.3.3. Frequencies and ranking of intensification strategies

Counts for each construction were converted to relative frequencies (per million). This allows the frequency of use to be compared both within one language and between the three corpora/languages, at least for all constructions intensifying a given adjective. However, these frequencies still depend on the frequency of the non-intensified base adjective from which each form is constructed. For the purpose of comparing overall patterns of intensification, even these normalized frequencies would be misleading. Thus, in order to be able to rank, summarize and average these patterns of intensification between the six cases and between the three languages, I also calculated an adjective-specific proportion of intensification ('% adj'), i.e. expressing the frequency of each intensifying construction as a proportion of its non-intensified base adjective.

Obtaining counts for the various constructions involved some of the same issues mentioned earlier (section 3.1.2.3.); here again, different search strategies were carefully considered and manual vetting was crucial to remove non-relevant instances. For instance, SketchEngine's "lemma" search did not operate consistently in the Dutch corpus, so that counts for *fonkelnieuw*

[9] Ideally, this process can be iterated to elaborate a network of translation correspondences, which would also clarify and even quantify partial semantic overlaps (cf. Mortier & Degand, 2009; Gilquin, 2008; Aijmer & Simon-Vandenbergen, 2003; Altenberg, 1999). However, such an exhaustive back-translation study falls outside the scope of this work, and in its absence many 'lexical' and 'other' options were surely missed.

and *fonkelnieuwe* had to be obtained separately. In addition, the 'prefix' intensifying constructions were found to occur in hyphenated and open spellings as well as the expected closed one; counts for all three spellings were therefore combined (see also Lefer & Grabar, 2015).

Unfortunately, determining what proportion of an observed construction should be considered relevant as intensification was often difficult, both for reasons of partial semantic overlap and usage in context. Where possible, I approximated the relevant proportion from a sample of 100 instances and prorated the search results accordingly to obtain a reasonable estimate (as in section 3.1.2.3.). For instance, a search on *astronomical* gave 58,063 hits; 21 of 100 sampled concordances had the non-literal meaning of 'very high', so the count of intensifying constructions was estimated as 58,063 x 0.21 = 12,193. In other cases, however, the relevant proportion was too uncertain (e.g. *evident* for 'very clear'; *highest* for 'very high'). These items were marked with "(?)", and their relative frequency must be approached cautiously as a potentially significant overestimate.

The main purpose was to rank the relative use of different intensification strategies. In addition, I wished to compare these frequencies in general language with previously observed use in translation. For relevant constructions, I therefore listed their number of instances in translation and expressed this as a proportion of all translations for the given source item ('% TR').

4. RESULTS AND DISCUSSION

4.1. Translation of English compound adjectives

As described in section 3.1.2.4. and Table 4, I have selected 35 English compound adjectives to represent four semantic subtypes within the [Noun+Adj] class as well as a range of usage frequencies. In Table 7, I report the number of translation instances for individual items overall, by corpus, and by syntactic position. The distributions are generally similar between Dutch and French, ensuring reasonable comparability. The table also permits a few interesting observations on the use of [Noun+Adj] compound adjectives in English. The four subtypes have expected differences in corpus distribution. Figurative-intensifying adjectives appear to be favored in the more interactive registers (EP and OS) and are used less in formal writing (EL); this result confirms Malloggi's claims (2017; see section 2.3.1.3.). Subordinate items, which consist of relatively technical terminology, are prominent in the formal EL documents and nearly absent in the conversational OS. Color-specifying adjectives are rare throughout, and entirely absent in EP.

The syntactic position of these compound adjectives in the source sentences is predominantly attributive (about ¾ overall), but some exceptions are noted (*crystal-clear, chock-full [of], pitch-black, bone-dry, and tax-deductible*). Of the two predicative positions, object complements ('O-com' in the table) are far less frequent than subject complements ('S-com').

Table 7. Number of Dutch and French translation instances for individual items: overall, by corpus, and by syntactic position.

	EN → DU translations							EN → FR translations						
		by corpus			by syntactic position				by corpus			by syntactic position		
N+A compound	N inst	EL	EP	OS	attrib	S-com	O-com	N inst	EL	EP	OS	attrib	S-com	O-com
fig-intensifying														
brand-new	150	35	43	72	128	20	2	146	35	44	67	117	28	1
crystal-clear	210	21	151	38	39	119	52	219	19	157	43	36	132	51
age-old	183	76	104	3	177	6	0	184	76	107	1	177	7	0
rock-solid	25	2	5	18	7	17	1	26	2	5	19	7	18	1
chock-full	11	0	3	8	0	11	0	16	0	3	13	0	16	0
sky-high	21	2	18	1	12	8	1	25	2	19	4	12	10	3
ice-cold	36	4	2	30	15	21	0	38	4	2	32	14	24	0
pitch-black	37	0	0	37	3	34	0	37	0	0	37	3	34	0

razor-sharp	11	1	3	7	8	2	1	12	1	3	8	9	3	0
lightning-fast	3	0	0	3	2	1	0	3	0	0	3	1	2	0
dirt-cheap	8	0	1	7	2	5	1	6	0	1	5	3	3	0
god-awful	6	0	2	4	6	0	0	6	0	1	5	6	0	0
bone-dry	7	0	1	6	0	7	0	8	0	1	7	0	8	0
subtotal	**708**	**141**	**333**	**234**	**399**	**251**	**58**	**726**	**139**	**343**	**244**	**385**	**285**	**56**
color-specifying														
navy-blue	8	0	0	8	8	0	0	7	0	0	7	6	1	0
blood-red	12	9	0	3	6	6	0	11	9	0	2	5	5	1
lime-green	12	3	0	9	7	5	0	12	3	0	9	8	4	0
jet-black	4	0	0	4	3	1	0	6	0	0	6	4	2	0
olive-green	6	4	0	2	3	3	0	4	4	0	0	2	2	0
ruby-red	11	11	0	0	6	5	0	11	11	0	0	6	5	0
cherry-red	8	6	0	2	4	4	0	9	6	0	3	4	4	1
subtotal	**61**	**33**	**0**	**28**	**37**	**24**	**0**	**60**	**33**	**0**	**27**	**35**	**23**	**2**
spatio-temporal														
life-long	189	59	47	83	189	0	0	190	59	45	86	190	0	0
nation-wide	153	73	38	42	151	2	0	198	117	41	40	194	4	0
week-long	17	6	7	4	17	0	0	14	5	7	2	14	0	0
world-famous	49	17	11	21	38	10	1	50	16	11	23	39	10	1
century-old	11	7	4	0	11	0	0	11	7	4	0	11	0	0
company-wide	15	15	0	0	15	0	0	14	14	0	0	14	0	0
subtotal	**434**	**177**	**107**	**150**	**421**	**12**	**1**	**477**	**218**	**108**	**151**	**462**	**14**	**1**
subordinative														
cost-effective	207	100	102	5	145	54	8	197	95	99	3	133	61	3
energy-efficient	142	72	70	0	123	13	6	135	72	63	0	114	14	7
tax-deductible	107	89	15	3	32	64	11	105	88	14	3	29	64	12
site-specific	60	59	1	0	49	11	0	93	92	1	0	81	12	0
age-appropriate	45	45	0	0	43	2	0	43	43	0	0	42	1	0
mission-critical	18	15	0	3	13	5	0	27	24	0	3	22	5	0
water-soluble	57	54	1	2	52	5	0	72	69	0	3	67	5	0
industry-specific	34	28	6	0	32	2	0	35	29	6	0	33	2	0
oil-rich	31	11	20	0	31	0	0	33	10	23	0	33	0	0
subtotal	**701**	**473**	**215**	**13**	**520**	**156**	**25**	**740**	**522**	**206**	**12**	**554**	**164**	**22**
TOTAL	**1904**	**824**	**655**	**425**	**1377**	**443**	**84**	**2003**	**912**	**657**	**434**	**1436**	**486**	**81**

As explained in Section 3.2.2.1., minor variations in inflection or determiner were combined into simplified translation ‘solutions. In this section, I describe and analyze these solutions with a focus on the procedures applied in both languages in view of formal and semantic challenges, and I discuss the resulting variation.

4.1.1. RQ 1 - Morphosyntactic translation procedures

4.1.1.1. RQ 1 (a) – Relative application of morphosyntactic procedures in Dutch and French translations

Table 8 shows the distribution of different morphosyntactic procedures in Dutch and French translations, ordered from less to more modification compared to the [Noun+Adj] construction of the English compound adjectives. I first present overall trends with corpus examples.

In Dutch translations, the parallel [Noun+Adj] construction predominates overall (45.6%)

(1) *What makes Austrian cuisine world famous?*
Wat maakt de Oostenrijkse keuken ***wereldberoemd****?* (EuroParl)

As expected, the left-headed [Adj+Noun] construction does not occur in Dutch.
Prepositional post-modification of the form [Adj+Prep+Noun] is rare (6%) and used almost exclusively for subordinative items.

(2) *... similar to diazepam but* ***water soluble****, thus suitable for intravenous injection.*
... vergelijkbaar met diazepam maar ***oplosbaar in water*** *en daarom geschikt voor intraveneuze injectie* (EurLex)

Partial transposition ('Ptrans', 30%) is the second most frequent form. The translation retains an adjective, standing alone or modified with an adverb or prefix.

(3) *Premiums are not* ***tax-deductible*** *in the year in which they are paid ...*
Het bedrag van die premie is niet ***aftrekbaar*** *van de in het belastingjaar betaalde belastingen ...* (EurLex)

(4) *My question to the Commissioner was* ***crystal clear*** *...*
Ik heb een ***heel duidelijke*** *vraag gesteld aan de commissaris ...* (EuroParl)

In 15.2% of Dutch translations, the adjective is lost and the syntactic construction is completely transposed ('Ctrans'), most often resulting in a prepositional phrase or a clause.

(5) *... one thing is always* ***crystal clear*** *for me in this sort of conflict.*
Toch blijft daarbij een ding voor mij ***als een paal boven water staan***. (EuroParl)

The compound adjective is omitted in 3.2% of the target texts.

(6) *It's like a* ***lifelong*** *dream for me to actually work with Michael.*
Het was mijn droom om met hem te mogen werken. (OpenSub)

Table 8. Distribution of morphosyntactic procedures in Dutch and French translations.

		EN → DU translations							EN → FR translations						
N+A compound	**Frq PM**	**N inst**	**N+A**	**A+N**	**A+p+N**	**Ptrans**	**Ctrans**	**Omit**	**N inst**	**N+A**	**A+N**	**A+p+N**	**Ptrans**	**Ctrans**	**Omit**
fig-intensifying															
brand-new	16.19	150	62	0	0	82	1	5	146	0	0	0	133	7	6
crystal-clear	2.09	210	74	0	2	103	24	7	219	0	0	28	121	65	5
age-old	1.93	183	97	0	0	61	18	7	184	0	0	1	162	17	4
rock-solid	0.75	25	11	0	0	8	4	2	26	0	0	4	15	7	0
chock-full	0.70	11	0	0	0	10	1	0	16	0	0	0	13	3	0
sky-high	0.64	21	13	0	0	3	4	1	25	0	0	0	16	9	0
ice-cold	0.62	36	29	0	0	4	3	0	38	0	0	1	33	3	1
pitch-black	0.50	37	27	0	0	10	0	0	37	0	0	3	20	14	0
razor-sharp	0.49	11	10	0	0	1	0	0	12	0	0	1	9	2	0
lightning-fast	0.33	3	3	0	0	0	0	0	3	0	0	1	1	1	0
dirt-cheap	0.20	8	4	0	0	2	2	0	6	0	0	0	1	5	0
god-awful	0.16	6	0	0	0	3	1	2	6	0	0	0	4	1	1
bone-dry	0.12	7	2	0	0	5	0	0	8	0	0	0	4	4	0
	subtotal	**708**	**332**	**0**	**2**	**292**	**58**	**24**	**726**	**0**	**0**	**39**	**532**	**138**	**17**
color-specifying															
navy-blue	0.60	8	6	0	0	2	0	0	7	0	5	0	2	0	0
blood-red	0.39	12	9	0	0	3	0	0	11	0	6	0	2	3	0
lime-green	0.34	12	4	0	0	7	0	1	12	0	5	0	6	1	0
jet-black	0.31	4	3	0	0	1	0	0	6	0	1	2	3	0	0
olive-green	0.23	6	6	0	0	0	0	0	4	0	4	0	0	0	0
ruby-red	0.20	11	11	0	0	0	0	0	11	0	10	0	1	0	0
cherry-red	0.15	8	8	0	0	0	0	0	9	0	8	0	1	0	0
	subtotal	**61**	**47**	**0**	**0**	**13**	**0**	**1**	**60**	**0**	**39**	**2**	**15**	**4**	**0**
spatio-temporal															
life-long	13.93	189	99	0	0	10	64	16	190	0	0	0	20	150	20
nation-wide	9.22	153	0	0	0	92	45	16	198	0	0	0	94	91	13
week-long	4.04	17	1	0	0	0	15	1	14	0	0	0	0	11	3
world-famous	3.20	49	36	0	0	8	5	0	50	0	0	0	40	10	0
century-old	0.76	11	9	0	0	0	2	0	11	0	0	1	10	0	0
company-wide	0.41	15	0	0	0	2	12	1	14	0	0	0	1	13	0
	subtotal	**434**	**145**	**0**	**0**	**112**	**143**	**34**	**477**	**0**	**0**	**1**	**165**	**275**	**36**
subordinative															
cost-effective	13.27	207	131	0	2	53	21	0	197	0	0	14	133	49	1
energy-efficient	6.85	142	122	0	0	5	15	0	135	0	0	60	21	54	0
tax-deductible	3.07	107	1	0	5	80	19	2	105	0	0	11	67	25	2
site-specific	2.67	60	29	0	15	7	9	0	93	0	0	62	12	19	0
age-appropriate	1.77	45	17	0	25	0	3	0	43	0	0	36	0	7	0
mission-critical	1.08	18	2	0	7	5	4	0	27	0	0	4	7	16	0
water-soluble	0.84	57	7	0	49	0	1	0	72	0	0	37	34	0	1
industry-specific	0.68	34	16	0	6	6	6	0	35	0	0	14	19	1	1
oil-rich	0.66	31	19	0	2	0	10	0	33	0	0	20	7	6	0
	subtotal	**701**	**344**	**0**	**111**	**156**	**88**	**2**	**740**	**0**	**0**	**258**	**300**	**177**	**5**
	TOTAL	**1904**	**868**	**0**	**113**	**573**	**289**	**61**	**2003**	**0**	**39**	**300**	**1012**	**594**	**58**
	%		**45.6**	**0**	**6**	**30**	**15.2**	**3.2**		**0**	**1.9**	**15**	**50.5**	**29.7**	**2.9**

In French, the parallel [Noun+Adj] construction does not occur[10], as expected (section 2.2.3.). Prepositional post-modification of the form [Adj+Prep+Noun] is "grammatically appropriate" in French and would thus qualify as 'literal' translation in Vinay & Darbelnet's definition (1995, p. 33). In section 2.3.1.2., I speculate that French translation likely uses this construction, by analogy with the situation for noun compounds (e.g. *washing machine* → *machine à laver*). In fact, the use of [Adj+Prep+Noun] for compound adjectives appears to be less frequent: it is observed in 15% of instances:

(7) *If the product has a* ***water-soluble*** *foil …*
Si le produit comprend un emballage ***soluble dans l'eau*** *…* (EurLex)

The [Adj+Noun] construction, which is similarly left-headed but has bare juxtaposition, is rare (1.9%) and occurs exclusively in the color-specifying subgroup (e.g. *ruby-red* → *rouge rubis*), as described by Villoing (2012; see section 2.2.3.).

The dominant French translation procedure is partial transposition ('Ptrans', 50.5%), where the English [Noun+Adj] is rendered with an adjective, either alone or modified with an adverb or prefix.

(8) *First we should survey … the most* ***cost-effective*** *means by which those needs may be met.*
Nous devrions d'abord analyser … les moyens les plus ***rentables*** *d'y répondre.* (EuroParl)

(9) *We must now send a* ***crystal-clear*** *message to Member States …*
Il nous appartient maintenant d'envoyer un message ***très clair*** *aux États membres …* (EuroParl)

Complete modification of the syntactic construction ('Ctrans') is attested in 29.7% of instances and most often results in a prepositional phrase or a clause.

(10) *The starting point of this Directive is* ***crystal clear****.*
Le point de départ de cette directive est ***d'une clarté limpide****.* (EuroParl)

[10] The neoclassical compound *hydrosoluble* occurs for *water-soluble*. However, *hydro* is not a native unbound lexeme, and such cases are best neatly distinguished (Villoing, 2012). It is here coded as 'Ptrans'.

Finally, in 3% of French translations, the compound adjective is omitted in the target text.

(11) *That is why the NAACP is calling for a **nationwide** boycott of Woolworths.*
L'Association pour l'Avancement des Noirs demande un boycottage de Woolworth. (OpenSub)

A few difficulties for morphosyntactic coding are noted. In 24 instances, *sky-high* occur as object complement in an idiomatic construction (*blow [something] sky-high*). This entire construction (rather than the compound adjective) was treated as a higher-level translation unit in both Dutch (*aan flarden scheuren, opblazen*) and French translations (*faire sauter, détruire*). The instances were therefore removed from further analysis. Second, for *mission-critical applications*, 5 French (*applications de type "mission critical"*) and 15 Dutch translations (*applicaties die "mission critical" zijn"*) simply left the English term. While this is a possible solution, these instances could also not be coded for translation procedures.
The French translation of *brand-new* as *flambant neuf* (17 out of 146 instances) is interesting. It appears to be a rare example of a right-headed French [Adj+Adj] compound, where the first adjective modifies the second. This construction is discussed in detail in the context of contrastive intensification (section 4.2.1.).

4.1.1.2. RQ 1 (b) - Dutch and French

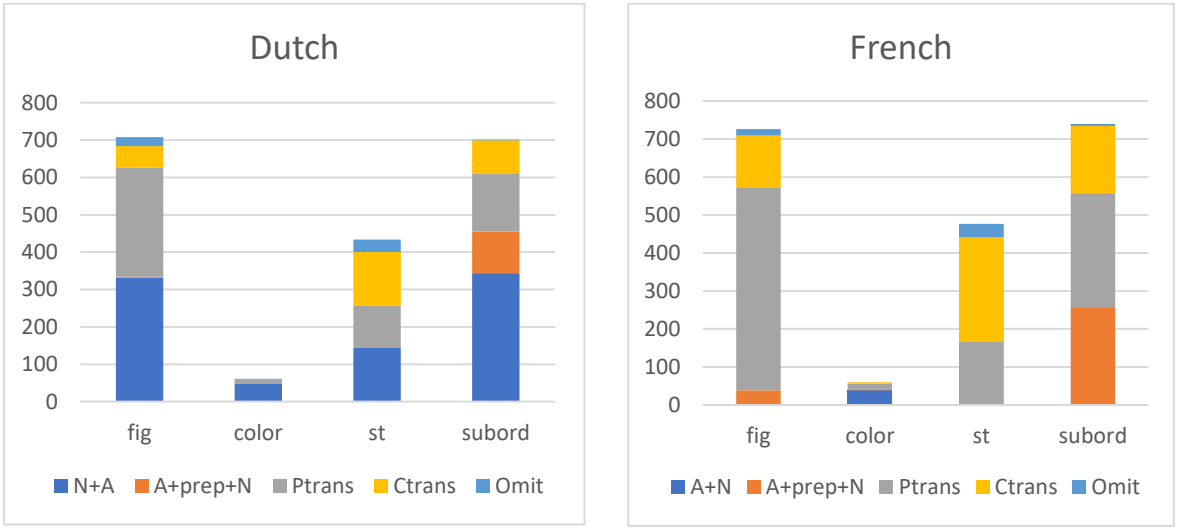
The overall morphosyntactic differences between Dutch and French translations are summarized as follows. Dutch makes frequent use of the parallel [Noun+Adj] construction, which is absent in French. French instead relies mainly on 'Ptrans', 'Ctrans', and [Adj+Prep+Noun], which also occur in Dutch but about half as often. The left-headed [Adj+Noun] is a minor form found only in color-specifying adjectives. These differences are very significant ($\chi 2 = 1217$; $df = 5$; $p < 0.0001$), with fairly strong effect size (Cramer's $V = 0.558$). More nuanced effects are considered in the following sections.
This pattern agrees in part with Hendrikx et al.'s (2019) findings. These authors proposed a synthetic-to-analytic cline for Dutch – English – French, based on overall typological differences, but also found that adverbial intensification was most frequent in all three languages (section 2.1.). The prevalence of [Noun+Adj] observed here in Dutch translation follows this cline, while adverbial intensifiers are perhaps underused. The dominant 'Ptrans' procedure in French translation largely consists of adverbial modification, which appears to

confirm an analytic tendency. However, it also includes synthetic solutions (e.g. *rentable* for *cost-effective*, *vertigineux* for *sky-high*). These results are also revisited below, in view of the contrastive findings for intensification (sections 4.2.2. and 4.3.1.).

4.1.1.3. RQ 1 (c) - Effect of the four semantic subtypes

Fig. 1 shows the distribution of morphosyntactic choices in the Dutch and French translations for the four subtypes of English compound adjectives. Apart from the obvious difference between the two languages, namely the frequent use of [Noun+Adj] in Dutch and its absence in French, the morphosyntactic forms can be analyzed separately in each language as a function of the semantic subtypes (see subtotals in Table 8 above). The results indicate that their application varies very significantly across the four subtypes of compound adjectives in both the Dutch ($\chi2 = 434.24$; df = 12; $p < 0.0001$) and French translations ($\chi2 = 1922.1$; df = 12; $p < 0.0001$).

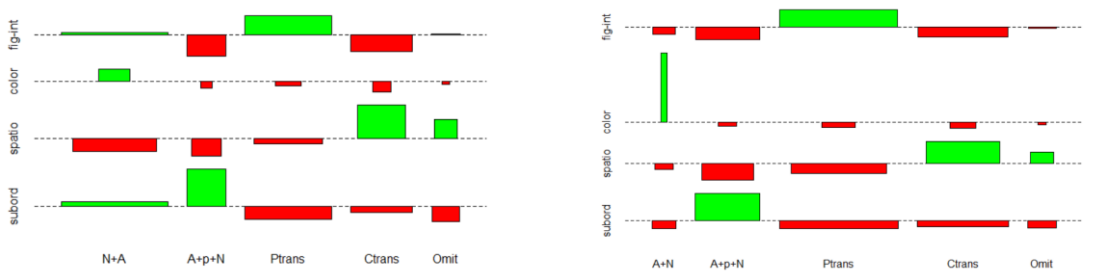
Fig. 1. Distribution of morphosyntactic forms in Dutch and French translations for four subtypes of compound adjectives.



Association plots can help to highlight deviations from expected distributions: green bars indicate higher than expected and red bars lower, and their vertical height indicates the size of deviation. The present association plots (Fig. 2) reveal a characteristic pattern of use for each subtype, nearly identical in the two languages: translators strongly prefer partial transposition

for figurative-intensifying items, complete transposition for spatio-temporal items, and the [Adj+Prep+Noun] form for subordinative items. Color-specifying items are translated as [Noun+Adj] or [Adj+Noun], as appropriate in each language. The pattern is less pronounced in Dutch (weaker association; Cramer's V = 0.276) than in French (V = 0.566), due to the aforementioned [Noun+Adj] solutions which are distributed relatively evenly.

Fig. 2. Association plots for morphosyntactic procedures in Dutch (l) and French (r) translations, for four subtypes of English compound adjectives.



This pattern of preferences can be explained in part by the presence of distinct linguistic phenomena in the four subtypes of compound adjectives. For items in the figurative-intensifying group, translators naturally need to deal with the intensification of the adjective. While a range of options exist for this in both languages, the disproportionate presence of 'Ptrans' results because translators frequently retain the adjectival structure but express intensification with an adverb or prefix (see examples 4 and 10 above) rather than with a [Noun].

The spatio-temporal compounds illustrate a different issue. Setting aside the Dutch [Noun+Adj] forms (e.g. *levenslang*), the meaning of the source adjective (*wide, long, old*) is not translated with an equivalent adjective: the conceptual notion of 'extent' is instead often expressed using prepositions (D *in, over, door*; F *sur, dans*), nouns (D *schaal*; F *envergure, ampleur*), or verbs (D *bestrijken*; F *couvrir*). Adding the meaning of the source noun then leads to a completely transposed construction (e.g. *nation-wide* → D *door het gehele land verspreid*; F *sur tout le*

territoire), although simple adjectives also occur (D *landelijk*; F *national*).[11] Note that *world-famous* appears to be less prototypical in this subtype: here both constituents are often reflected in translation.

In subordinative compounds, the bare juxtaposition of [Noun] and [Adj] implicitly contains a variety of semantic relationships between the constituents. The challenge of unpacking this succinct information is particularly great in this group, since this relationship may need to be expressed explicitly; the disproportionate use of [Adj+Prep+Noun] makes sense in this context. Such prepositional paraphrasing is frequent in French (*site-specific* → *spécifique au site*), where it becomes quite elaborate at times (*energy-efficient* → *efficace dans le domaine de l'énergie*). Dutch translators often have access to a parallel [Noun+Adj] equivalent (*energy-efficient* → *energiezuinig*), but paraphrasing is also common (*age-appropriate* → *aan de leeftijd aangepast*; *water-soluble* → *oplosbaar in water*).

4.1.1.4. RQ 1 (d) - Effect of syntactic position

I explore whether morphosyntactic translation choices are influenced by the syntactic position of the compound adjective in the source text. Rather than evaluating this question for each individual item, the merged datasets allow an overall examination for all compound adjectives (Table 9-a).

Results indicate that morphosyntactic procedures are significantly non-independent of syntactic position, for both the Dutch ($\chi 2 = 45.38$; $df = 8$; $p < 0.0001$) and French translations ($\chi 2 = 52.42$; $df = 8$; $p < 0.0001$); however, these effects are weak (Cramer's V = 0.109 and 0.114 respectively).

[11] Referring back to the discussion of affixoids in section 2.2.1., it appears from these translations that the constituents *-wide, -long,* and *-old* are indeed grammaticalized. It remains to be seen whether translations might also provide useful evidence to make the listing of other controversial productive items less arbitrary (e.g. *full-, -oriented, -funded, -owned,* or *-filled*).

Table 9. Distribution of morphosyntactic translation procedures as a function of syntactic position: (a) for all compound adjectives, (b) for the figurative-intensifying subgroup.

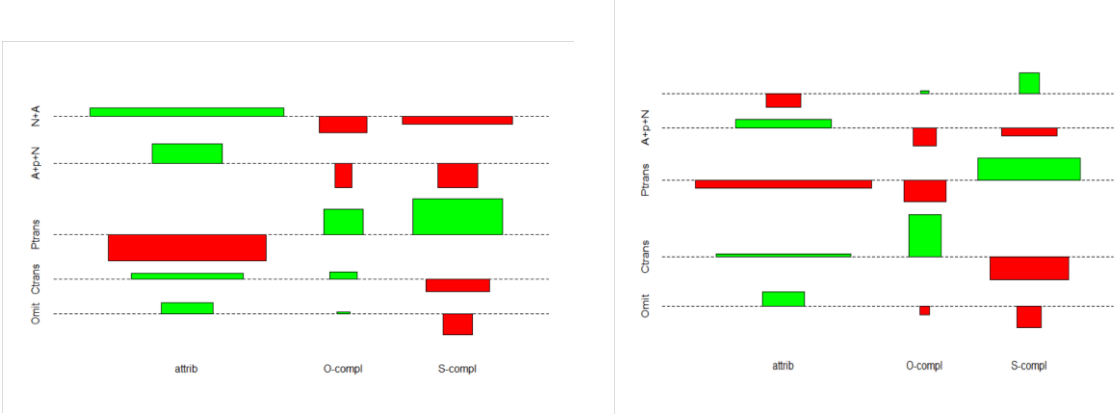
	EN - DU translations			EN - FR translations		
(a) all N+A compounds						
	attrib	**O-compl**	**S-compl**	**attrib**	**O-compl**	**S-compl**
A+N	0	0	0	21	2	16
N+A	647	29	192	0	0	0
A+p+N	98	0	15	228	6	66
Ptrans	364	37	171	704	27	281
Ctrans	217	15	58	432	45	117
Omit	51	3	7	51	1	6
total	**1377**	**84**	**443**	**1436**	**81**	**486**
(b) fig-intensifying only						
	attrib	**O-compl**	**S-compl**	**attrib**	**O-compl**	**S-compl**
N+A	193	19	120	0	0	0
A+p+N	0	0	2	2	3	34
Ptrans	166	27	98	339	19	174
Ctrans	25	9	25	32	33	73
Omit	15	3	6	12	1	4
total	**399**	**58**	**251**	**385**	**56**	**285**

Dutch translation appears to favor [Noun+Adj] and [Adj+Prep+Noun] solutions for attributive items and partial transpositions for predicative items (Fig. 3). The pattern for French translation is more difficult to interpret. In both languages, source items are omitted most readily when they are attributive; predicative adjectives are presumably more salient.

(12) *One of the leading issues under scrutiny is the **nationwide** rise in violent crime.*
D: Eén van de ontwikkelingen die het meest in de gaten wordt gehouden is de toename van criminaliteit. (OpenSub)

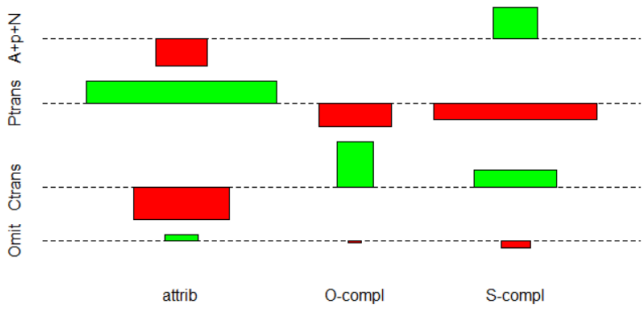
(13) *... that trauma spurred a **lifelong** commitment to the study of the mind.*
F: ... ce traumatisme vous a poussé à vous engager dans l' étude de l' esprit. (OpenSub)

Fig. 3. Association plots for morphosyntactic procedures in Dutch (l) and French (r) translations as a function of syntactic position (for all compound adjectives).



I also consider this question separately for the figurative-intensifying subgroup (Table 9-b; Fig. 4). Here, the distribution of morphosyntactic procedures differed significantly in French translations ($\chi 2 = 147.61$; df = 6; $p < 0.0001$; V = 0.319), where attributive items are mostly retained in the same adjectival position ('Ptrans'), while complete transpositions are favored for object complements (e.g. *make [something] crystal-clear* → *dire/établir [qqch] très clairement*, or simply *préciser, insister*), and [Adj+Prep+Noun] is largely used for subject complements (e.g. *[something] is crystal-clear* → *[qqch] est clair comme de l'eau de roche*). On the other hand, Dutch readily has parallel constructions for these expressions, and differences in morphosyntactic procedures are not significant ($\chi 2 = 11.26$; df = 6; $p = 0.081$).

Fig. 4. Association plot for French morphosyntactic procedures as a function of syntactic position (for the figurative-intensifying subgroup).



4.1.1.5. RQ 1 (e) - Effect of register

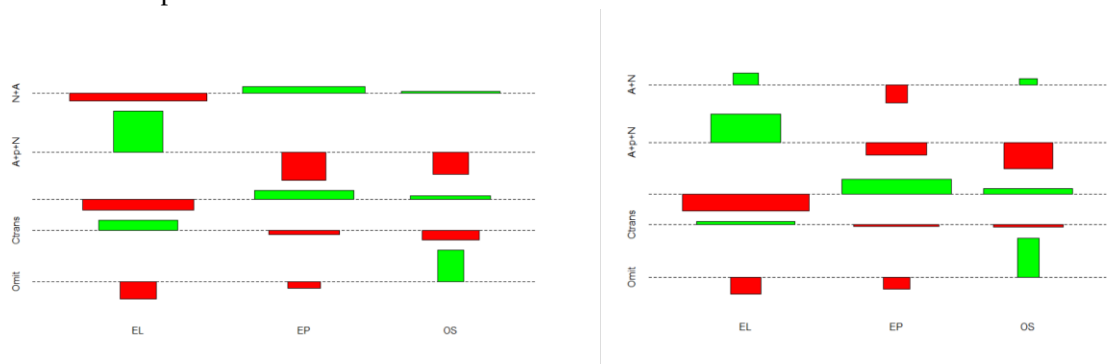
As mentioned, the translation instances were obtained from three parallel corpora with distinct registers, and a possible effect of this factor on morphosyntactic translation procedures was therefore considered (see Table 10).

Table 10. Distribution of Dutch and French morphosyntactic translation procedures by corpus, for all compound adjectives.

	EN → DU translations			EN → FR translations		
	EL	**EP**	**OS**	**EL**	**EP**	**OS**
A+N	0	0	0	27	0	12
N+A	347	322	199	0	0	0
A+p+N	106	4	3	199	76	25
Ptrans	214	222	136	401	379	232
Ctrans	148	92	50	276	193	125
Omit	9	15	37	9	9	40
total	**824**	**655**	**425**	**912**	**657**	**434**

The relative distribution of morphosyntactic procedures is indeed found to differ significantly across the three corpora (Dutch: $\chi2 = 191.33$; df = 8; $p < 0.0001$; V = 0.224 and French: $\chi2 = 177.97$; df = 8; $p < 0.0001$; V = 0.212). Two effects stand out (Fig. 5), but neither is in fact directly attributable to register differences. First, translations in the formal writing corpus EL make disproportionate use of [Adj+Prep+Noun] solutions; however, this is mainly due to the fact that this corpus also contains a disproportionate number of fairly technical subordinative items, and the [Adj+Prep+Noun] form is largely used for such items. Second, the rather drastic decision to omit source items altogether occurs predominantly in the OS corpus of subtitles, a likely result of space constraints in subtitles (see section 4.1.2.4.).

Fig. 5. Association plots for morphosyntactic procedures in Dutch (l) and French (r) translations as a function of corpus.



4.1.2. RQ 2 - Conceptual-semantic translation procedures

4.1.2.1. RQ 2 (a) - Relative application of conceptual-semantic procedures in Dutch and French translations of figurative-intensifying items

The English [Noun+Adj] compound adjectives that contain a figurative-intensifying noun potentially present translators with additional conceptual-semantic challenges (section 2.3.1.2.). The relative application of different procedures in Dutch and French translations is presented in Table 11. For the convenience of discussion, I present the results as a hierarchical nested sequence of decisions; however, I do not claim that this reflects the actual process of translation:

(a) whether to retain intensification;

(b) if so, whether to use a figurative expression; and

(c) if so, whether to retain the source image or replace it with an unrelated target idiom.

Intensification is lost in a surprisingly large proportion of translation instances (Dutch 27.5%; French 32.2%). Although the source item is occasionally simply left out, translators most often opt to use an unmodified adjective. This loss may in part reflect a universal tendency of translated language towards simplification (Munday, 2016, p. 185).

(14) *... while also reducing the costs involved in adapting to a* ***brand new*** *organisational culture.*

D: ... terwijl de kosten van aanpassing aan een ***nieuwe*** *organisatiecultuur worden verminderd.*

F: *... les coûts induits par une adaptation à une* ***nouvelle*** *culture organisationnelle seront réduits.* (EuroParl)

Still, intensification is retained in the majority of translations (D 72.5%; F 67.8%). Dutch translations predominantly use figurative over non-figurative means of intensification (56.1% vs 16.4%), while French ones are more evenly divided (34.8% vs 33.0%).

Table 11. Relative application of conceptual-semantic procedures in Dutch and French translations of compound adjectives containing a figurative-intensifying noun.

		EN → DU translations								EN → FR translations						
N+A comp	**N**	**SimFig**	**DiffFig**	**Explic**	**Lex**	**Dupl**	**Rev**	**Lost**	**N**	**SimFig**	**DiffFig**	**Explic**	**Lex**	**Dupl**	**Rev**	**Lost**
fig-intensif																
brand-new	150	34	28	35	1	1	0	51	146	17	2	65	3	1	0	58
crystal-clear	210	68	14	41	2	6	13	66	219	10	33	83	20	5	16	52
age-old	183	109	23	5	0	1	1	44	184	90	24	14	0	1	0	55
rock-solid	25	7	8	4	0	0	1	5	26	9	3	5	0	0	1	8
chock-full	11	1	4	0	0	0	0	6	16	0	3	0	0	0	1	12
sky-high	21	1	18	1	0	0	0	1	25	0	18	6	1	0	0	0
ice-cold	36	31	2	0	0	0	0	3	38	23	2	0	0	0	0	13
pitch-black	37	15	12	0	0	0	0	10	37	0	4	7	0	0	2	24
razor-sharp	11	8	2	1	0	0	0	0	12	2	4	1	0	0	0	5
lightning-fast	3	3	0	0	0	0	0	0	3	2	1	0	0	0	0	0
dirt-cheap	8	0	5	1	0	0	0	2	6	0	2	2	0	0	0	2
god-awful	6	1	1	0	1	0	0	3	6	1	3	1	0	0	0	1
bone-dry	7	0	2	0	0	1	0	4	8	0	0	3	0	1	0	4
Total	**708**	**278**	**119**	**88**	**4**	**9**	**15**	**195**	**726**	**154**	**99**	**187**	**24**	**8**	**20**	**234**
%		**39.3**	**16.8**	**12.4**	**0.6**	**1.3**	**2.1**	**27.5**		**21.2**	**13.6**	**25.8**	**3.3**	**1.1**	**2.8**	**32.2**
intensification?		**72.5**						**27.5**		**67.8**						**32.2**
figurative?		**56.1**		**16.4**						**34.8**		**33.0**				

When intensification is conveyed with figurative expressions, the image is derived from the same source domain ('SimFig') roughly twice as often as from an unrelated domain that expresses the same meaning ('DiffFig') in both Dutch (39.3% vs 16.8%) and French (21.2% vs 13.6%). However, the selection of a similar or different figurative image is highly item-specific and may not reflect a choice, insofar as translators are constrained by what is available and idiomatic in the target language. I therefore reconsider this issue below, in light of the contrastive data (see section 4.3.1.).

Turning now to non-figurative means of intensification, the predominant expression uses an explicit intensifier (Dutch: 12.4% out of 16.4% total non-figurative means; French: 25.8% out of 33.0%). Most commonly, the source item's adjective constituent is rendered with an equivalent adjective (partial transposition), and the intensifier is an adverb of degree or a prefix.

(15) *A few days away from the first meeting of the Administrative Board of the* ***brand new*** *European Maritime Safety Agency …*

D: *… enkele dagen voor het begin van de eerste bestuursraad van het* ***geheel nieuwe*** *Europees Agentschap voor veiligheid op zee …*

F: *À quelques jours du premier conseil d'administration de la* ***toute nouvelle*** *Agence de sécurité maritime européenne …* (EurLex)

In cases of complete transposition, the intensifier modifies a verb, noun, or prepositional phrase.

(16) *… I want to make it* ***crystal clear*** *to you that we … do not consider this Commission to be politically balanced.*

D: Ik wil u echter ***in alle duidelijkheid*** *zeggen dat wij … uw mening over de politieke evenwichtigheid van de Commissie niet delen.* (EuroParl)

(17) *There were many difficult issues and not always* ***crystal clear*** *…*

F: Il y a eu de nombreux sujets complexes et qui n'étaient pas toujours ***d' une clarté absolue*** … (EuroParl)

In my initial exploration of the translation solutions for *crystal-clear*, I identified three additional non-figurative means of intensification that do not involve an explicit intensifier. These more stylistically marked procedures include 'lexical' intensification (a marked word choice with implicitly intensified meaning; e.g. *crystal-clear* → D: *flagrant* vs *duidelijk;* F: *limpide* vs *clair*), duplication (two coordinated adjectives; e.g. D: *klip en klaar*; F: *clair et net*), and polarity reversal (for a litotes-like intensifying effect; e.g. D: *ondubbelzinning*; F: *sans la moindre ambiguïté*). As seen in Table 11, these procedures turn out to be rare for the other compound adjectives studied here; in subsequent statistical analyses they are combined as 'Other'. They are documented here separately because their existence also led me to explore them as intensification strategies in the contrastive study below.

Before turning to specific factors that affect conceptual-semantic aspects of translation, it is known that translators are subject to two potentially opposite influences: on the one hand, they may be influenced from the source text item (possibly 'interference'), and on the other hand they are constrained by the relative availability or productivity of different intensification strategies in the target language (cf. Toury's 'laws'; Munday 2016, p. 180). The results from the subsequent contrastive study of intensification shed further light on these influences; I therefore review some of the present findings in section 4.3.

4.1.2.2. RQ 2 (b) - Dutch and French

The preceding discussion of conceptual-semantic procedures already suggests some differences between Dutch and French translations. In sum, Fig. 6 illustrates that the proportions of Dutch and French translations that retain or lose intensification are about the same, and the main difference lies in their treatment of figurative language (see also Fig.7). Dutch translations predominantly retain a figurative element, and most often one from the same domain as the source metaphor. French makes relatively more use of non-figurative means, primarily in the form of explicit adverbial intensifiers. These differences are very significant ($\chi 2 = 83.6$; $df = 4$; $p < 0.0001$; $V = 0.241$).

Fig. 6. Distribution of conceptual-semantic procedures in Dutch and French translations.

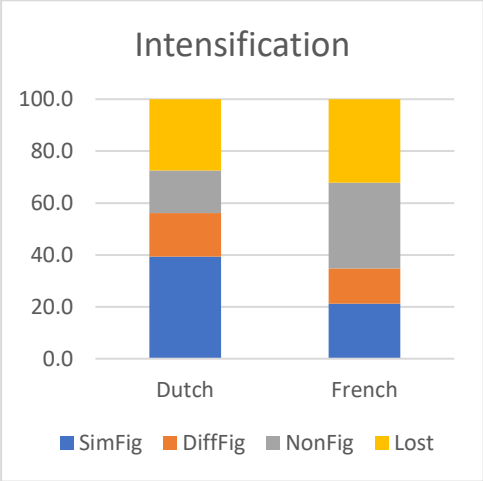
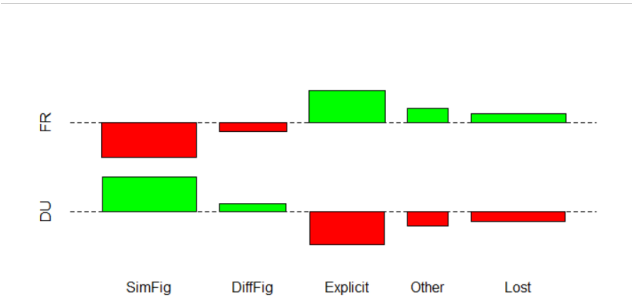


Fig. 7. Association plot for the distribution of conceptual-semantic procedures in Dutch and French translations.



Retention of metaphor is identified by Shuttleworth (2014) as the default procedure in a multilingual study of popular-scientific article translations. The metaphors in these texts are frequently intrinsic parts of the scientific terminology, whereas their function as intensifiers in the present study objects are perhaps more optional, and this difference may explain in part why French translators here frequently discard the figurative element. Interestingly, Carter (2014) has noted a high rate of non-figurative paraphrasing when metaphors in French literary texts are translated to English. Finding this preference in both translation directions is suggestive of the degree of difficulty faced by translators between these two languages, although it is not immediately clear whether any 'misalignment' is primarily morphosyntactic or conceptual. Either way, given Shuttleworth (2014) and my own Dutch findings, the decision to discard metaphors can hardly be regarded as a translation universal.

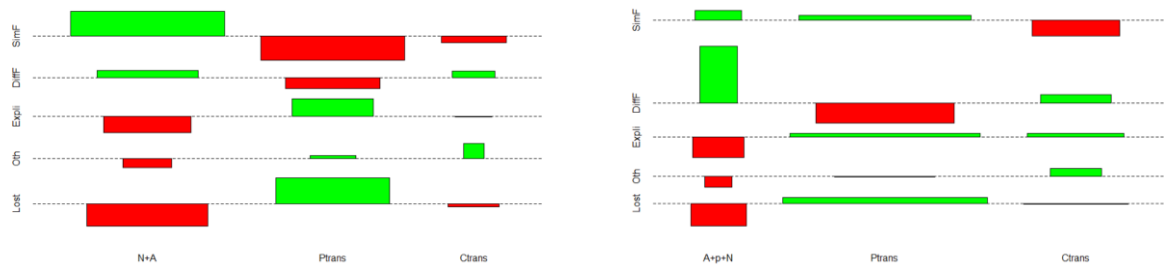
In an investigation of how linguistic metaphors in business reports were translated from English to Spanish, Rodríguez Márquez also encountered frequent non-figurative translations (2010; cited in Schäffner 2017, p. 252). She found no evidence that 'culture' was a factor in the lack of metaphoricity, concluding that the difference was related to concurrent syntactic changes. I discuss this question of an interaction between translators' conceptual and morphosyntactic choices in the next section.

4.1.2.3. RQ 2 (c) - Interaction between morphosyntactic and conceptual-semantic procedures

Table 12. Interaction of conceptual-semantic and morphosyntactic procedures in Dutch and French translations of compound adjectives containing a figurative-intensifying noun.

	EN → DU translations				**EN → FR translations**			
	N+A	**Ptrans**	**Ctrans**	**Omit**	**A+p+N**	**Ptrans**	**Ctrans**	**Omit**
SimFig	252	13	11	0	13	124	17	0
DiffFig	80	20	19	0	26	48	25	0
Explicit	0	81	7	0	0	147	40	0
Other	0	16	12	0	0	38	14	0
Lost	0	161	10	24	0	175	42	17

Fig. 8. Association plots for the interaction of conceptual-semantic and morphosyntactic procedures in Dutch (l) and French (r) translations.



The results in the preceding section are also qualified by the observation that there is a significant interaction between these conceptual-semantic procedures and the morphosyntactic patterns discussed earlier, i.e. between a translator's formal and semantic decisions (see Table 12; Dutch: $\chi2 = 574.64$; $df = 8$; $p < 0.0001$; $V = 0.649$; French: $\chi2 = 125.42$; $df = 8$; $p < 0.0001$; $V = 0.297$). First, when intensification is dropped, the form is predominantly a single unmodified adjective ('Ptrans').[12] Second, for items in this subgroup, the Dutch [Noun+Adj] and French [Adj+Prep+Noun] forms occur only with figurative intensification. Third, unlike Dutch, the French figurative element frequently occurs not as a noun but as an adjective obtained by derivation (e.g. *glacé, séculaire*). Another way to view these associations (Fig. 8) is that the translator's decision to express intensification or not has less effect on the final form than the decision to use a figurative or non-figurative means of intensification.

This significant interaction confirms Rodríguez Márquez's conclusion cited above (2010; cited in Schäffner 2017, p. 252). Further cross-linguistic studies may clarify whether Spanish and French syntactic features nudge translators towards similar semantic treatments of intensification.

[12] The fact that all translations where the source item is omitted ('Omit') also lose intensification represents an unavoidable non-independence between the two coding dimensions. The 'Omit' cases are removed from the $\chi2$ analysis to satisfy test assumptions.

4.1.2.4. RQ 2 (d) - Effect of register

Table 13. Distribution of conceptual-semantic procedures in Dutch and French translations of figurative-intensifying compound adjectives, by corpus.

	EN → DU translations			EN → FR translations		
figurative-intensifying	**EL**	**EP**	**OS**	**EL**	**EP**	**OS**
SimFig	57	126	95	38	72	44
DiffFig	21	55	43	14	59	26
Explicit	21	52	15	35	99	53
Other	2	24	2	4	40	8
Lost	40	76	79	48	73	113
total	**141**	**333**	**234**	**139**	**343**	**244**

Fig. 9. Association plots for conceptual-semantic procedures in Dutch (l) and French (r) translations as a function of corpus.

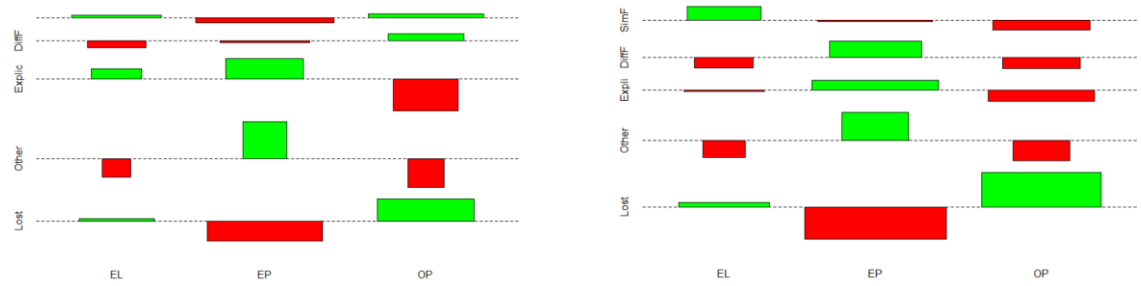


Table 13 shows the distribution of conceptual-semantic procedures in the three parallel corpora. Significant differences are found in both Dutch ($\chi2 = 34.12$; df = 8; $p < 0.0001$; V = 0.155) and French translations ($\chi2 = 58.95$; df = 8; $p < 0.0001$; V = 0.201), although the associations are weak.

First, the 'Other' forms of non-figurative intensification (and in French, different metaphors) occur primarily in the parliamentary debates of EP, where such creative flourishes are often used for oratorical effect.

Second, the decision to drop the source item's intensification ('Lost') is made disproportionately by translators in the OS corpus of subtitles (Fig. 9). In fact, the translations in this corpus are subject to three interacting factors: register preferences, lower translation

expertise, and the subtitling mode (vs 'standard' written translation). As Lefer & Grabar (2015) point out, these effects can be difficult to separate. In the present case, the spatial and cognitive restrictions that constrain subtitling are perhaps the most likely cause.

Third, the Dutch translations in the three corpora differ little in the use of metaphors; in other words, figurative intensifications (especially in the [Noun+Adj] form) appears to be common and available in all registers. By comparison, metaphor in French may be used less for 'run-of-the-mill' intensification and more for a specific oratorical or literary effect, which would explain the register differences and the under-use in the conversational OS.

4.1.2.5. Aside: Regarding the use of figures in the color-specifying subtype

So far, the discussion of conceptual-semantic procedures has focused on the figurative-intensifying subtype of English [Noun+Adj] compound adjectives. Here, I briefly report on the translation of color-specifying compound adjectives. The figurative noun in these items serves not as a standard of comparison but to specify a particular shade of color. Dutch and French translations were coded as to whether they use the same, a different, or no figure. As Table 14 shows, both languages strongly prefer to retain the same image.

Table 14. Distribution of conceptual-semantic procedures in Dutch and French translations of color-specifying compound adjectives.

	EN → FR translations				EN → DU translations			
N+A compound	**N**	**SimFig**	**DiffFig**	**No Fig**	**N**	**SimFig**	**DiffFig**	**No Fig**
color-specifying								
navy-blue	7	5	0	2	8	6	0	2
blood-red	11	9	0	2	12	9	0	3
lime-green	12	4	1	7	12	4	0	8
jet-black	6	2	1	3	4	2	1	1
olive-green	4	4	0	0	6	6	0	0
ruby-red	11	10	1	0	11	10	1	0
cherry-red	9	9	0	0	8	6	2	0
Total	**60**	**43**	**3**	**14**	**61**	**43**	**4**	**14**

4.1.3. RQ 3 - The variation of translation solutions

4.1.3.1. RQ 3 (a) - The number and frequency distribution of Dutch and French translation solutions

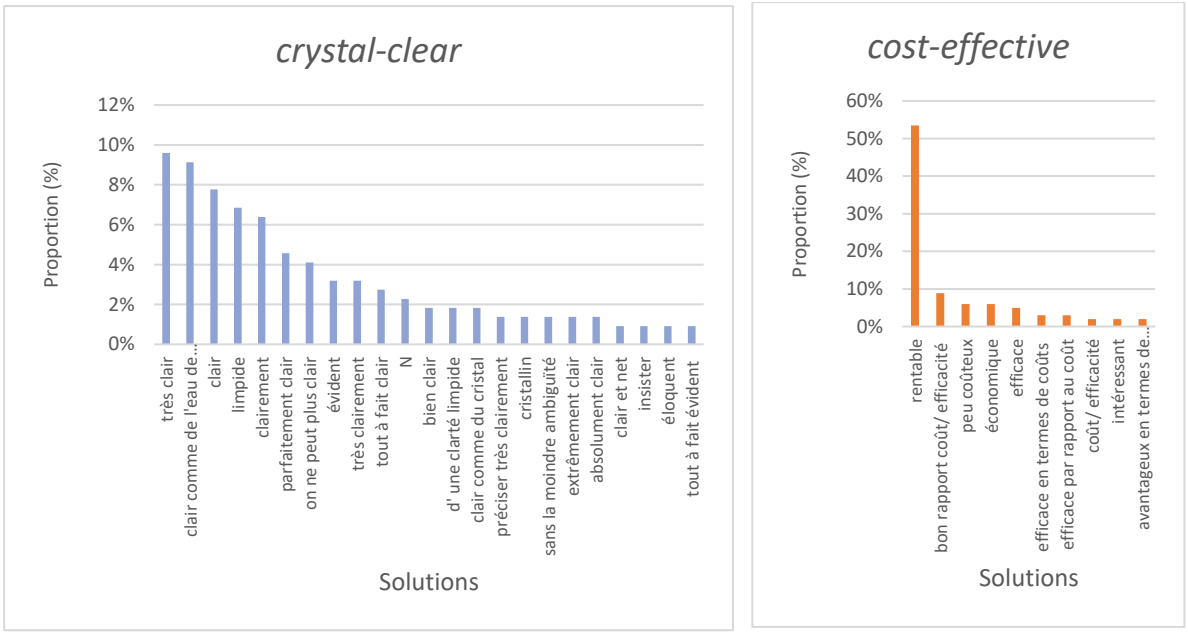
Having described and compared the different kinds of Dutch and French translations of the English compound adjectives under study, I now examine their variation, i.e. the number of different solutions for each item and their distribution (Table 15). Recall that translation instances for each item were combined for different spellings and from three parallel corpora, and that minor differences in inflection or choice of determiner were consolidated into translation solutions.

Solutions that are attested only once may not represent standard translation practice; for this reason, the following analysis considers the number of solutions that occur at least twice ('N sol min 2' in Table 15). The frequency distribution of solutions for a given item generally follows an expected Zipfian pattern, with one or a few dominant solutions and a long tail of increasingly rare alternatives. As illustrated in Figure 10, the shape of this distribution varies considerably: for instance, the French solutions for *crystal-clear* are broadly distributed, while one solution clearly dominates in the case of *cost-effective*. To capture this aspect of variation, I report the proportion of all translations represented by the 'top' solution ('Prop top sol').

Table 15. Number of translation instances and several metrics of translation variation, for Dutch and French translations of four subtypes of English [Noun+Adj] compound adjectives.

		EN → DU translations				EN → FR translations			
N+A compound	Freq PM	N inst	N sol	N sol min 2	Prop top sol	N inst	N sol	N sol min 2	Prop top sol
figurative-intensifying									
brand-new	16.19	150	20	10	31	146	17	11	23
crystal-clear	2.09	210	51	15	22	219	72	23	10
age-old	1.93	183	38	15	38	184	41	13	30
rock-solid	0.75	25	18	2	16	26	15	4	19
chock-full	0.70	11	7	1	45	16	9	2	38
sky-high	0.64	21	8	2	52	25	16	6	12
ice-cold	0.62	36	7	3	75	38	9	5	37
pitch-black	0.50	37	8	5	30	37	13	6	38
razor-sharp	0.49	11	5	2	45	12	10	1	25
lightning-fast	0.33	3	1	1	100	3	3	0	33
dirt-cheap	0.20	8	5	1	50	6	6	0	17
god-awful	0.16	6	4	0	25	6	6	0	17
bone-dry	0.12	7	5	2	29	8	7	1	13
color-specifying									
navy-blue	0.60	8	3	1	75	7	3	1	71
blood-red	0.39	12	2	2	75	11	4	3	55
lime-green	0.34	12	4	4	33	12	6	2	42
jet-black	0.31	4	3	1	50	6	4	2	33
olive-green	0.23	6	1	1	100	4	1	1	100
ruby-red	0.20	11	2	1	91	11	2	1	91
cherry-red	0.15	8	2	2	75	9	2	1	89
spatio-temporal									
life-long	13.93	189	21	9	52	190	36	12	51
nation-wide	9.22	153	28	13	33	198	25	12	45
week-long	4.04	17	8	4	29	14	3	2	57
world-famous	3.20	49	10	5	63	50	18	6	22
century-old	0.76	11	5	1	64	11	4	2	55
company-wide	0.41	15	11	2	20	14	13	1	14
subordinative									
cost-effective	13.27	207	32	9	46	197	43	17	46
energy-efficient	6.85	142	14	6	64	135	47	19	23
tax-deductible	3.07	107	10	8	55	105	17	9	50
site-specific	2.67	60	32	7	33	93	18	11	42
age-appropriate	1.77	45	15	7	31	43	11	4	67
mission-critical	1.08	18	10	3	28	27	12	6	19
water-soluble	0.84	57	5	3	68	72	4	3	50
industry-specific	0.68	34	18	5	29	35	12	5	40
oil-rich	0.66	31	7	3	61	33	12	5	55
OVERALL MEDIAN			**8**	**3**	**46**		**11**	**4**	**38**
(IQR)			**(12)**	**(5)**	**(33.5)**		**(13)**	**(6.5)**	**(30.5)**
fig-int subtype only			**7**	**2**	**38**		**10**	**4**	**23**
			(13)	**(4)**	**(21)**		**(9)**	**(5)**	**(16)**
all other subtypes			**9**	**3.5**	**53.5**		**11.5**	**3.5**	**50**
			(11.5)	**(4.8)**	**(34)**		**(13.8)**	**(6.3)**	**(16)**

Fig. 10. Distribution of French translation solutions ('N sol min 2'): (a) for *crystal-clear*; and (b) for *cost-effective*.



The sheer number of different solutions is an important finding in itself. For instance, in the case of *crystal-clear*, the 200-odd instances contain 51 different Dutch and 72 French solutions. [13] This high variation cannot be explained exclusively by the range of morphosyntactic and conceptual-semantic procedures described in the preceding sections. One major additional contributor to translation variation is the extensive use of near-synonyms. For instance, among translation solutions for *crystal-clear* that apply identical procedures (namely, partial transposition and explicit non-figurative intensification), we find a diversity of intensifiers: *heel duidelijk, volkomen duidelijk, erg duidelijk, volstrekt duidelijk,* and even *heel erg duidelijk* in Dutch, and *très clair, parfaitement clair, tout à fait clair, absolument clair, extrêmement clair,* and *totalement clair* in French. In another example, it is the adjective that is diversified: *world-famous* → Dutch *wereldberoemd, wereldbekend*; French *mondialement célèbre, mondialement (re)connu, mondialement renommé,* and *mondialement réputé*.

[13] The number of solutions observed for a given source item is naturally related to the available number of translation instances. This potentially confounding sampling factor is considered in the analysis below.

For items in the subordinative subgroup, translators often need to explicitly express a semantic relation between constituents that is implicit in the juxtaposition in English. Such explicitation can lead to a proliferation of prepositional choices (e.g. *age-appropriate* → Dutch *aan de leeftijd aangepast, op de leeftijd afgestemd, bij de leeftijd passend*; also *cost-effective* → French *efficace en termes de coûts, efficace par rapport au coût, efficace sur le plan des coûts*).

When translators make near-synonymous choices at two or more slots of a construction, the effect on the number of solutions can be cumulative. The following example illustrates this for Dutch translations of *site-specific*, which furthermore use both [Adj+Prep+Noun] and [Noun+Adj] forms:

specifiek	*van*	*de locatie*
afhankelijk	*voor*	*de plaats*
speciaal	*ter*	*het terrein*
bepaald	*door*	*het gebied*
		de installatie
locatie	*-specifiek*	
plaats	*-gebonden*	
installatie	*-afhankelijk*	
	-gerelateerd	

Another potential source of translation variation derives from different meanings of the source adjective in different contexts, i.e. on the noun that it modifies. For instance, in Dutch translations, a *rock-solid* <u>*argument*</u> is *rotsvast*, a *rock-solid* <u>*alibi*</u> is *waterdicht*, and a *rock-solid* <u>*agreement*</u> is *als in steen gebeiteld*. In other words, the different translations point up the polysemy of English *solid*, whose meaning here might be glossed as 'dependable', 'unassailable', and 'unchanging', respectively.

Similarly, French translators favor different adjectives for *ice-cold*, depending on whether the context is concrete or abstract:

(18) *I' m going to bring you an* ***ice cold*** *beer.*

F: Je vais te donner une bière ***bien fraîche****, mon camarade.* (OpenSub)

(19) *... your speech today is an* ***ice-cold****, nationalist declaration of war on the idea that that flag symbolises.*

F: ... votre discours d' aujourd'hui est une ***froide*** *déclaration de guerre, nationaliste, contre ce que symbolise le drapeau.* (EuroParl)

Or again, different solutions occur in both Dutch and French translations for *life-long*, depending on whether its meaning is looking back in time (D: *zijn hele leven*; F: *d'enfance*) or looking forward (D: *voor het leven*, F: *à vie*). In fact, studying the translations of a source item can shed fresh light on its range of meanings, as demonstrated in work by Noël (2003) and Dyvik (2004). This is an intriguing and rather fundamental issue, which unfortunately exceeds the scope of the present study.[14]

4.1.3.2. RQ 3 (b) - Dutch and French

In section 2.3.1.4., I have presented my expectation that translation variation would be greater in French than Dutch, given its greater morphosyntactic differences from English for the present study objects. The median number of French solutions is indeed higher (11 vs 8; Table 15); however, there is also considerable variation between items. Results of a paired Wilcoxon signed rank test for dependent samples indicate that the 'N sol min 2' does not differ significantly between French (median 4, IQR 6.5) and Dutch (med 3, IQR 5) translations (Wilcoxon V = 300.5; p = 0.068).

The frequency distribution of solutions does differ significantly: the 'Prop top sol' is lower in French (med 38, IQR 30.5) than in Dutch (med 46, IQR 33.5) translations (Wilcoxon V = 143; p = .024); in other words, French translations are less likely to have a single dominant solution. This difference is particularly pronounced for the figurative-intensifying subtype of items ('Prop top sol' in French: med 23, IQR 16; Dutch: med 38, IQR 21; Wilcoxon V = 5.5; p = .0050).

4.1.3.3. RQ 3 (c) - Effect of presence or absence of a figurative-intensifying noun

I also expected that both languages would have more varied solutions for the figurative-intensifying adjectives than for those in the other three subtypes, as a result of the additional challenges involved (section 2.3.1.4.). I now examine the effect of the presence or absence of a

[14] As a starting point for future investigation, I have added semantic coding (for the adjective and the modified noun) to the parallel corpus data.

figurative-intensifying noun on translation variation, separately in the two languages. Wilcoxon signed rank tests for independent samples shows that the French 'N sol min 2' does not differ significantly between the figurative-intensifying subtype (med 4, IQR 5) and the other items (med 3.5, IQR 6.3; Wilcoxon W = 126; p = 0.571), and the same applies for Dutch (figurative-intensifying subtype: med 2, IQR 4; others: (med 3.5, IQR 4.8; W = 122; p = 0.479).[15]

However, the 'Prop top sol' metric for French translations is significantly lower in the figurative-intensifying subtype (med 23, IQR 16) compared to the others (med 50, IQR 16; Wilcoxon W = 34.5; p < 0.001), while the difference in Dutch is not significant (figurative-intensifying subtype: med 38, IQR 21; others: med 53.5, IQR 34; W = 97.5 p = 0.129).

This result can in turn be related to the discussion of morphosyntactic procedures (section 4.1.1.2.; Fig.1): the reduced difference in Dutch translation variation between the subtypes is linked to the relatively even use (and availability) of [Noun+Adj] solutions, whereas the pattern of different forms between the subtypes is more pronounced in French.

4.1.3.4. RQ 3 (d) - Effect of the items' frequency of use in English

Another factor that may influence translation variation for individual items is their frequency of use in English. In section 2.3.1.4., I have argued that high-frequency compound adjectives are more likely to be lexicalized (listed in the mental lexicon), that translators are therefore more likely to have access to a previous translation and converge on one or a few entrenched solutions. I therefore expect that high-frequency items will have a lower number of translation solutions and/or that the dominant solution will have a higher proportion.

I use Kendall rank correlation tests to explore the relationship between the compounds' frequency of use in English and two metrics for translation variation: the 'N sol min 2' and the 'Prop top sol'.[16] Results for 'N sol min 2' indicate a high positive and significant correlation

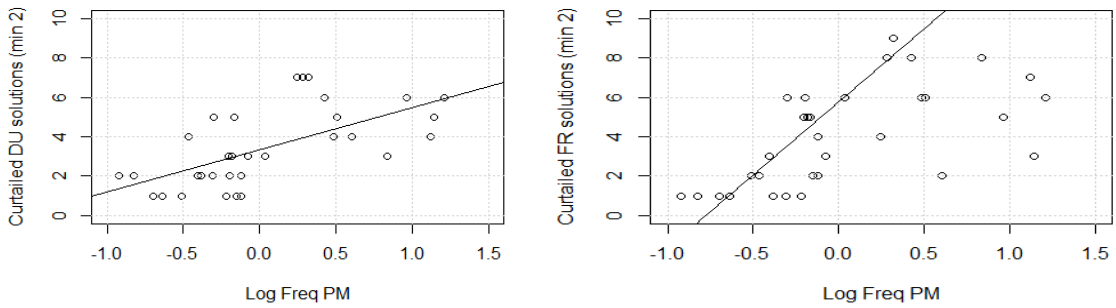
[15] These comparisons are affected by the number of available translation instances. In particular, the median number of solutions for the figurative-intensifying subtype are distorted by several low-frequency items. However, I find very similar results when redoing the analyses with a 'curtailed' dataset (which reduces the maximum sample size to 50 and removes three items for which the French 'N sol min 2' = 0).

[16] Relative frequencies obtained from the enTenTen15 reference corpus underwent a standard logarithmic transformation (Gries, 2013: 160 and 293). The 'N sol min 2' is not normally distributed (Shapiro-Wilk tests), hence the use of the non-parametric Kendall's Tau (τ) rank correlation statistic and of τ^2 as coefficient of determination.

in both Dutch ($\tau = 0.606$, $z = 4.91$; $p < 0.001$) and French ($\tau = 0.629$, $z = 5.14$; $p < 0.001$) translations.[17] They also suggest that $\tau^2 = 37\%$ and 40% of the variation in Dutch and French 'N sol min 2' are accounted for (in a statistical sense, not necessarily causally) by the log of the frequencies. Linear regressions are shown in Fig. 11. On the other hand, results for the 'Prop top sol' show a weak or no correlation in both languages (Dutch: $\tau = -0.140$, $z = -1.167$; $p = 0.243$; and French: $\tau = 0.031$, $z = 0.256$; $p = 0.798$).

The positive correlation between frequency and 'N sol min 2' runs counter to my prediction. It appears instead that high frequency offers more opportunities for the formulation and proliferation of diverse translation equivalents.

Fig. 11. Correlation between study items' frequency of use in English and the number of Dutch (l) or French (r) translation solutions that occur at least twice ('curtailed' data).



[17] The number of available translation instances is a confounding variable here as well, since it is itself influenced by the frequency of each item. I created a 'curtailed' dataset, which reduces the maximum sample size to 50 and removes three items for which the French 'N sol min 2' = 0. Redoing the analysis results in somewhat more conservative estimates of correlation for 'N sol min 2' (Dutch: $\tau = 0.475$, $z = 3.62$; $p < 0.001$; French: $\tau = 0.500$, $z = 3.83$; $p < 0.001$). However, they are still moderately positive and significant, and my interpretation remains the same.

4.2. Contrastive comparison of intensification strategies

This second part consists of a contrastive exploration of intensification strategies in English, Dutch, and French. Starting from six of the simple English adjectives at the core of the preceding translation analysis and their main equivalents in Dutch and French, I examine the range of formal constructions by which they are intensified in general (non-translated) language, then rank the strategies by preference within each language, and compare between languages.

4.2.1. RQ 4 (a) - Range of intensification strategies

In the preceding section, I have described and analyzed translation solutions for their own interest. These same translation solutions here provide a useful starting list of candidate intensifying constructions. The general language use of these constructions, and many others, is now explored in three reference corpora (enTenTen15, nlTenTen14, and frTenTen17).

Detailed lists of all observed intensifying constructions are organized in six separate tables for the English adjectives *new, clear, old, full, solid,* and *high* and their main Dutch and French equivalents. A systematic exploration of the base adjective's left and right context has identified the majority of the intensification strategies. Additional strategies express an intensified meaning without using the base adjective ('Reverse', 'Lex', and 'Other'); their exploration was of necessity less exhaustive but still provides useful insights.

What follows is a brief description of each strategy. The detailed tables are too large to be included here (see Appendix 4). For the present discussion, Table 16 provides an overview of the main strategies, with a few representatives and their relative frequency.[18]

[18] For adjective-based strategies, the table also lists their proportion of the frequency of the base adjective ('% adj'). This permits comparison between the adjectives (see section 3.3.3.). In addition, 'NA' denotes strategies that were not found in the corpora, while '?' indicates that they were not systematically explored, and (blank) indicates rare strategies (which are detailed in the Appendix tables). The '(?)' after certain constructions indicates partial semantic overlap, discussed below. Finally, three rare strategies ('duplication', 'repetition', and 'as possible') are briefly discussed but are not included in this overview table.

Table 16. Overview of the main intensification strategies for six English adjectives and their Dutch and French equivalents.

	English			Dutch			French		
		freq	**% adj**		**freq**	**% adj**		**freq**	**% adj**
new		**1324.00**		**nieuw**	**1492.00**		**nouveau + neuf**	**1112.00**	
compound	brand-new	16.19	1.22	gloednieuw, splinternieuw (etc)	14.92	1.00	flambant neuf	0.95	0.09
prefix	all(-) new super new (etc)	2.78 0.03	0.21 0.00	supernieuw (etc)	0.09	0.01	super nouveau (etc)	0.06	0.01
adverbial	whole/entirely new (etc)	6.09	0.46	geheel/compleet nieuw (etc)	21.60	1.45	tout nouveau, tout neuf (etc)	15.64	1.41
A+prep+N	NA			NA			NA		
reverse	NA			NA			NA		
Lex	?			?			?		
superlative	newest (?)	16.19	1.22	(aller)nieuwste (?)	48.72	3.27			
other	ground-breaking	8.39		?			inédit, venir de (etc)	41.73	
clear		**137.20**		**helder + duidelijk**	**399.50**		**clair**	**101.50**	
compound	crystal-clear	2.09	1.53	glashelder, kristalhelder (etc)	5.25	1.31	NA		
prefix	super clear (etc)	0.06	0.04	overduidelijk superduidelijk (etc)	6.23 0.23	1.56 0.06	super clair (etc)	0.14	0.14
adverbial	very/abundantly clear (etc)	6.24	4.55	heel duidelijk / helder (etc)	14.30	3.58	très clair (etc)	6.91	6.77
A+prep+N	clear as day (etc)	0.14	0.10	zo helder als glas	0.06	0.02	clair comme de l'eau de roche/ du cristal	0.14	0.14
reverse				geen twijfel (etc)	3.95		sans ambiguïté, on ne peut plus clair (etc)	2.11	
Lex	evident (?)	16.67		evident (?)	5.72		limpide évident (?)	3.16 39.4	
superlative									
other	clear-cut (?)	1.07	0.78	vanzelfsprekend (?) (etc)	36.92		aller de soi, cristallin	7.36	
old		**252.10**		**oud (?)**	**470.20**		**vieux + ancien**	**391.10**	
compound	age-old	0.49	0.19	eeuwenoud	8.67	1.84	NA		
prefix	NA			aloud, oeroud	4.44	0.94	NA		
adverbial	very old (etc)	2.07	0.82	heel/zeer oud	3.55	0.76	très ancien (etc)	5.23	1.34
A+prep+N	as old as time (etc)	0.06	0.02	zo oud als de straat	0.07	0.01	vieux comme le monde	0.25	0.06
reverse	?			?			?		
Lex				eeuwig (?)	20.90		séculaire	2.27	
							ancestral, millénaire (etc)	36.53	

superlative	NA			NA			NA		
other	long-lasting (etc)	3.48		van oudsher (etc)	8.40		depuis (très) longtemps	21.70	
solid		**42.82**		**sterk + stevig**	**341.30**		**solide**	**39.30**	
compound	rock-solid	0.75	1.74	rotsvast	0.89		NA		
				ijzersterk	4.06	1.19			
prefix	super solid (etc)	0.02	0.05	supersterk, oersterk	2.03	0.60	super solide (etc)	0.12	0.31
adverbial	very solid (etc)	0.64	1.49	zeer sterk / stevig (etc)	13.37	3.92	très solide	1.72	4.41
A+prep+N	solid as a rock	0.03	0.07	NA			solide comme un roc	0.06	0.15
reverse	unwavering, unshakeable	2.48		onwankelbaar	0.27		inébranlable, irréfutable	1.94	
Lex	?			?			?		
superlative				stevigste / sterkste (?)	9.49	2.78			
other	steadfast	2.32		standvastig (etc)	1.51		en béton (etc)	6.91	
full		**283.50**		**vol**	**242.00**		**plein**	**199.30**	
compound	chock-full	0.70	0.25	boordevol, bomvol (etc)	9.68	4.00	NA		
prefix	super full (etc)	0.02	0.01	overvol (?)	4.35	1.80	super plein (etc)	0.01	0.01
				supervol (etc)	0.06	0.02			
adverbial	very full (etc)	0.47	0.17	helemaal vol (etc)	2.97	1.23	tout plein	1.20	0.60
A+prep+N	full to the brim	0.08	0.03	NA			plein à craquer (etc)	0.56	0.28
reverse	?			?			ne pas manquer	3.53	
Lex	filled, packed, stuffed (etc)	38.17		?	.		bourré	1.62	
superlative									
other	?			bol staan	0.66		regorger de (etc)	5.10	
high		**373.30**		**hoog (?)**	**591.02**		**élevé**	**97.80**	
compound	sky-high	0.64	0.17	torenhoog (etc)	2.85	0.48	NA		
prefix	ultra-high (etc)	1.00	0.27	extra hoog (etc)	1.23	0.21	super élevé	0.02	0.02
adverbial	very/extremely high (etc)	13.20	3.54	zeer/heel hoog (etc)	16.19	2.74	très élevé (etc)	7.11	7.26
A+prep+N	NA			NA			NA		
reverse	NA			NA			NA		
Lex	exorbitant, astronomical (etc)	2.12		?			vertigineux, exorbitant, faramineux, astron	6.92	
superlative	highest (?)	64.10	17.18	(aller)hoogste (?)	32.55	5.51			
other	through the roof	0.55		de pan uit rijzen (etc)	0.38		explosion (etc)	5.39	

- Compounds

Nearly all compounds discovered as adjective intensifiers are constructed as [Noun+Adj], where the noun is invariably figurative. While English typically has one such item per adjective, these elative compounds are a particularly productive option in Dutch (e.g. for *nieuw: gloednieuw, splinternieuw, spiksplinternieuw, fonkelnieuw, nagelnieuw*). Their striking pervasiveness was already commented on by Fletcher (1980, cited by Van der Wouden & Foolen, 2017, p. 86). Both in English and Dutch, the limited options of nouns to intensify a given adjective represent restricted collocations. The nouns often reflect common everyday objects meant to illustrate the high scalar degree of the adjective's quality (cf Oebel's term 'Volkssuperlative', cited by Van der Wouden & Foolen, 2017, p. 86).

The exceptional French *flambant neuf* (also observed in translation) appears to be a rare example of a right-headed [Adj+Adj] compound; I have identified only one other example in frTenTen17, *raide mort*, which is similarly intensifying,. As discussed in section 2.2.3., there is little agreement on the status of compounds in French, and most of the literature is in any case focused on noun compounds. Villoing's (2012) only category for compound adjectives concerns coordinated constructions (e.g. *aigre-doux*). More pertinent mentions appear in the contrastive literature on intensification: Hendrikx (2019, p. 88) mentions *ivre-mort* ('dead drunk') as a French adjective compound, and Malloggi (2017, p. 262) identifies so-called 'loose compounds' like *freddo gelido* ('freezing cold') and *stanco morto* ('really tired') as Italian counterparts to German [Noun+Adj] forms (see also Grandi 2017b, p. 61, on 'fossilized collocations'). However, these examples follow the more common Romance tendency for left-headed constructions, and *flambant neuf* represents an unusual departure from expected word order.

Incidentally, the potential English equivalent **flaming new* is not attested, presumably blocked by *brand-new*. However, this search led me to discover that English does have intensifying compounds of the form [V-ing+Adj], which thus deserve to be added to the classification of English compound adjectives in Table 1. They are rare and restricted to a few participles (*burning hot, raving mad, cracking good, stinking rich*). The grammaticalized form *fucking* + [Adj] is more productive (but this may represent a prefixoid, not a true compound).

- Prefix and prefixoid

I identify four prefixes derived from Greek, Latin or English (*super, extra, ultra, and hyper*; 'loan' prefixes in Malloggi, 2017), which occur in all three languages, although at very low frequencies. Actually, the term 'prefix' used in the literature (Malloggi, 2017; Grandi 2017b) could be contested. While their combination with nouns is normally spelled closed (*hypermarché* etc.), their present combinations with adjectives occur in all three spelling forms (see also Lefer & Grabar, 2015, p. 195), and in fact, the open spelling is the more common, even in Dutch (e.g. English *super clear* in 354 instances, *super-clear* 84, *superclear* 8; Dutch *extra duidelijk* 426, *extra-duidelijk* 1, *extraduidelijk* 0; French *ultra clair* 119, *ultra-clair* 55, *ultraclair* 14). Thus, their use is difficult to distinguish from adverbs and blurs the boundary between morphology and syntax. A second kind of (more reliably termed) prefixes, called 'native' by Malloggi (2017), occur almost exclusively in Dutch, where they are also more frequent (e.g. *overduidelijk, oeroud*).

The English *all-new* is included here as it is more often hyphenated than open (*all-new* 31,764, *all new* 11,018), presumably to distinguish its use from the syntactic (pre)determiner use (*all [the] new*).

The only prefixoid intensifier (*sensu* Van der Wouden & Foolen, 2017) encountered with the present adjectives is *keihard*.

- Adverbial

The adverbs *very, heel/zeer*,[19] and *très* may appear to be the prototypical intensifiers, but the situation is more complex. As Paradis (2001, p. 51-52) has shown, both adjectives and their degree modifiers come in different types, and these usually need to be semantically matched. Specifically, scalar modifiers (or 'boosters', indicating a high degree) normally occur with unbounded 'scalar' adjectives, while totality modifiers (or 'maximizers', denoting an upper extreme) tend to intensify bounded adjectives (which in turn are 'extreme' or non-scalar 'limit' adjectives). This is the reason we do not expect constructions like **very fantastic* or **totally long*.

[19] For the adjectives examined here, *zeer* is well attested, and is even favored over *heel* for some (*stevig, sterk, hoog*). Hendrikx et al. (2019: 82, Figure 1b) do not show *zeer* as occurring in L1 Dutch, which may reflect a significant genre difference.

My findings indicate that the unbounded adjectives *old*, *solid*, and *high* (and their equivalents) are indeed paired primarily with boosters (*very*, *heel/zeer*, *très*). The 'extreme' (scalar and bounded) adjectives *new*, *clear*, and *full* occur with maximizers (*completely*/*entirely*, *helemaal/compleet*, *tout à fait/tout*), although *clear* is more often boosted. Within these constraints, some adjectives appear to favor a particular collocation over a range of alternatives (e.g. *whole new*, *abundantly clear*, *tout nouveau*).

Preferences for a particular intensification strategy are often quite item-specific. For instance, *full* has a very low rate of adverbial intensification in English; it appears that the 'Lexical' strategy (*packed, stuffed, bursting, loaded with*) is favored in this case.

- Superlative

English and Dutch have two forms of superlative, with *most/meest* and with suffix *-(e)st* (in addition to Dutch *aller*-). In French, the form *le plus [Adj]* is generally not intensifying; I searched instead for *les/des plus [Adj]*. Unlike the *-issimo* form that is very frequent in Spanish and Italian (e.g. Malloggi, 2017), the *-issime* form is vanishingly rare; even the plausible *clarissime* is not attested.

The use of superlatives as a means of intensification was first suggested by the instance of *allernieuwst* for *brand-new* in the preceding translations. The present reference corpora also attest this use, for instance:

(20) *Baker is an old-fashioned muckraking journalist and pamphleteer using the* ***newest*** *technologies.* (enTenTen15)

U bent hierdoor verzekerd van de ***hoogste*** *kwaliteit en service!* (nlTenTen14)

However, while the superlative *form* is quite frequent, identifying whether their use is intensifying is not straightforward. Van der Wouden & Foolen (2017, p. 87) point out that superlatives are "natural candidates" for intensification, but only when used in an 'absolute' sense (as in my examples above); their 'normal' use involves comparison with other objects and does not intensify. In the present case, this distinction is highly item-specific: the superlative is frequently intensifying for *new* and *high* but does not appear to have this function

for other adjectives.[20] Even then, it is often difficult to decide whether the use is primarily comparative or intensifying:

(21) *… in one of the **highest** earning areas of a very affluent country we have children on our own doorsteps living in poverty*. (enTenTen 15)

A simple prorating of relevant items, as I have done elsewhere, proved impossible here. Rather than give a misleading impression of reliable quantification, these forms are therefore marked with '(?)' in the tables, which also means that their high frequency cannot be compared directly with other strategies.

- Duplication [21,22]

As in the preceding translation analysis, 'duplication' refers to the use of two (different) coordinated adjectives; I searched to the left and right of each adjective. This strategy is rare, except for *clear* and *solid* and their equivalents (E *clear and simple*; D *klip en klaar*; F *clair et net*). The coordinated adjective often serves to specify a particular meaning as well as to intensify (e.g. *solid and strong* vs *solid and reliable*); in other cases there is no intensification (*new and improved* does not mean 'very new').

The coordinated adjectives often alliterate (e.g. *crisp and clear, solid and stable, klip en klaar*). In fact, there appears to be a tendency toward alliteration and assonance in the compounds as well (e.g. *crystal-clear, huizenhoog, sky-high, kersvers*).

[20] It is perhaps this difficulty that led Huddleston and Pullum (2002, p. 1165) to claim that "[i]n general, forms marked with the inflectional suffix *–est* are not used in the intensifying sense." Their related suggestion that English more often uses the adverb *most* (e.g. *Kim is a most enthusiastic supporter*; 2002, p. 1165) is not borne out for the present adjectives.

[21] The strategies 'duplication', 'repetition', and 'as possible' are not included in the summary table.

[22] This is not to be confused with 'reduplication', a term sometimes used for what I call 'repetition' (of the same adjective). Perhaps in an effort to avoid confusion, Huddleston and Pullum (2002, p. 561) refer to these as 'intensificatory tautology' and 'intensificatory repetition', respectively.

- Repetition

Repetition of the same adjective (with or without a comma) occurs as a means of intensification in all three languages, but at very low frequencies. Interestingly, unlike English and Dutch, French instances are almost always negative sentences.

(22) *E: … in no way captures the stain glass windows, murals and* ***high high*** *arched domes.* (enTenTen15)

D: *Die* ***oude oude*** *eetgewoontes bevallen me eigenlijk beter.* (nlTenTen14)

F: *C'est pas* ***solide solide*** *ni super bien, mais sa fera l'affaire.* (frTenTen17)

- 'as possible'

Based on Van der Wouden & Foolen's (2017) discussion, I searched for the construction "*as [Adj] as possible*". It occurs mainly in Dutch (*zo hoog mogelijk, zo duidelijk mogelijk*) but is very rare in English and French. In retrospect, its use appears to be primarily comparative rather than intensifying.

- Reverse polarity

As stated earlier, the focus of this contrastive investigation is conceptual-semantic, and this means that all formal options for intensification are considered (section 2.3.2.2.). The three remaining strategies use constructions that do not include the base adjective, and the expression of intensification is often more implicit than explicit. Many were first identified in the preceding translations, and some would in fact not otherwise have been considered or uncovered as alternative candidates – a fact that highlights the benefit of combining parallel and reference corpus data (section 2.3.2.1.). During the present contrastive exploration, additional constructions of this nature were found by analogy and back-translation.

In polarity reversal, the opposite of the intended quality is negated, which has a litotes-like effect. As is the case with other constructions, its use is item-specific, common for some adjectives (*clear, solid*) but apparently absent (or at least not uncovered) for others. The use of these terms is often restricted to particular contexts (e.g. *[preuve] irréfutable; [conviction] inébranlable*); this partial semantic overlap with *solide* also means that their frequencies are not directly comparable.

Most instances involve negated adjectives, but transposed noun and verb phrases also occur, sometimes with a mild ironic flavor:

(23) *Le chanteur et guitariste **ne manque pas d'**énergie!* (frTenTen17)

- 'Lexical'

I introduced the term 'lexical' intensification in the preceding examination of translations to capture word choices, such as *limpide* for *crystal-clear*, that appear to be implicitly intensified; in other words, unlike *clair*, *limpide* did not lose the intensification of the source item. These words may be 'marked' by a figurative image or are perceived as unusual due to low frequency. In the present exploration of such items, I find some evidence for this implicit intensification in that they are rarely modified with booster adverbs (e.g. *très limpide*, 0.04 pm; *très évident*, 0.19 pm), as expected for 'extreme' adjectives (Paradis, 2001, p. 52).

Among the adjectives examined here, some appear to invite a proliferation of 'lexical' alternatives (e.g. *très ancien ~ éternel, sempiternel, séculaire, millénaire; très élevé ~ vertigineux, exorbitant, faramineux, astronomique*). Note that most of these constructions are figurative and were thus coded as 'SimFig' or 'DiffFig' in the translation study.

- Other

This last category assembles a variety of constructions, which also involve nouns, verbs, or prepositional phrases. Some occurred as 'Ctrans' translation solutions, others are added here from back-translation or introspection. The lists are inherently incomplete but give an idea of the range of options for expressing intensification beyond those described thus far.

(24) *E: Food prices are **through the roof** and there won't be a normal harvest.* (enTenTen15)

D: *De bron is zeer betrouwbaar en de betekenis van het incident **vanzelfsprekend**.* (nlTenTen14)

F: *Sony **vient de sortir** une nouvelle update du firmware PSP.* (frTenTen17)

Finally, the use of figurative language for intensification is not specified above, since the strategies are identified on formal grounds. Figurative constructions occur mainly among the

compounds (which are here *all* figurative), the [Adj+Prep+Noun] form, and the 'lexical' and 'other' strategies.

4.2.2. RQ 4 (b) – Ranking and comparing the relative use of strategies

For those constructions that intensify the base adjective, it is possible to average and compare occurrences over the six cases. The other constructions are discussed below.

Since the frequencies of the base adjectives vary considerably (e.g. *new* 1324 pm vs *solid* 42.8 pm), the relative frequencies for constructions cannot be compared directly (section 3.3.3.). I therefore calculate their adjective-specific 'proportion of intensification' ('% adj'), i.e. what proportion of the occurrence of a given base adjective is represented by each type of intensifying construction based on that adjective. Their averages are shown in Table 17. (Unfortunately, the superlative values are too sporadic or unreliably high to compare directly; they are only included for reference). First of all, it appears that adjectives in all three languages are intensified (by any means) only a few percent of the time; the effect is thus cognitively salient when it does occur.

Table 17. 'Proportions of intensification' ('% adj') for different strategies, averaged over the six cases.

	English					Dutch					French				
	comp	prefix	Adv	A+p+N	superl	comp	prefix	Adv	A+p+N	superl	comp	prefix	Adv	A+p+N	superl
new	1.22	0.21	0.46	0.00	1.22	1.00	0.01	1.45	0.00	3.27	0.09	0.01	1.41	0.00	0.00
clear	1.53	0.04	4.55	0.10	0.00	1.31	1.62	3.58	0.02	0.00	0.00	0.14	6.77	0.14	0.00
old	0.19	0.00	0.82	0.02	0.00	1.84	0.94	0.76	0.01	0.00	0.00	0.00	1.34	0.06	0.00
solid	1.74	0.05	1.49	0.07	0.00	1.19	0.60	3.92	0.00	2.78	0.00	0.31	4.41	0.15	0.00
full	0.25	0.01	0.17	0.03	0.00	4.00	1.82	1.23	0.00	0.00	0.00	0.01	0.60	0.28	0.00
high	0.17	0.27	3.54	0.00	17.18	0.48	0.21	2.74	0.00	5.51	0.00	0.02	7.26	0.00	0.00
Mean	**0.85**	**0.10**	**1.84**	**0.04**	**3.07**	**1.64**	**0.87**	**2.28**	**0.01**	**1.93**	**0.02**	**0.08**	**3.63**	**0.11**	**0.00**

Table 18. Summary of intensification strategies. Preferred forms in each language are marked in red.

	Non-figurative	**Figurative**
Use base adjective (morphosyntax)	Adverb - **E D F** Prefix - **D** Superlative Duplication Repetition	[Noun+Adj] - **E D** [Adj+Prep+Noun]
Do not use base adjective (implicit)	Verbs, nouns	Reverse polarity 'Lexical' - **F** Verbs, nouns - **F**

Given the caveats mentioned earlier regarding partial meaning correspondences and several adjective-specific preferences, these averages can only provide a framework for broad comparison.[23] Apart from the near-absence of compounds in French, all strategies occur in all three languages, but with significantly different preferences, which are also visualized in Table 18.

Adverbial intensification is the preferred means in all three languages. English and Dutch also make extensive use of compounds, and Dutch uses prefix forms more often than the other two languages (e.g. *overduidelijk, oeroud*). With regard to the figurative [Noun+Adj] compounds, the focus of the preceding translation study, their occurrence follows a cline of Dutch > English > French (1.64, 0.85, and 0). Yet the initial impression that Dutch uses these figurative compounds more frequently than adverbial or other means is not supported: the average 'adj %' is higher for the adverbs (2.28 vs 1.64). The sense of pervasiveness cited above is perhaps based more on their diversity than on actual occurrence. In fact, for the entire list of alternative compounds for *nieuw* (*gloednieuw* etc.) given earlier, the 'adj %' is still lower than that of the adverbial constructions (1.00 vs 1.45). This dominance of adverbial intensification was also found by Hendrikx et al. (2019), and the extensive use of intensifying prefixation in Dutch agrees with results in Hendrikx et al. (2017).

[23] A chi-squared test should not be applied to these small average values; nevertheless, the effect size is moderately high (Cramer's V = 0.350), and the association plot confirms these trends.

Setting aside the intriguing 'loose' compound *flambant neuf* (discussed in section 4.2.1.), French does not have a direct equivalent using the figurative [Noun], whether left- or right-headed. Counter to my earlier speculation (section 2.2.3.), French does not make up for this absence by relying on the 'nearest' prepositional construction [Adj+Prep+Noun]: This simile construction is but a distant contender for intensification in all three languages, and the French '% adj' of 0.11, while higher than English and Dutch, is still very low. Instead, French compensates to a significant extent with a higher use of figurative and intensifying constructions that are not based on the original base adjective, i.e. the 'reverse', 'lexical', and 'other' strategies listed in Table 16 (e.g. *inébranlable, millénaire, bourré, en béton, exploser*). Obviously, '% adj' cannot be calculated here, but their overall relative frequency is roughly twice as high as in Dutch and English.

Note that many of these latter French constructions are adjectives obtained by derivation. Thus, while French may favor syntactic (i.e. analytic) forms overall, it sometimes surprises with unexpectedly synthetic options. Furthermore, this is not only the case for figurative intensifying forms: the example of *earthquake-prone* given in section 2.3.1.2. can indeed be rendered as *susceptible aux tremblements de terre*, but also more succinctly as *région à forte* ***sismicité*** or *zone à haut risque* ***sismique***.

In conclusion, it appears that the notion of a synthetic-to-analytic cline for German – Dutch – English – French is too simple, at least with regard to intensifying constructions. The German position as being more analytic is not in question here (see also Van der Wouden & Foolen, 2017), but the position of the other three languages is more nuanced. Hendrikx et al.'s (2017, 2019) extension of the cline to French was motivated in part by Lamiroy's (2011) view that French and English are similarly analytic languages, and it led them to expect more use of morphological constructions in Dutch and more syntactic constructions in English and French. The present data suggest that this is indeed the case for intensifying compounds and prefixes; on the other hand, the dominant strategy in Dutch is analytic (adverbial), and the second-most-frequent one in French is synthetic (the 'lexical' forms discussed above). Finally, the position of English is intermediate, but it appears in several respects to be closer to Dutch than to French.

Returning to the use of figurative language for intensification, it is interesting to consider the relative prevalence of different figurative domains in the three languages. In Table 19, I have assembled all the figurative constructions identified for each adjective and distinguish whether

they use images from similar or different domains as the original figurative-intensifying English compound adjectives (corresponding to the 'SimFig' and 'DiffFig' coding used earlier). The counts represent the diversity of expressions available in each language (but not their frequencies). While the list is certainly not exhaustive, it suggests that (a) the number of 'SimFig' alternatives is roughly the same between the three languages, and the same is true for 'DiffFig'; (b) within each language, the 'DiffFig' expressions far outnumber the 'SimFig'; and (c) the preferences for different forms in each language match the preceding discussion.

Table 19. The diversity of figurative intensifying expressions available in English, Dutch, and French, distinguishing 'SimFig' and 'DiffFig' images.

	English	sim	diff	**Dutch**	sim	diff	**French**	sim	diff
brand-new									
sim	brand-new	1		gloednieuw	1		flambant neuf	1	
diff	ground-breaking, spanking-new, mint, virgin		4	(spik)splinternieuw, fonkelnieuw, nagelnieuw, kersvers		5	inédit, venir de sortir, révolutionnaire, novateur, dernier cri		5
crystal-clear									
sim	crystal-clear, clear as crystal	1		glashelder, kristalhelder, zo helder als glas/kristal	2		clair comme du cristal, cristallin	1	
diff	clear as day/as a bell, clear-cut, transparent, palpable		5	kraakhelder, zonneklaar, onomwonden, geen doekjes winden, vanzelfsprekend, als een paal boven water, buiten kijf staan, doorzichtig		8	clair comme de l'eau de roche/source, aller de soi, couler de source, pas l'ombre d'un doute, transparent		5
age-old									
sim	age-old, centuries-old, as old as time	3		eeuwenoud, eeuwig	1		séculaire, millénaire	2	
diff	deep-rooted, go back a long way, antediluvian, as old as the hills		4	diepgeworteld, slepend		2	ancenstral, vieux comme le monde, antédiluvien, éternel, remonter loin		5
rock-solid									
sim	rock-solid, solid as a rock	1		rotsvast, (keihard)	2		solide comme un roc	1	
diff	steadfast, unwavering, unshakeable, undying		4	ijzersterk, onwankelbaar, in steen gebeiteld, kunnen bouwen op, standvastig		5	en béton, inébranlable, irréfutable, à toute épreuve		4
chock-full									
sim	chock-full	1		tjokvol	1			0	

diff	packed, stuffed, bursting, loaded, overflowing, teeming		6	boordevol, bomvol, stampvol, propvol, barstensvol, bol staan		6	bourré, plein à craquer/comme un oeuf/à ras bord, déborder, regorger		6
sky-high									
sim	sky-high	1		hemelhoog	1			0	
diff	exorbitant, astronomical, inflated, steep, through the roof		5	torenhoog, huizenhoog, de pan uit rijzen		3	vertigineux, exorbitant, faramineux, astronomique, explosion, atteindre des sommets, monter en flèche		7
TOTAL		**8**	**28**		**8**	**29**		**5**	**32**

4.3. Translation revisited

The findings of the contrastive study of intensification provide a framework to reevaluate some of the results of the preceding translation study. Specifically, it is now possible to compare usage patterns in translation with frequencies of occurrence in general language, both at the level of individual intensifying constructions and for entire conceptual-semantic procedures. These comparisons can help to disentangle the two potentially opposite influences on translators from the source text and the target language (see section 2.3.2.1.).

4.3.1. RQ 5 – Intensifying constructions in translation and general language

The intensifying constructions that were initially identified as translation solutions in the Dutch or French translation of English compound adjectives also served as a starting point for the contrastive exploration in part two. Most of these constructions were also attested in the Dutch and French reference corpora. They are thus listed in the detailed tables with both relative frequency data for general language and their number of instances in translation, also expressed as a proportion of all translations for the given source item ('% TR').

Table 20. Example of comparing relative use in translated and general language (for *new* and its equivalents).

	English			Dutch				French			
		freq	% adj		freq	% adj	% TR		freq	% adj	% TR
new		**1324.00**		**nieuw**	**1492.00**			**nouveau + neuf**	**1112.00**		
compound	brand-new	16.19	1.22	gloednieuw, splinternieuw (etc)	14.92	1.00	41.30	flambant neuf	0.95	0.09	11.60
prefix	all(-) new super new (etc)	2.78 0.03	0.21 0.00	supernieuw (etc)	0.09	0.01		super nouveau (etc)	0.06	0.01	
adverb	whole/entirely new (etc)	6.09	0.46	geheel/compleet nieuw (etc)	21.60	1.45	19.30	tout nouveau, tout neuf (etc)	15.64	1.41	42.50
A+prep+N	NA			NA				NA			
reverse	NA			NA				NA			
Lex	?			?				?			
superlat	newest (?)	16.19	1.22	(aller)nieuwste (?)	48.72	3.27	0.14				
other	ground-breaking	8.39		?				inédit, venir de (etc) (?)	42.73		4.80

While these two frequencies should not be compared directly (and taking into account the caveats regarding comparison raised above), the relative ranking of use within a given adjective table can indicate whether translators use a construction disproportionately more or less than would be expected from their use in general language.

This approach is illustrated in Table 20 for the adjective *new* and its equivalents; disproportionately high and low use in translations (termed ‘overuse’ and ‘underuse’ for now) is indicated in green and red, respectively. Among the constructions based on *nieuw* in Dutch, if I take adverbial intensification as a reference ranking, with 19.30 % TR (in translation) and 21.60 frequency pm (in the reference corpus), then Dutch translators ‘overuse’ compound intensification (41.3 % TR and 14.92 pm) and appear to ‘underuse’ superlatives (0.14 % TR and 48.72 (?) pm, even granted that only part of these are used with an intensified meaning). Among the intensifying constructions based on *nouveau/neuf* in Frech, taking the same adverbial reference (42.5 % TR and 15.64 pm), it appears that translators ‘overuse’ the loose compound *flambant neuf* (11.6 % TR and 0.95 pm) and ‘underuse’ some of the available ‘other’ constructions like *venir de sortir* (4.8 % TR and 42.73 (?) pm, again granting only partial overlap).

Table 21. Comparison of use of intensification in translated and general language: results reorganized by strategy.

	English	freq	Dutch	freq	% adj	% TR	French	freq	% adj	% TR
compound										
1	brand-new	16.19	gloednieuw, splinternieuw (etc)	14.92	1.00	41.30	flambant neuf	0.95	0.09	11.60
2	crystal-clear	2.09	glashelder, kristalhelder (etc)	5.25	1.31	35.20	NA			
3	age-old	0.49	eeuwenoud	8.67	1.84	45.40	NA			
4	rock-solid	0.75	rotsvast	0.89		16.00	NA			
			ijzersterk	4.06	1.19	4.00				
5	chock-full	0.70	boordevol, bomvol (etc)	9.68	4.00	36.40	NA			
6	sky-high	0.64	torenhoog (etc)	2.85	0.48	61.90	NA			
adverbial										
1	whole new	2.84	geheel/compleet nieuw (etc)	21.60	1.45	19.30	tout nouveau, tout neuf (etc)	15.64	1.41	42.50
2	very/abundantly clear	4.94	heel duidelijk / helder (etc)	14.30	3.58	11.40	très clair (etc)	6.91	6.77	21.50
3	very old	1.81	heel/zeer oud	3.55	0.76	1.10	très ancien (etc)	5.23	1.34	5.40
4	very solid	0.51	zeer sterk / stevig (etc)	13.37	3.92	4.00	très solide	1.72	4.41	7.70
5	very full	0.35	helemaal vol (etc)	2.97	1.23	0.00	tout plein	1.20	0.60	0.00
6	very/extremely high	11.89	zeer/heel hoog (etc)	16.19	2.74	0.00	très élevé (etc)	7.11	7.26	16.00
A+prep+N (fig)										
1	NA		NA				NA			
2			zo helder als glas	0.06	0.02	1.00	clair comme de l'eau de roche/ du cristal	0.14	0.14	11.90
3			zo oud als de straat	0.07	0.01		vieux comme le monde	0.25	0.06	0.50
4			NA				solide comme un roc	0.06	0.15	15.40
5			NA				plein à craquer (etc)	0.56	0.28	
6	NA		NA				NA			
Lex										
1	?		?				?			
2	evident (?)	16.67	evident (?)	5.72		0.50	limpide	3.16		7.30
							évident (?)	39.4		3.70
3			eeuwig (?)	20.90		1.10	séculaire	2.27		29.90
							ancestral, millénaire (etc)	36.53		20.60
4	?		?				?			
5	filled, packed, stuffed with	32.57	?	.			bourré	1.62		6.30
6	exorbitant, astronomical	1.82	?				vertigineux, exorbitant, faramineux, astron	6.92		40.00
superlative										
1	newest, latest (?)	129.5	(aller)nieuwste (?)	48.72	3.27	0.14				
2										
3	NA		NA				NA			
4			stevigste / sterkste (?)	9.49	2.78	0.00				
5										
6	highest (?)	64.10	(aller)hoogste (?)	32.55	5.51	0.00				
other										
1	ground-breaking	8.39	?				inédit, venir de (etc)	42.73		4.80
2	clear-cut (?)	1.07	vanzelfsprekend (?) (etc)	36.92		1.50	aller de soi, cristallin	7.36		1.90
3	long-lasting	2.64	van oudsher (etc)	8.40		6.00	depuis (très) longtemps	21.70		4.30
4	steadfast	2.32	standvastig (etc)	1.51		8.00	en béton (etc)	6.91		23.10
5	?		bol staan	0.66		9.10	regorger de (etc)	5.10		6.30
6	through the roof	0.55	de pan uit rijzen	0.38		14.30	explosion (etc)	5.39		20.00

Table 21 applies the same logic to all adjectives[24] and rearranges the most prominent findings by strategy. Here I discern a few general trends. First, for about half of the constructions (uncolored), the use in translation broadly matches their use in the target language. These translation choices are thus likely influenced by the relative availability or productivity of different means of intensification in the target language, which may represent a specific constraint or a universal tendency toward standardization in translation.

Second, Table 21 also reveals constructions where the use in translation and in general language do not match; these are mapped onto the contrastive findings in Table 22. Dutch translators tend to use adverbial and superlative intensification disproportionately less than expected (in favor of the elative compounds, see below); on the other hand, the expression *de pan uit rijzen* ('to become very high') is 'overused'. In French, translators use *flambant neuf* and several figurative similes (e.g. *clair comme de l'eau de roche, solide comme un roc*) more frequently than expected from their low use in general language. The latter two cases appear to provide particularly clear evidence that translations are influenced by the source text item, since these [Adj+Prep+Noun] constructions are quite rare in general French (section 4.2.2.).

Third, Table 21 highlights the disproportionate translation use of Dutch figurative compounds (e.g. *gloednieuw, glashelder, torenhoog*) and French 'lexical' constructions (e.g. *faramineux, astronomique*). Here, strategies that are already frequent in general language are used even more often in translation, leading to a lower use of the (actually dominant) adverbial intensification. Thus, in these cases, the two influences (from the salient, figurative source item, and from the relatively high use in general language) operate in the same direction and reinforce each other.

These two cases also relate to the translators' perceived challenge to 'unpack' the compact source compounds (see section 2.3.1.2.). Given the relative use of [Noun+Adj] compounds in the three languages (Dutch > English > French; section 4.2.2.), Dutch translators can simply use this construction, without any need to unpack. Meanwhile, rather than 'unpacking' with a [Adj+Prep+Noun] paraphrase, French translators can 'repackage' using the more synthetic (and more frequent) 'lexical' and 'other' constructions for intensification (also e.g. *millénaire, bourré*).

[24] Note that the frequencies cannot be compared *between* adjectives. For instance, *eeuwenoud* has a higher % TR of 45.40, but since this is also the dominant intensifier in general language, this does not constitute 'overuse'.

Table 22. Summary of disparities between translation and general language use of intensification strategies. Preferred strategies are marked in red (as before in Table 18). Disproportionately high (+) or low (-) uses in translations are marked in green.

	Non-figurative	**Figurative**
Use base adjective (morphosyntax)	Adverb - **E D F** - **D-** Prefix - **D** - **D-** Superlative - Duplication Repetition	[Noun+Adj] - **E D** - **D+** [Adj+Prep+Noun] - **F+**
Do not use base adjective (implicit)	Verbs, nouns	Reverse polarity 'Lexical' - **F** - **F+** Verbs, nouns - **F**

Returning briefly to the issue of source text influence, I obtain an additional line of evidence by comparing 200 Dutch and French translations of *very clear* (in the EuroParl corpus) with those for *crystal-clear*. As seen in Table 23, the top solutions for *very clear* do not include a single figurative translation in either Dutch or French. I conclude from this that the high frequency of figurative solutions for *crystal-clear* (and presumably for the other cases in Table 21) is indeed linked to the source item.

Table 23. Top five (a) Dutch and (b) French translation solutions (EuroParl) for *crystal-clear* and *very clear*.

crystal-clear	**N**	**% tr**	**very clear**	**N**	**% tr**
glashelder	36	23.84	duidelijk	63	34.62
duidelijk	25	16.56	heel duidelijk	27	14.84
heel duidelijk	10	6.62	zeer duidelijk	20	10.99
kristalhelder	8	5.30	geen twijfel	7	3.85
zonneklaar	8	5.30	overduidelijk	5	2.75

crystal-clear	**N**	**% tr**	**very clear**	**N**	**% tr**
clair comme de l'eau de roche	17	10.83	très clair	86	44.33
très clair	17	10.83	très clairement	27	13.92
clairement	13	8.28	clairement	23	11.86
limpide	12	7.64	bien clair	12	6.19
on ne peut plus clair	8	5.10	clair	5	2.58

Such influence is sometimes described as 'interference' (cf. Toury's 'law' of interference; Munday 2016, p. 180), and this carries an implied criticism. However, I argue that the influence in the present instances is not undue: the translators clearly choose to not merely render the general intensified meaning of 'very' with the most readily available target language means, but also aim to convey the additional oratorical or emotional effect of the source item's figurative nature. This is entirely in accord with Nida's principle of 'equivalent effect', whereby effective translation should produce a similar response in the audience (Munday, 2016, p. 68). I have used the standard terms 'overuse' and 'underuse' for convenience, but do not intend that these altered frequencies in translation are in any way inappropriate.

4.3.2. Other aspects of influence

In the preceding section, I have shown that the use of figurative intensification in translation appears to be influenced by the source text item. An additional consideration is whether translators use an image from a similar or different domain, i.e. 'SimFig' vs 'DiffFig' (section 4.1.2.1.). Here, both source text and target language influences appear to operate.

On the one hand, Dutch and French translators use 'SimFig' roughly twice as often as 'DiffFig' (section 4.1.2.1.). Since the contrastive study indicates that 'DiffFig' expressions far outnumber the 'SimFig' ones in general use of each language (Table 19, section 4.2.2.), this again argues for a strong influence from the source item.

On the other hand, however, this selection of a similar or different figurative image is highly item-specific. For instance, for *ice-cold*, Dutch and French rely almost exclusively on SimFig:

(25) *Shaken well until it is **ice cold**, and served with a large thin slice of lemon peel.*
*D: Goed geschud tot het **ijskoud** is en met een grote dunne schijf citroen geserveerd.*
F: *Bien remuer pour rendre **glacé**, et servir avec un grand zeste de citron.* (OpenSub)

But in the case of *sky-high*, the 'sky' metaphor is not available and translators must reach for other images instead:

(26) *We must not make ourselves a laughing stock by imposing a **sky-high**, extremely expensive level of liability …*
*D: Wij moeten onszelf niet belachelijk maken door … een **torenhoog** en extreem duur aansprakelijkheidsniveau op te leggen.*

F: *Ne nous rendons pas ridicules en imposant un niveau de responsabilité* ***vertigineux*** *et extrêmement coûteux.* (EuroParl)

Thus, for both *ice-cold* and *sky-high*, translators are clearly constrained by what is available and idiomatic in the target language. Such situations also contribute to the great variation in translations (e.g. *sky-high* → French *exorbitant, astronomique, vertigineux, faramineux, gigantesque, monter en flèche*).

There is one final translation procedure that I wish to reinterpret from the perspective of the contrastive findings. It concerns the translators' most fundamental decision with regard to the figurative-intensifying English compound adjectives: namely, whether to retain the intensification at all. In section 4.1.2.1., I expressed surprise at the high proportion of translations where intensification is not expressed (Dutch 27.5%; French 32.2%), most often by using an unmodified adjective. Given that various means of intensification are available in general Dutch and French, I speculated that this loss might reflect a universal tendency of translated language towards simplification.

However, the preceding contrastive examination reveals that the overall rate at which base adjectives are intensified (by any strategy) is quite low, amounting to a few percent in each language (section 4.2.2., Table 17). Thus, the decision of translators to render *brand-new* as *nieuw* or *nouveau* (which rank among the top solutions for this item) may simply reflect the well-known tendency toward standardization, the use of habitual target language options (Munday 2016, p. 180), which often entails simpler and less creative language. Here again, though, the application of different translation procedures is highly item- and context-specific, since other translations have demonstrated great creativity.

5. CONCLUSIONS

5.1. Two complementary studies

The present corpus-driven cross-linguistic exploration of the linguistic function of intensification consists of two components: a translation study of English compound adjectives into Dutch and French, and a contrastive study of intensification strategies in these three languages. These studies rely on parallel and reference corpus data, respectively.

The translation study has focused on 35 English compound adjectives constructed as [Noun+Adj]. This group contains members with a figurative-intensifying noun (for which it was selected), but also three other semantic subtypes, which allows for interesting comparisons. Translators must decide how to convey the dense information content of English compounds and how to express intensification with or without figurative language. To capture these challenges, I have described separate morphosyntactic and conceptual-semantic translation procedures, which I then analyze in function of the two translation languages, the four subtypes, and the effect of register.

At the morphosyntactic level, translations vary in the extent to which they deviate from the source item's construction. Differences between Dutch and French translations are significant and correspond to known typological differences: Dutch makes frequent use of the parallel [Noun+Adj] construction, while French tends toward adverbially modified adjectives or completely transposed constructions. The four subtypes also present different challenges, and the morphosyntactic choices in translation vary accordingly. It is in the English subordinative compounds, with their variety of semantic relationships, that the challenge of rendering succinct information is particularly great. Here, both Dutch and French translators more frequently make an explicit prepositional paraphrase using [Adj+Prep+Noun].

At the conceptual-semantic level, the figurative-intensifying group of adjectives require translators to make additional decisions (whether consciously or not): whether to retain intensification and, if so, whether to use figurative means. Both Dutch and French translators drop the intensification about 30% of the time. When intensification is retained, the two

languages do so in different ways: Dutch translations predominantly use a figurative element, whereas French ones are more evenly divided between figurative and non-figurative means. Whether or not translators use a figure from the same domain as the source item is highly lexis-specific and depends on what is available in the target language. Furthermore, these semantic choices appear to interact with morphosyntax and with aspects of register in ways that invite closer multifactorial scrutiny.

Translation variation is a topic that has received little attention. Having observed a remarkable proliferation of translation solutions, I explore possible sources of variation beyond the procedures already discussed. These include the translators' near-synonymous lexical choices (whose effect can be cumulative in multi-word constructions), the need for semantic explicitation, and polysemy of the source adjective in relation to different nouns.
French translations have more diverse solutions for a given item than Dutch. This may reflect greater morphosyntactic differences between English and French. However, since the difference is particularly pronounced for the figurative-intensifying subtype, challenges related to figurative language may also play a role. In addition, high-frequency English compound adjectives give rise to a greater variation in translation solutions in both Dutch and French. In other words, instead of an expected entrenchment effect towards convergence on a familiar solution, high frequency appears to offer yet more opportunities for diversification.

The second part of this work consists of a contrastive study of intensification strategies in English, Dutch, and French. Starting from simple adjectives, I describe a range of morphological and syntactic forms used for intensification in general language. These include adverb and prefix intensifiers, compounds, and superlatives, but also other implicit means that are not based on the original adjective.

Apart from [Noun+Adj] compounds, which are absent from French, all strategies occur in all three languages, but with significantly different preferences. Broadly speaking, adverbial intensification is the preferred means in all three languages, English and Dutch also make extensive use of compounds, and Dutch often uses prefix forms. Counter to my speculation (by analogy with the situation for noun compounds), French does not compensate for the absence of compounds by using [Adj+Prep+Noun] paraphrases, but makes significant use of

intensifying constructions that are not based on the original adjective, and many of these are derivational (e.g. *inébranlable*, *millénaire*, *bourré*).

The typological relationship between these languages thus appears to be more nuanced than a simple synthetic-to-analytic cline for Dutch – English – French, at least as far as the formal realization of intensification is concerned. On the one hand, compounds and prefixes are indeed more frequent in Dutch, but on the other hand, the dominant Dutch strategy is analytic (adverbial), and other types of synthetic forms are relatively frequent in French. The position of English is intermediate, but probably closer to Dutch than to French overall.

While these two research approaches have separately produced results that are interesting in their own right, they are also complementary (cf. Granger, 2018; Granger & Lefer, 2020). The translations not only reveal insights about interacting formal and semantic decisions and about sources of variation, they have also provide very useful evidence for the subsequent contrastive exploration, in the form of intensifying constructions that might not otherwise be considered (e.g. F *inébranlable*, and thus E *unshakeable* for 'very solid').

Conversely, the contrastive comparison of intensification strategies and their preferences also provides a framework from which to reinterpret the translation results. Comparing the relative frequencies of use in translated and non-translated language sheds light on the complex interplay of influences on translators (cf. Toury's 'laws' of interference and standardization; Munday 2016, p. 180).

In particular, the disproportionately high use of figurative compounds in Dutch translations, and of [Adj+Prep+Noun] simile constructions in French ones, is evidence for influence by the source text item. I argue that these cases should not be construed as undue 'interference': translators not only wish to convey general intensification but also the additional oratorical or emotional effect of figurative language (cf. Nida's principle of 'equivalent effect'; Munday, 2016, p. 68).

5.2. The diversity of intensification

The two studies have demonstrated a wide range of formal expressions for intensification, in both general and translated use and in all three languages, reminiscent of my opening quote from Gilquin. This "exuberance" (Grandi 2017a, p. 13) manifests itself in the overall number

of strategies, as well as within a given strategy (e.g. E: *packed, stuffed, loaded* for 'very full'; D: *gloednieuw, splinternieuw, fonkelnieuw, nagelnieuw* for 'very new'; F: *vertigineux, exorbitant, faramineux, astronomique* for 'very high').

Of course, one reason is that I have explicitly not restricted the explorations to a particular form, since the platform for cross-linguistic comparison consists of the function of intensification (section 2.3.2.2.). As a result, the formal options (at least, those that I have been able to identify empirically) extend well beyond formal notions of 'compound' (section 2.2.3.), beyond the traditional divide between morphology and syntax (section 2.1.), and even beyond the adjective as base of intensification (section 4.2.1.).

Furthermore, my contrastive study uncovers many lexis-specific preferences, including preferences for one intensification strategy over another (e.g. *packed* or *stuffed* vs *very full*), collocations (*abundantly clear*), the numerous Dutch figurative compounds for *nieuw* (in contrast to the unique English *brand-new*), and the intensifying use of the superlative (for *new* but not for *full*). I believe such findings justify my decision to explore intensification strategies in detail for just a few adjectives, instead of looking for general patterns (e.g. the prevalence of adverbial intensification in each language as a whole). The results of language-wide studies (e.g. Grandi, 2017b; Malloggi, 2017; Van der Wouden & Foolen, 2017) are certainly more generalizable, but also miss many rich idiosyncrasies. The description of broad patterns can thus be usefully complemented with a fine-grained 'stamp collecting' approach.

Concerning the existence of so many alternative means for the expression of the semantically unified meaning of 'very', one functional explanation relates this to the interpersonal nature of evaluative language. When a novel expression is first encountered, it has a powerful emotional or oratorical impact, but this declines with repeated use and exposure, and this in turn creates a constant pressure to create new forms. A similar process is observed for the 'careers' of swearwords and metaphors. This explanation, proposed for adverbial intensifiers by Rainer (2015, p. 1348) and by Van der Wouden & Foolen (2017, p. 84), likely applies to intensification strategies in general. This process of obsolescence and renewal would be a fascinating topic for a diachronic study (cf König, 2017).

5.3. Practical applications

As detailed in sections 3.1.2.3. and 3.3.2., constituents of compounds and prefixed forms are frequently mistagged in SketchEngine, presumably due to the uncertain morphosyntactic status and different spellings of these items. This leads to difficulties in extracting and obtaining frequencies for study items; the tradeoffs between different search strategies need to be carefully considered and manual vetting for relevance is essential. These challenges probably explain in part why "units below the word level" are underrepresented in both contrastive and translation studies, as noted by Lefer & Grabar (2015, p. 203).

The various methodological solutions I propose, while modest, may therefore be of some benefit to other researchers. The same holds for the combined methods for identifying metaphorical expressions (including the 'comparison marker' approach and extrapolation from constituents; section 3.1.2.2.), the coding of translation procedures for multi-word expressions (3.2.2.3.), and the metrics for translation variation (4.1.3.1.).

The results of this work also have practical implications for translator training and language acquisition. Both English learners and novice translators are known to struggle with compound adjectives and metaphorical expressions (cf. Pierini 2015, p. 18), and this is presumably also true for some of the more circumlocutory means of intensification.[25] One of the roles of contrastive studies is to assist people in overcoming such difficulties (e.g. Deignan et al., 1997). The numerous examples of semantically near-equivalent constructions presented in this study could be included in pedagogical materials, to help raise students' awareness of the wide-ranging possibilities in each language, both in terms of preferred usage and the more creative solutions. For instance, these could illustrate that compact semantic information can sometimes be 'repackaged' rather than 'unpacked' (e.g. *crystal-clear* → *limpide* vs *clair comme du cristal*; section 4.3.1.).

In addition, the analyses in the translation study illustrate how professional translators apply different formal procedures preferentially for compounds with differing semantic relationships,

[25] Regarding the shared mediated nature of translated language and learner language, see Gaspari & Bernardini (2010) and Granger (2018). De Sutter & Lefer (2020) call for interdisciplinary comparisons to increase our understanding of both translation and language acquisition.

and how they deal with figurative language in consideration of what is idiomatic in the target language.

5.4. Limitations and future research

Interpreting the results of this work is subject to several limitations. For the translation study, the sampling in the four semantic subtypes has been much improved from the earlier pilot study (Prinzie et al., subm.). However, some low-frequency items still have insufficient translation instances to support robust statistical analysis. The advent of larger parallel corpora will benefit both translation and contrastive research on low-frequency linguistic phenomena. As mentioned in section 3.2.1., the parallel corpora lacked metadata regarding the direction of translation. While this was considered an acceptable limitation for the purpose of identifying equivalents, it meant that I was not able to quantify the equivalence of translation solutions using the measure of Mutual Correspondence (Altenberg, 1999; Aijmer & Simon-Vandenbergen, 2003; Cosme & Gilquin, 2008).
For the contrastive study of intensification strategies, the limitation of exploring six adjectives in detail, rather than overall language patterns, has been addressed above. In addition, an exhaustive back-translation study of all constructions fell outside the scope of this work but would certainly reveal many additional 'lexical', 'reverse, and 'other' options in all three languages. It should then also be possible to better quantify the cases of partial semantic overlap (marked as '?' in the tables).

In addition to the above suggestions, future research could consider the effect on translation choices of the broader semantic context, and in particular the relationship between the compound adjective and the noun it modifies. As mentioned in section 4.1.3.1., this factor may be a significant contributor to translation variation.

Second, metaphors vary in transparency or degree of conventionalization (Shuttleworth (2017, p. 123), as is the case in the present study's figurative-intensifying compound adjectives (section 2.2.2.). In the field of SLA, this has been demonstrated to affect second language comprehension and acquisition (Boers, 2000; Tyler, 2012; Nacey, 2013; Hendrikx, 2020). It

would be interesting to investigate its effect on translation, especially in view of a standing debate on whether it is the novel 'conflictual' metaphors or the less conspicuous conventionalized ones that are most challenging in translation (cf. Steen, 2014; Prandi, 2010).

Finally, I have identified a second class of English compound adjectives that could provide an interesting frame for comparison of the effect of figurative and evaluative content on translation procedures. The [Noun+V-ing] class provides a natural extension of the present translation study (given Bauer's (1983) treatment of [V-ing] as adjectives), and again contains both figurative-intensifying (*ground-breaking* for 'very innovative'; *eye-catching* for 'very noticeable') and non-figurative (*award-winning, English-speaking*) items.

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Corpora, corpus analysis tools, and web resources

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7. LIST OF APPENDICES

The appendices consist of Excel tables and are provided in separate files.

7.1. Appendix 1. English [Noun+Adj] compounds identified in enTenTen15

Prinzie_5449-19-00_2022_Appendix1.xlsx
(see section 3.1.2.2.).

7.2. Appendix 2. Annotated Dutch translation data

Prinzie_5449-19-00_2022_Appendix2.xlsx
(see section 3.2.1.).

7.3. Appendix 3. Annotated French translation data

Prinzie_5449-19-00_2022_Appendix3.xlsx
(see section 3.2.1.).

7.4. Appendix 4. Contrastive data for intensification strategies

Six tables (tabs) for six English adjectives and their Dutch and French equivalents.
Prinzie_5449-19-00_2022_Appendix4.xlsx
(see section 4.2.1.).

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