The integration of frequency dimensions and lexicalization preferences in contrastive analysis

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1. Introduction

Contrastive studies of language pairs or language classes mostly focus on structural similarities and differences between languages (König 1990 & 1992; König & Gast 2012), i.e. on the comparison of categories. A central issue in contrastive analysis is about "establishing the comparability" (Gast 2012: 3; Tekin 2012: 120), which is about "[d]etermining the extent of similarity as well as the differences between the instantiations" (Gast 2012: 4). Similarity presupposes some sort of equivalence between the languages under study. Tekin (2012: 123) points to the difficulties related to the definition of the equivalence notion and argues that equivalence cannot be reduced to 'semantic' or 'pragmatic equivalence' as some linguists have suggested (see among others James 1983; Olesky 1983 & 1986). Neither is the concept of "contextual equivalence" as advocated by Halliday, McIntosh and Strevens (1964) adequate (see also Tekin 2012: 125). By contrast, Krzeszowski (1981b: 122 and 1990) argues in favor of "sentential equivalence" which takes into account the syntax of constructions but also their semantics. As a larger linguistic frame, sentences allow to define equivalents not only as one-to-one correspondences between languages but also as paraphrases. The case studies in this chapter provide evidence for sentential equivalence. But comparing language pairs is more than identifying and describing similarities and differences at the level of syntactic structures and their semantics. Haspelmath (2010) observes that "[s]imilarities and differences cannot be captured by equating categories across languages" (2010: 664). And indeed, if we consider authenticity as being a central concept in contrastive analysis, a parallel description of languages cannot be reduced to a simple comparison of categories or structures. Even if similar structures can be found in different languages, the issue is more about asking whether a specific structure in a first language (L1) and its structural equivalent in a second language (L2) reflects authentic ways of expression in both languages. As Gallagher (1998: 19) puts it, the question is whether an equivalent in L2 is "adequate" in the specific context. To give a simple example, a French sentence like *Les fleurs sont sur la table* (lit. 'The flowers are on the table') has a corresponding structural equivalent in German, namely *Die Blumen sind auf dem Tisch*. But a more authentic alternative in German uses a posture verb, i.e. *Die Blumen liegen/stehen auf dem Tisch* (lit. 'The flowers lie/stand on the table'). This is the preferred structure German natives would use.

In a study about "Quantitative contrastive analysis" (1981a), Krzeszowski discusses a further concept of equivalence, namely "statistical equivalence". In a smaller contrastive study on Polish vs. English personal pronouns, he shows that there is no systematic equivalence in the use of such pronouns in both languages as a generalization

> "does not say anything about the appropriateness of specific pronouns in specific situations. Above all it does not say anything about the relatively low frequency of occurrence of personal pronouns in Polish texts in contrast to a relatively high frequency of occurrence of personal pronouns in English texts." (Krzeszowski 1981a: 104)

This means that similar constructions in both languages would have to be considered as "non-equivalent in statistical terms" (Krzeszowski 1981a: 105) if they have different frequencies of occurrence (compare Madlener 2015). This already announces one of the issues discussed in this chapter, namely frequency differences between the equivalents in two languages.

With two case studies for the language pair German and French, the chapter zooms in onto the notion of statistical equivalence. It aims at demonstrating the importance of integrating the frequency dimension in contrastive studies. Frequency differences, e.g. between German and French, result from preferences for specific "lexicalization patterns" (Slobin 1996, 2017; Talmy 1985, 2000) in those languages. These preferences are grounded in typological properties characteristic of verb-framed vs. satellite-framed languages, but also of synthetic vs. analytic languages (Schlücker 2012; Siemund 2004; Zeschel 2012). Some studies in contrastive analysis (see among others Kortmann 1998; König 1990) have addressed typological issues, but more by way of exemplification and with the view that contrastive analysis can be a complement to language typology. König's (1990, 1992, 1996) studies are based on Greenberg's (1966) typological classification which results from a syntactic analysis of argument sequences in sentences (subject, verb, object). This approach has some limitations, it discards many other relevant dimensions in typology. This chapter provides evidence for the need to integrate further typological aspects in contrastive analysis. The pair of languages under study, German and French, is particularly interesting as both languages have the same socio-cultural background, even if they are not genealogically related (compare De Vogelaer, Koster & Leuschner 2020: 1). They belong to different typological classes and favor different lexicalization patterns (Slobin 1996, 2017).

The paper is structured as follows. With a focus on frequency and lexicalization preferences the next sections discuss two different case studies. Section 2 explores causal constructions with (color) adjectives (De Knop 2015), e.g. Germ. *Sie ist rot vor Wut /* Fr. *elle est rouge de colère* (lit. 'She is red with anger'). Both French and German have equivalent syntactic structures, but this construction is used with a different frequency in both languages. This is due to the analytic vs. synthetic characteristics of both languages. Section 3 deals with the second case study and focuses on so-called verbless directives (Jacobs 2008; De Knop & Mollica 2018b), e.g. Germ. *Ab ins Bett /* Fr. *En avant, au lit!* (lit. 'Off to bed'). Here too, both languages have similar constructions, but in French they are not so frequent as in German. This is motivated by the difference between French as a verb-framed language as opposed to German as a satellite-framed language. This section also underlines the role of the German morpho-syntactic case system which sustains the semantics of the construction. The data for the two studies have been collected in the corpora of the SketchEngine, the core corpus of the Digitales Wörterbuch der Deutschen Sprache (DWDS)[1]. Finally, Section 4 summarizes the main findings of the two case studies and offers some perspectives.

2. Causal constructions with (color) adjectives

In both languages one can find examples of causal constructions with an adjective, preferably a color adjective to express a causal event. Let us look at a few examples first:

(1) Dt. Peter ist rot vor Wut (lit. 'Peter is red with anger')
(2) Fr. Marie est verte de jalousie (lit. 'Maria is green with jealousy')

[1] When not specified the examples come from the Sketchengine corpora.

(3) Dt. Die Kinder sind blau vor Kälte (lit. 'The children are blue from cold')
(4) Fr. Il est mort de peur (lit. 'He is dead of fear').

All these examples have a similar syntactic structure, with a copula verb (Germ. *sein*, Fr. *être*, 'to be') followed by an adjective which can designate a color (examples (1)-(3) or another state (example (4)). The cause for the color or the specific state is expressed with the prepositional phrase following the adjective. "Causes are situations which trigger off another physical or psychological situation as their effect." (Radden & Dirven 2008: 327) The cause is often a strong emotion as inherent property to individuals, e.g. anger (1), jealousy (2) or fear (4), but it can also be external, e.g. a temperature or a meteorological phenomenon (3). The difference between inherent and external causes is important as it determines the use of different prepositions in German. Whereas French mainly uses one and the same preposition, namely *de* ('of'), to introduce the prepositional phrase, German has several prepositions depending on whether the cause expressed by the prepositional phrase is inherent or external. Let us compare some examples:

(5) Fr. Hoffmann, son nez était noir de tabac
Germ. Hoffmann, seine Nase war schwarz von dem Tabak
lit. 'Hoffmann, his nose was black with tobacco'
(6) Fr. J'étais rouge de honte et baissai la tête…
Germ. Ich war rot vor Scham und senkte den Kopf …
lit. 'I was red with shame and dropped the head…'

The cause expressed in (5) is external, in this case German uses the preposition *von.* By contrast, in (6) the cause is an emotion (= shame) inherent to the subject. In this case German prefers *vor*, whereas French still uses *de.* This means that we have one category in French and two in German. This first syntactic comparison between German and French shows similarities at the level of the construction's constituents, but also differences in the selection of the preposition. These have to do with the meaning conveyed. The following section goes deeper into the semantics of the causal construction.

2.1. The semantics of causal constructions

The causal construction always expresses causality, but different shades of meaning can be identified. Depending on whether the construction is understood in a compositional or non-compositional way, the meaning will vary. In a compositional sense, example (1) Dt. *Peter ist rot vor Wut* (lit. 'Peter is red with anger') can mean that Peter is indeed red in the face because he gets upset about something. The color adjective refers to a concrete change of color in the face due to a particular cause. Soriano und Valenzuela (2009: 423) speak of the "rise of a body fluid" to explain the color change in this example:

> the color refers to a body fluid that intervenes (or is believed to intervene) in the experience of the emotion at stake. In the case of anger the fluid is blood, which rushes to the neck and face areas when we feel outraged. (Soriano & Valenzuela 2009: 423)

The 'rise of a body fluid' can lead to different colors in the face, like yellow, white or green when one feels unwell, blue when one is freezing, and so on, e.g.

(7) Fr. Elle est verte de peur, morte de trouille!
Lit. 'She is green with fear, dead of fright!'
(8) Fr. Il était jaune d'indigestion.
Lit. 'He was yellow because of indigestion.'

The same construction can also be used in a non-compositional sense to express an extreme or excessive state. This is particularly the case when the construction is not used literally, but in a metonymic or metaphorical sense. Accordingly, example (1) Fr. Pierre est rouge de colère, Lit. 'Peter is red with anger', can simply express an excessive state of anger, in which case Peter is not 'really' red, but very cross. Semantically, it does not express causality (even if it primarily does), but much more a state of excessiveness or intensification. The color of the face is the metonymical expression for this state and the underlying metonymy is COLOR OF THE FACE FOR PHYSICAL STATE.

Non-color adjectives are also possible in the construction, more specifically resultative or telic adjectives (e.g. dead, crazy, ill, blind), e.g.

(9) Fr. Il est fou d'amour
Lit. 'He is crazy of love'
(10) Fr. Anne est morte de faim
Lit. 'Anne is dead of hunger' (= 'Anne is very hungry')
(11) Fr. Elle était malade d'amour
Lit. 'She was sick of love'
(12) Germ. Sie ist blind vor Liebe
Lit. 'She is blind of love'.

In these examples too, the subject is not 'really' crazy (9), dead (10), ill (11) or blind (12) but in an excessive state (see further details about this category in De Knop 2015 and De Knop & Mollica 2018a).

2.2 Contrastive description of causal constructions in German and French

From the examples discussed above it is clear that German as well as French have similar causal constructions with color adjectives as lexicalization patterns and that they convey similar semantics. But a closer look at the use of this construction in both languages brings interesting differences to the fore. In the former section we already pointed to a different number of possible prepositions to introduce the prepositional phrase in German and French. This is not the only difference between both languages. A comparison of the color adjectives used in the specific causal construction shows that both languages select different color adjectives in combination with the same causes. If we compare the French example (13) with the German equivalent in (14) hereunder we can observe that French prefers the green color for the expression of jealousy, whereas German selects 'yellow' for the same emotion:

(13) Fr. *Marie est <u>verte</u> de jalousie.* (lit. 'Maria is green with jealousy')
(14) Germ. *Maria ist <u>gelb</u> vor Eifersucht.* (lit. 'Maria is yellow with jealousy')

Consequently, the same basic colors defined by Berlin & Kay (1969) in their study on universal colors, i.e. red, blue, green, yellow, white or black[2], are distributed differently in both languages and are more or less dominant in one or the other language (we cannot go into the details of this aspect here, but refer to the study by De Knop 2015).

Another major difference in the contrastive analysis of the causal construction between both languages has to do with the frequency in the use of this construction. While looking for examples of color terms in the causal construction in the French frWaC corpus (1,628,667,738 tokens) and the German deTenTen corpus (2,844,839,761 tokens) of the Sketchengine (http://the.sketchengine.co.uk, accessed in April 2012), differences in the frequency of such examples between both languages emerged. The results can be seen in the following Table 1:

Color term	**Number of occurrences in German corpus**	**Number of occurrences in French corpus**
white	5	11
black	10	67
red	8	14
green	3	19
blue	0	0
yellow	0	3

Table 1: Number of color terms in causal constructions in corpora

Because the number of occurrences is rather low, the frequency per million is 0.0. Still, we can observe that French has more occurrences than German - and also a higher frequency because the corpus contains fewer tokens altogether than the German corpus (see the figures above). This confirms Krzeszowski's (1981a: 105) observation that

> "[t]he fact that there is an equivalent or even a congruent construction in a target language does not necessarily mean, and in fact rarely does, that it is employed with equal willingness by native users of the language. In fact frequencies of occurrence of equivalent constructions are often different."

In search of an explanation for the frequency differences, we took as a starting point the semantics of the causal construction with color adjectives. In Section 2.1.1 we have seen that it expresses intensification or excessiveness. Thus, the issue at stake is which lexicalization patterns French and German favor for the expression of intensification. German is known to be characterized by a high degree of "Kompositionsfreudigkeit" ('compounding preference'; Schlücker 2012; Siemund 2004; Zeschel 2012) which leads to the assumption that it selects more concise expressions like compounds for the intensification semantics.

This hypothesis was tested with a survey designed for two groups of native participants. The French group consisted of 17 Belgian French-speaking students of Romance languages at the Université catholique de Louvain, the German group was composed of 4 students of different disciplines and 8 non-studying adults, all randomly invited to take part in the test.

[2] There are some more color terms that can appear in the causal construction, like pink in "Je suis rose de bonheur" (http://www.gazette-besancon.fr/2010/02/23/jean-louisfousseret-je-suis-rose-de-bonheur/), we refer here to the study by De Knop (2015).

The design was a free writing test as the participants were asked to answer the following questions: “How can you say that someone is very hungry, very thirsty, very unhappy,…” (see the German questionnaire in Appendix 1). Although the groups were rather small, the results are quite conclusive, as can be seen in Table 2:

	French-speaking group		German-speaking group	
Compound	/		32 %	*Bärenhunger, todunglücklich, Mordshunger, Riesenangst, eiskalt, bitterkalt*
Causal construction with verb	6.8 %	*mourir/crever de faim/soif*	0.03 %	*vor Hunger sterben*
Causal construction with adjective	4.7 %	*vert de peur/jalousie*, *rouge de colère*	0.01 %	*ist gelb vor Neid*
Nominal group + another noun	3.0 %	*faim de loup*, *un froid de canard*	/	
Adjective *comme* noun	7.6 %	*blanc comme un linge*, *blanc comme une endive*, *blanc comme un mort*, *pâle comme la mort*	/	
Noun/Verb + adjective	2.1 %	*peur bleue*	0.02 %	*fades Aussehen*

Table 2: Results of the tests with French- and German-speaking participants (De Knop 2015)

What emerges from the results can be summarized as follows:

1. German uses many compounds for the expression of excessiveness (32 %), whereas French participants did not propose any compound for this semantics. This is the preferred way of expression for German.
2. In 7.6 % of the answers, French-speaking participants used comparison structures with *comme* ‘as/like’, e.g. *blanc comme un mort* (lit. ‘white like a dead (person)’), *blanc comme un linge* (lit. ‘white like a cloth’). This structure was not proposed at all by the German participants.
3. An alternative for the French speakers is a structure with a main verb expressing the excessiveness, accompanied by a complement (6.8 %), e.g. *mourir de faim* (‘to die of hunger’).
4. The causal construction with an adjective was proposed in 4.7 % of the cases by the French-speaking participants, whereas it was hardly present with the German participants (0.01 %).
5. In 3 % of the cases, the French-speaking participants also used a nominal group consisting of a noun followed by a nominal complement, e.g. *un froid de canard* (‘a cold of duck’). This possibility was not proposed by the German group.

All in all, the survey shows that French speakers use a large variety of possible syntactic structures for the expression of excessiveness or intensification, whereas German speakers favor compounds for the same meaning. The structures proposed by the French speakers are more analytic and the ones by the German participants are more synthetic (Haspelmath & Michaelis 2017; Primus 1997), this reflects authentic ways of expression in both languages. Consequently, the hypothesis has been confirmed with the survey. This leads to the conclusion that, when comparing languages, the frequency of use of specific lexicalization patterns grounded in the difference between analytic vs. synthetic properties of languages

should be taken into account as an important factor for the determination of authenticity. The following case study also exemplifies frequency differences but motivated by other typological dimensions.

3. Verbless directives

The term "verblose Direktiva" ('verbless directives') has been proposed by Jacobs (2008) to refer to structures without a verb to express motion events: "An entity should – literally or in a figurative sense – be moved along a path towards its endpoint and stay there" [our translation from German] (Jacobs 2008: 15). They are directive speech acts with an illocutionary force (see Searle 1979), i.e. they express commands, advice, instructions, etc.

(15) Germ. Auf zum nächsten Ziel!
Lit. 'Off to the next goal!'
(16) Germ. Raus aus meiner Küche (DWDS, Jentzsch: Seit die Götter ratlos sind. München: Heyne 1999 [1994]: 285).
lit. 'Outwards out of my kitchen'
(17) Germ. Zurück aus dem Silicon Valley, rein in den Kulturschock (Handelsblatt, 03.02.2019).
lit. 'Back out of the Silicon Valley, into in the culture shock'

In line with Talmy (2000) different constituents realizing elements of motion events can be identified in the examples of verbless directives: the motion start, e.g. *auf* in example (15), the path of motion, e.g. *raus* or *hinein* in (16) or the goal of motion, for instance *Ziel* (15), *Stadt* (16) or *Urlaub* (17). In some instantiations of verbless directives a theme argument can also appear, e.g. *mit den Steuern* in

(18) Germ. Runter mit den Steuern!
Lit. 'Down with the taxes'

Depending on the type of constituents that are realized in the examples, 3 structures with verbless directives can be distinguished as illustrated with German examples in Table 3:

Construction Type	**Motion start**	**Path**	**Goal**	**Theme**
Type 1	*Auf* 'Off'	*zum* 'to the'	*nächsten Ziel* 'next goal'	
Type 2	---	*Runter* 'Downwards'	---	*mit den Steuern* 'with the taxes'
Type 3	---	*In den* 'In the'	*Müll* 'garbage'	*mit den Klamotten* 'with the clothes '

Table 3: Construction types with verbless directives as defined by Jacobs (2008)

For more details on the three types, see De Knop & Mollica (2022).

3.1 Verbless directives in contrast

Verbless directives are quite common in German and in some Slavic languages (Wilder 2008), in Romance languages they are possible, but not so common because not so authentic. The following contrastive analysis deals with this issue as it compares data in the German and French versions of two comic strips. We selected this type of literature because the language used is compact and it reflects oral language, especially direct speech.[3] That is why we expected to find many examples of verbless directives in this literature type. The data were collected in the following French comics:

- Hergé (1947/1982), *Les aventures de Tintin – Le Crabe aux pinces d'or.*
- Jacobs, Edgar P. (1991), *Les aventures de Blake et Mortimer – L'affaire du collier.*

and their German counterparts,

- Hergé (1998)*, Tim und Struppi – Die Krabbe mit den goldenen Scheren.*
- Jacobs, Edgar P. (1980), *Die Abenteuer von Blake und Mortimer. Die Diamanten-Affäre.*

The comic culture has its origin in Belgium, the French version is the original one. Instantiations of verbless directives could be found both in the German and the French versions, as illustrated in (19) and (20):

(19) Germ. Schnell! Hinter die Düne!... und absitzen! (Hergé 1998: 38)
(19') Fr. Vite! Derrière la dune !...Et pied à terre!... (Hergé 1947/1982: 36)
Lit. 'Quick! Behind the dune! … and wait!'
(20) Germ. Zum Hafen, Struppi!... Schnell zum Hafen…! (Hergé 1998: 11)
(20') Fr. Au port, Milou!... Au port, en vitesse!... (Hergé 1947/1982: 9)
Lit. 'To the harbor, Milou!... Quickly to the harbor…!'

But in spite of the structural equivalence between the German and the French instantiations of verbless directives, some differences can already be observed: The French examples sound less authentic or more "clumsy" (Kzreszowski 1981a: 106) than the German ones (especially example (19'))[4]. This has to do with the difference between satellite-framed vs. verb-framed languages (Slobin 1996; Talmy 2000). French as a verb-framed language mainly selects verbs for the expression of a trajectory towards a goal, whereas German expresses directionality in a more differentiated way with spatial prepositions or particles. German has different prepositions which allow to distinguish between static processes vs. dynamic motion towards a goal. E.g., the preposition *bei* ('at/with') in *Er wohnt bei seinem Vater* (lit. 'He lives (at) with his father') expresses a state, whereas the preposition *zu* ('to/towards') in *Er geht zu seinem Vater* (lit. 'He goes to his father') is used for dynamic motion towards someone (in this example, the father)[5] or something (e.g. the harbor in example (20) above). French has just one preposition, namely *à* for both conceptualizations, as illustrated by the above example

[3] For the characteristics of the language of comics, see among others Frahm (2010) and Grünewald (2000).
[4] I thank my colleague Françoise Gallez who specified that in French there are only few verbless expressions which sound authentic, namely *à table!* ('to the table!'), *au lit!* ('to the bed!') and *en selle!* ('in (the) saddle'). We can add *à l'abri* ('to the shelter').
[5] For studies about German prepositions, see also Di Meola (2000), Breindl (1989), and Grießhaber (2007).

(20')[6]. The disambiguation takes place with the further context, i.e. *en vitesse!...* (lit. 'in speed'). The German morpho-syntactic case-marking further sustains expressions for different facets of motion events with the distinction between accusative and dative cases. This is particularly relevant for the use of so-called "two-way prepositions" (Smith 1995) which can be used either with the accusative case for the expression of an incipient dynamic motion along a path and towards a goal or the dative case for locations or more static processes where no telic motion is implied (see Willems (2011) or Willems et al. (2018) for detailed descriptions of the distinction between both cases). This explains e.g. why the nominal phrase in (19) has an accusative case after the preposition[7].

Adopting a quantitative perspective, it can be observed that the number of verbless directives differs in both versions German vs. French. The contrastive analysis of the examples reveals that the French version mainly contains constructions with verbs, often in the imperative form – which does not surprise as it is one of the possibilities to express directive speech acts, e.g.

(21) Germ. Schnell!... Wieder nach oben...! (Hergé 1998: 20)
Lit. 'Quickly… Back upwards…!'
(21') Fr. Vite!... Remontons!... (Hergé 1947/1982: 18)
Lit. 'Quickly…Let's go upstairs!...'
(22) Germ. Oh! Eine Leiter!... Hinab! (Jacobs 1980, 28)[8]
Lit. 'Oh! A ladder!... Downwards!'
(22') F. Oh! Une échelle!... Descendons!!... (Jacobs 1991, 28)
Lit. 'Oh! A ladder!... Let us go downstairs!!...'
(23) Germ. Fertig!... Schnell in Deckung (Hergé 1998: 19)
Lit. 'Ready! … Quickly under shelter'
(23') Fr. Voilà!... Allons nous mettre à l'abri… (Hergé 1947/1982: 17)
Lit. 'That's it!... Let us go put ourselves under shelter…'

In the French example (23') a complex imperative form with [*allons* + infinitive *mettre*] is used instead of a more synthetic imperative form *mettons*. This complex form sounds very formal (compare Oppermann-Marsaux (2010) for the differences between imperative forms in French).

Another possibility to express directive speech acts is with the use of a verbal form in the infinitive, as illustrated by the French example (24'),

(24) Germ. Zuerst zum Sicherungskasten… (Jacobs 1980: 9)
Lit. 'First to the fuse box…'
(24') Fr. D'abord: Trouver le tableau!... (Jacobs 1991: 9)
Lit. 'First: Find the board!...'

[6] In this specific French example, the preposition *à* is fused with the definite article *le*, which leads to the contracted form *au*.
[7] We cannot go into the details about this aspect but refer to De Knop & Mollica (2022).
[8] This example does not instantiate a prototypical verbless directive, it only consists of a directional adverb. The number of such examples is very high in the German version – which is partly due to the literature type as comics have speech bubbles with little space – this confirms the preference for short, compact verbless structures in German.

The French equivalent of (24) does not express any motion like in German, but more the necessity to 'find' the fuse box.

The linguistic variety of equivalents for the expression of directive speech acts as found in both comics and for both languages is listed and summarized in Table 4:

	French examples		German examples	
	Number of examples	Frequency	Number of examples	Frequency
Verbless directives / satellites	9	30 %	12	40 %
Phraseme-constructions[9]	/	/	2	6.7 %
Motion verbs	17	56.7 %	1	3.3 %
Non-motion verbs	4	13.3 %	/	/
Motion adverbs	/	/	15	50 %

Table 4: The variety of equivalents in French and German and their frequency

In spite of the smaller number of instantiations it can be observed that French favors structures with motion verbs for the expression of directive motion events (56.7 %), whereas German prefers verbless directives (40 %) as well as motion adverbs (50 %). French also uses some verbless directives (30 %), but no single adverbs.

3.2 Favorite lexicalization patterns in French and German

As the number of examples in Table 4 was too limited to bring conclusive figures for the motivation of specific lexicalization patterns in French and German, a contrastive survey was conducted with French and German speakers in order to test the hypothesis that even in the concise context of comics French rather favors verb-framed patterns, whereas German uses verbless directives in order to express directive speech acts. The French-speaking test group was composed of 15 Belgian French-speaking adults, randomly invited among friends and colleagues, the German group consisted of 15 master students of German language and letters with a specialization in German as a foreign language at the University of Regensburg[10].

The test design consisted in 8 sets of 3 to 4 pictures extracted from the following French comics:

Hergé (1947), *Les aventures de Tintin – Le sceptre d'Ottokar*. Tournai : Casterman.
Hergé (1958), *Les aventures de Tintin – Coke en stock*. Tournai : Casterman.
Hergé (1960), *Les aventures de Tintin – Tintin au Tibet.* Tournai : Casterman.

And their German counterparts:

Hergé (1967a), *Tim und Struppi, Tim in Tibet*. Hamburg: Carlsen Verlag.
Hergé (1967b), *Tim und Struppi, König Ottokars Zepter*. Hamburg: Carlsen Verlag.
Hergé (1970), *Tim und Struppi, Kohle an Bord.* Hamburg: Carlsen Verlag.

[9] The term 'phraseme-construction' has been suggested by Dobrovol'skij (2011) to refer to constructions with phraseological status, i.e. syntactic structures which have a lexical meaning as a whole, with some lexical slots that are fixed and others which can be filled with lexemes freely selected. An example is *Weg mit X* (lit. 'Away/Off with X') in which *weg mit* are fixed.

[10] We thank Dr. Svenja Brünger and the master students of the University of Regensburg who participated in the test.

Only picture sets representing motion events with possible directive speech acts were selected. In some of the bubbles accompanying the pictures, the text was deleted and each empty bubble received a number from 1 to 8. The participants were asked to write sentences in their mother tongue for the empty bubbles (1 to 8) on an extra sheet of paper. They did not receive any instruction, just the comment: "Please write sentences for the empty bubbles; think of the concise style of comics". Table 5 describes one example of a picture set.

Example 8 of the picture sets
The picture set number 8 in our survey was taken from Hergé (1967b: 12). The first picture represents Tintin who sees two criminals through the broken window. The second picture shows Tintin who invites a colleague to go down in order to catch the criminals. The third picture depicts both Tintin and his colleague who rush down the staircase. This third picture contains the empty bubble to be filled.

Table 5: Example of a picture set.

The following table contains some examples written by both groups of participants for the empty bubbles:

	German sentences	**French sentences**
Bubble 8	(25) Los, schnell! Lit. 'Go, quickly' (26) Beeilen Sie sich! Lit. 'Hurry up' (27) Jetzt haben wir ihn! Lit. 'Now we have got him'	(28) Suivez-moi ! Il faut les rattraper. Lit. 'Follow me! We have to catch up with him' (29) Attrapons-les. Lit. 'Let us catch them' (30) Dépêchez-vous, ils ne doivent pas nous échapper. Lit. 'Hurry up, they should not escape us'

Table 6: Examples of sentences for empty bubble 8 by German and French participants.

As can be seen from these examples the French-speaking natives mainly used constructions with verbs, verbless directives are hardly realized. Table 7 summarizes the results for the 8 sentences written by the 15 French-speaking participants:

Structure	**Number of examples**	**Frequency**	**Examples by French-speaking participants**
Verbless directive	1	0.83 %	*En route Milou*
Construction with imperative	71	59.16 %	*Viens ici, sale gamin!* *Allons nous cacher !* *Suivez cette voiture noire…*
Construction with modal verb (also *il faut*)	6	5.0 %	*Vite, vite, on peut encore le rattraper !* *Il faut vite aller le lui rendre !* *Taxi, pouvez-vous suivre cette voiture noire ?*
Construction with infinitive	0	0 %	/
Only adverb *(e.g. schnell/los)*	0	0 %	/
Other construction without verb	7	5.83 %	*Sale petit morveux* *Vite, Milou. Pas de temps à perdre* *Allez, capitaine, courage !*
Other construction with verb	34	28.33 %	*Le premier en haut a gagné !* *Que se passe-t-il ici ?*

			Mais où est-il donc passé ?
Construction without verb + following sentence	1	0.83 %	*Encore toi, sale garnement. Attends que je t'attrape.*
TOTAL	**120**	**100 %**	

Table 7: Results of the sentence writing test for empty bubbles by French-speaking natives

As Table 7 shows, there is a clear tendency with the French-speaking natives to use constructions with imperatives (59.13 %) or a modal verb with an infinitive (5 %) to express directive speech acts. The constructions with imperatives are often in the first person plural and with the form *allons* ('let us go'). Among the constructions with modal verbs, the expression *il faut* ('one must') is frequently used. In 28.33 % of the sentences another construction with a verb was proposed, e.g. *Le premier en haut a gagné !* ('The first on top has won!') or *Que se passe-t-il encore ?* ('What happens again?'). There was just one case of a verbless directive (0.83 %) – in spite of the hint given to the students about the conciseness of the comic language. In 7 examples, another construction without a verb was used (5.83 %), e.g. *Vite, Milou. Pas de temps à perdre* ('Quickly, Milou. No time to lose') or *Vite Milou, mission S.O.S en vue!* ('Quickly Milou, SOS mission ahead'). Infinitives or simple adverbs were not used at all. All in all, we can say that there is a clear preference for constructions with verbs.

Let us now look at the sentences written by the German natives. The following Table 8 summarizes the results by the German natives and lists some of the sentences produced by those participants.

	Number of examples	**Frequency**	**Examples by German participants**
Verbless directive	13	11.57 %	*Rein da! Schnell in den Wagen! Raus hier! Schnell ins Auto!* *Los, hier entlang!*
Construction with imperative	38	31.40 %	*Na warte! Beeil dich! He, warte doch auf mich!* *Sei vorsichtig! Versteckt euch!*
Construction with modal verb	12	10.0 %	*Wir müssen ihm helfen!* *Wir müssen ihn verfolgen.*
Construction with infinitive	1	0.83 %	*Halt! Stehen bleiben!*
Only adverb	8	6.66 %	*Los Struppi! Halt stopp! Los, weg hier!*
Other construction without verb	8	6.66 %	*Stopp, Sie da!* *Ich doch nicht!* *Immer das Gleiche mit ihm…*
Other construction with verb	28	23.33 %	*Also, ich werde mir Zeit lassen.* *Hoffentlich ist es nicht entwischt!* *Wo hast du den her?* *Das sieht doch ganz einfach aus!*
Construction without verb + following sentence	12	10.0 %	*Los! Verfolgen wir ihn!* *Schnell! Hier ums Eck, da können wir uns kurz verstecken!*
TOTAL	**120**	**100%**	

Table 8: Results of the sentence writing test for empty bubbles by German natives

The German results show a more diversified picture. First, it can be observed that there are examples for all categories of lexicalization patterns which was not the case with the French-

speaking participants. Constructions with an imperative form are quite common (31.40 %), just like in French. The constructions with a modal verb are represented in 10 % of the examples, they often contain the modal verb *müssen* which expresses a strong obligation. Several cases of verbless directives (11.57 %) are found. If we add to these the adverbs (6.66 %) we get a higher score of 18.23 % for both categories.

A direct comparison of the results by the French-speaking and German natives (see Table 9 hereunder) leads to insightful observations.

	French-speaking natives		**German natives**	
	Number of examples	**Frequency**	**Number of examples**	**Frequency**
Verbless directive	1	0.83 %	14	11.66 %
Construction with imperative	71	59.16 %	37	30.83 %
Construction with modal verb	6	5.0 %	12	10.0 %
Construction with infinitive	0	0 %	1	0.83 %
Only adverb	0	0 %	8	6.66 %
Other construction without verb	7	5.83 %	8	6.66 %
Other construction with verb	34	28.33 %	28	23.33 %
Construction without verb + following sentence	1	0.83 %	12	10.0 %
TOTAL	**120**	**100 %**	**120**	**100 %**

Table 9: Results by French-speaking and German natives in comparison

Table 9 brings to the fore that constructions with imperative forms are the dominant category with the French-speaking participants (59.16 %), followed by other constructions with a verb (28.33 %). Other verb-framed constructions are also favored, i.e. with a modal verb (5.0 %). If we count all the verb-framed constructions with imperatives (59.16 %) and with modal verbs (5.0 %), we get a percentage of 64.16 % for verb-framed constructions selected for the expression of directive speech acts. Verbless directives are hardly present (just one example), and the other categories are hardly instantiated.

By contrast, the German participants proposed examples for all categories of lexicalization patterns, with verbless directives (11.66 %) or single adverbs (6.66 %). This makes an overall frequency of 18.32 % for satellite-framed constructions. The verb-framed constructions by the German natives are also composed of constructions with imperative forms (30.83 %) or with a modal verb (10.0 %), but also of constructions with an infinitive (0.83 %). This brings an overall result of 41.66 % examples of verb-framed constructions. As a summary, Table 10 hereunder zooms in onto the figures for the two patterns, i.e. the verb-framed vs. the satellite-framed pattern, by the French-speaking and German participants:

Structure	**French examples**	**German examples**
Verb-framed pattern	64.16 %	41.66 %
Satellite-framed pattern	0.83 %	18.32 %

Table 10: Distribution of the lexicalization patterns in the French vs. German examples

The study brings evidence for the claim that French favors verb-framed patterns for the expression of directive speech acts, whereas German alternates between satellite-framed and verb-framed patterns. A t-test with two independent variables representing the results by both groups shows that the differences between both groups are statistically significant. For the verb-framed patterns, the t-test shows the following highly significant results: *t*(28) = 4,111, p=0 (with 95 % of confidence interval). For the satellite-framed patterns we get similar highly significant results with the t-test, *t*(15.913) = 5,068, p= 0 (95 % of confidence interval).

This case study confirms the claim resulting from the first study on causal constructions, namely that frequency is an important dimension in the contrastive analysis of structures in different languages. For the sake of authenticity it is important in contrastive analysis not only to take into account the similarity between structures and the possible one-to-one correspondences between these structures but in a usage-based perspective even more their frequency. More specifically, it is not satisfactory to identify similar structures in L1 and L2, it is also a major issue to recognize whether a specific construction belongs to the authentic ways of expression in the compared languages.

4. Conclusions and perspectives

By way of exemplification this chapter has presented two studies which have shown that contrastive analysis should be complemented with frequency issues resulting from usage preferences in specific languages. The presence of parallel constructional equivalents in both German and French is no guarantee for authentic equivalence. In their study on the encoding of motion, Narasimhan et al. (2012: 3) have pointed to the "asymmetry" between different languages. It can be observed at different levels: at the level of structural or lexical equivalents but, as this chapter demonstrates, also at the level of usage frequency which is motivated by typological aspects and a view for constructional preferences dependent on the dichotomy between satellite-framed vs. verb-framed languages and the difference between analytic vs. synthetic modes of expression. The importance of integrating typology in contrastive studies has already been claimed in the eighties with Dezsö (1982: 9) arguing that "typology is an optimum basis for theoretical contrastive studies". However, as further pointed by Dezsö (1982: 9), "[t]his is widely accepted but typology is rarely applied in contrastive research". Kortmann (1998: 142) confirms that little has been done in that direction[11]. This article aimed at making up for this deficit.

This key insight is not only important at a purely descriptive level in contrastive studies, but should also be exploited in applied domains like foreign language teaching (FLT) or foreign language learning (FLL). Jarvis & Pavlenko (2007: 183) claim that "Selinker (1969) and Andersen (1983) were the first researchers to make an overt connection between transfer and the frequency with which forms occur in the source or recipient language". Regarding the learning of foreign languages, Selinker (1969) even showed "that learners tend to transfer frequency tendencies from L1 to L2" (Jarvis & Pavlenko 2007: 183). But as we have seen, "differences in the frequency of use of certain constructions are connected with the native vs. non-native use of a language", as claimed by Kzreszowski (1981a: 106). This can lead to an overuse or underuse of an adequate construction in a specific context in the foreign language. This remains a big challenge in FLT and FLL. Therefore, Herbst (2016: 44) recommends that "the frequency of constructions should be reflected in the design of teaching materials". To do so and with a view on

[11] Except for few studies, like the one by Hawkins (1986) about *A comparative Typology of English and German. Unifying the Contrasts.* See also Gaeta (2014).

authenticity, descriptions of typological differences and lexicalization preferences should be grounded in corpus data reflecting authentic language (Enghels, Defrancq & Jansegers 2020; Herbst 2016: 44).

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Appendix 1: Questionnaire about expressions of excessiveness for German participants

Ihr Geburtstag ……

Geben Sie alternative Ausdrucksmöglichkeiten (Es gibt keine falsche Antwort!)

Wie kann man noch auf Deutsch sagen,

1. dass jemand sehr großen Hunger hat

……

2. dass jemandem sehr kalt ist

……..

3. dass jemand sehr unglücklich ist

……

4. dass jemand große Angst hat

……

5. dass jemand viel Erfolg hat

……

6. dass jemand sehr blass ist

……

7. dass jemand sehr neidisch ist

……

8. dass jemand sich sehr fürchtet

……

9. dass jemand sehr wütend ist

……

10. dass jemand sehr großen Durst hat

……