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THE EQUIVALENCE OF TERMS DENOTING THE EMOTION CONCEPTS OF GER. *ANGST* AND A.-S. *FEAR*: A CORPUS-BASED METHOD

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Abstract: By applying a corpus-based method, the authors attempt to specify the Anglo-Saxon equivalent for the emotion concept *ANGST*, which expresses a particular metaphysical fear in German-speaking linguo-cultures. It has been identified that the concept of A.-S. *ANXIETY* is more equivalent to the concept of Ger. *ANGST* than A.-S. *FEAR*, although it cannot convey the whole spectrum of linguistic and cultural explicitness of *ANGST*.

Key words: emotion concept, angst, fear, anxiety, corpus-based method, conceptual metaphor.

1. Introduction

The study of emotion concepts, initiated in the late 20th century (see, e.g., Kövecses 1990; Wierzbicka 1999), is still relevant in cognitive and culturally oriented linguistic studies. This issue correlates directly with the pressing problem of modern times – globalization. The latter encourages search for new approaches in the field of

intercultural communication, translation studies and those disciplines that lie behind the general notion of "cultural linguistics" (ethnolinguistics, linguoculturology, anthropological linguistics). Each of these areas of linguistics with its own analytical tools offers ways to solve a number of problems connected with intercultural understanding, relying on the study of the empirical basis of different languages (divergent and convergent features in languages and cultures, interlingual barriers, interlingual deviations, interlingual interference).

In our research, we stick to the understanding of concepts given by Kövecses, Lakoff, and Wierzbicka (Lakoff & Kövecses 1987; Wierzbicka 1999). These are mental structures that represent knowledge about a certain fragment of the reality. In regard to emotion concepts, it is vital to identify and systematise linguistic means and expressions denoting certain emotions. It is necessary to do so in order to be able to compare emotion concepts in different languages.

The scientifically proven idea of psychologists and linguists that even basic (universal) emotions receive a socio-cultural and ethno-cultural colouring in the process of socialisation, which affects their expression and perception in a particular language society (see, e.g., Friedlmeier et al. 2011; Lewandowska-Tomaszczyk 2017; Mizin & Letiucha 2019; Mizin & Ovsienko 2020a; Panasenکو et al. 2013; Pinich 2017; Röttger-Rössler & Markowitsch 2009; Tissari et al. 2019), has been taken as the methodological support for identifying the cultural specificity of emotion concepts. It is the socialisation of individuals that due to the symbiotic interaction of basic emotions serves as a basis for forming derivative (social, complex) emotions, which are considered exclusively "human" (Levenson 2011). Therefore, the semantic structure of those emotion concepts that represent derived emotions contains specific socio-cultural and ethno-cultural meanings. On the language level, those meanings are reflected in the semantic structure of the names of corresponding emotions, because the fact that emotions interact and have interfaces with human cognition and language no longer provokes any debate (Schwarz-Friesel 2008: 277). At the same time, research analysing

ethno-specific emotions (emotional states and feelings) is especially promising, as the results and conclusions of such studies can provide solid evidence on how the world is perceived and what worldviews exist in a particular lingoculture (Mizin & Ovsienko 2020b: 145-146).

Complex (social) emotions result from the dynamics of the human emotional world, where emotions are constantly changing, generating numerous combinations of mutual transitions. These combinations are, in fact, the basis on which new qualities are formed, i.e. new social emotions. The latter, consisting of two, three, or more emotions, reveal their "vague" nature, i.e. the diffusion of their semantic structure, because they constitute a patchwork of basic and derived emotions. This is the reason why the number of emotions is still uncertain, despite the application of modern methods of study and technical resources (see, e.g., Cowen & Keltner 2017; Du et al. 2014).

The complexity and diffusion of social emotions leads to the fact that the individual cannot always get an understanding and accurately name the emotion or emotional state they are experiencing. Some emotions are so close that the lexical unit denoting them may differ only in one semantic feature, which makes them interchangeable in most cases. A clear example is an attempt to differentiate the emotion concepts *ENVY* and *JEALOUSY* in English-speaking linguo-cultures (see, e.g., in the British: Ogarkova 2007). In such cases, researchers use scientifically reliable methodological tools that allow identifying the semantic feature / those semantic features in the emotional "mosaic" of close emotion concepts, by which they are distinguished.

It should be noted that in cross-cultural studies the problem of defining the distinctive semantic features of those concepts, which represent close complex emotions, is complicated not only by the diffusion of emotions, but also by those specific ethno-cultural meanings these concepts contain. While translating basic emotions does not pose serious obstacles, as these emotions are clearly defined (furthermore, in almost every language, at least a European one, there are words (terms) to denote fear, anger,

joy, sadness, interest, and disgust), real "translation torments" begin with rendering complex emotions. Problems arise primarily because many terms for complex emotions are synonymous, and the translation is often provided not by professional but by "naive" translators (e.g., psychologists, psychotherapists, sociologists), who do not seek to delve into the semantics of a polysemous word, choosing simply its first meaning. However, a more complicated case is rendering ethno-specific emotions, when there are no lexical equivalents in the target language (see, e.g., Mizin & Letiucha 2019; Mizin & Ovsienko 2020a). And even in the presence of lexical equivalents in the target language, the search for an equivalent word (term) is quite problematic for those complex emotions, whose nominations are distinguished only by one, often insignificant, semantic nuance (see, e.g., Ogarkova et al. 2013).

In the absence of lexical equivalents to denote German specific emotions, representatives of English-speaking linguo-cultures (the British, Americans, and Australians) apply, as a rule, the simplest method – loan translation. Therefore, in English-speaking both academic and non-academic discourses, the German terms *Angst*, *Schadenfreude*, *Torschlusspanik*, *Sehnsucht*, *Gemütlichkeit*, *Geborgenheit*, *Fremdscham* / *Fremdschämen*, *Gönnen*, *Weltschmerz*, *Fernweh*, etc. are widely used, written with a lower case. But loan translation is of no help whenever it is necessary to explain to someone from a "foreign" linguo-culture the concepts hiding behind these words, i.e. to describe relevant emotions as accurately as possible. In addition, some loanwords, in particular the lexeme *angst*, remain incomprehensible and "foreign" to most recipients of the target language, without becoming widespread.

A crucial point in the descriptive translation of specific emotions from German into English is establishing those lexical equivalents that can convey the most adequate idea of these emotions in the minds of the target language speakers. The chosen equivalents should be supplemented with information that reveals the ethno-cultural authenticity of emotion concepts. The latter can constitute an important part of the emotional universe of German-speaking linguo-cultures (Germans, Austrians, and Swiss).

Therefore, it is necessary for the translator to determine the dominant (main) emotion, which must be well known to the recipient of translation, in the semantic structure of the concepts that represent them. In other words, the lexical equivalent – the name of the emotion – should evoke in the minds of target language speakers the idea of the most relevant emotional experience. The translator should be guided by the rule that emotions are inherent in people as a species, so the emotional experience of different linguo-societies largely coincide, and the lack of a linguistic denotation of a certain emotion in the target language does not mean that this emotion is unfamiliar to its speakers.

The purpose of the research is to clarify the equivalence of the terms denoting metaphysical fear in English and German using a corpus-based methodology. The analysis focuses on the emotion of metaphysical fear specific to German-speaking linguo-cultures, which is denoted by the lexeme *Angst*. This fear is described today in numerous works by psychologists, anthropologists, culturologists, philosophers, and linguists (see, e.g., Becker 2011; Fuchs & Micali 2013; Kahn 2012; Oster 2012; Wierzbicka 1999), where clear criteria for distinguishing metaphysical (existential) fear from specifically situational one have been established. In German, there are separate linguistic denotations for these two types of fear – *Angst* and *Furcht*, which is not the case in a number of other languages (e.g., Ukrainian or Russian).

During their work, translators do not automatically replace language units and constructions of the source language with the corresponding target language units (see, e.g., Slavova & Borysenko 2021). First and foremost, the translator is a researcher who is competent not only in the translation studies, but also in related academic disciplines – linguistics, literary criticism, psychology, philosophy, anthropology, culture studies, and others. With regard to difficulties faced by the translator while rendering emotions, there are at least two situations when the translator needs to support the correct choice of the equivalent (an equivalent word) of the target language with scientifically substantiated ideas: 1) if there are doubts about the accuracy of the target language of

the lexical equivalent (name of a certain emotion concept), which is recorded in bilingual dictionaries; 2) when lexical equivalents are absent in dictionaries at all.

The presence of nouns denoting fear emotions in various linguo-societies is explained by the complexity of the latter, as fear emotions demonstrate divergent manifestations of the course of emotional experience depending on the situation (e.g., intensity or phenotypic expression). Accordingly, each of these manifestations may have a separate denomination in the language. The names of different types of fear have mostly interlingual equivalents, because this emotion is basic (universal): fear is considered to be a biologically mediated reaction, which plays a significant role in the survival of the individual, as it signals danger and serves to avoid the latter. As fear can appear in different situations under different "guises", it is extremely difficult to "squeeze" it into a specific definition. There is still a heated debate about whether the concept of "fear" can be comprehended at all, because despite the fact that this emotion (emotional state / feeling) is known to everybody, it is very difficult to find common ground what is meant by this concept (Becker 2011: 7).

In the process of socialisation, more complex socially and culturally marked qualities of this emotion have been formed on the grounds of the basic instinct of fear, including metaphysical fear. The linguistic separation of metaphysical fear can be traced not only in German, but also in a number of other Germanic, Roman, and even Slavic languages (cf. French *angoisse*, Czech *uzkost*, Polish *lek*), but in the German-speaking community it plays a special ethno-cultural role (Wierzbicka 1999: 135).

Some scholars, including linguists (see, e.g., Oster 2012; Soloshenko 2018), define the English lexeme *fear* as the equivalent of the German word *Angst*. Yet others, in particular some psychologists and psychotherapists claim that the lexeme *anxiety* is the equivalent (see, e.g., Becker 2011; Kahn 2012; Smith 2021). It is noteworthy that the German word *angst* is generally uncommon, so this word is usually not taken into account.

In our opinion, the translator's decision to render *fear* with *Angst* is not quite successful, as the first lexeme overlaps the meaning of the second one. Here, translators should not forget that the word *Angst* denotes a complex and, in addition, specific emotion. In similar cases, the translator has to identify firstly the basic meaning of the lexeme *Angst*, using different dictionaries and references as well as specialised scholarly literature (in other words, to identify the main emotion in the emotional "mosaics" of the ANGST concept). Therefore, the study of the semantic structure of such a word naming the emotion should be supplemented by an analysis of its semantic structure (its actual meaning). There is ample opportunity to use corpus linguistics today, as it makes it possible to study the semantic structure of any word by analysing its typical co-occurrence in representative language corpora based on the study of the contextual environment of the word in concordance lines and statistical data on its collocates and co-occurrences.

2. Methods and material (language corpora)

At the beginning of the third decade of the 21st century, it can already be stated with confidence that the methodology of corpus linguistics produces quite scientifically objective results in the study of cultural concepts. Among the proponents of corpus linguistics, a position has been developed that texts are not only manifestations of the language system, but also of the cultural conditions and situations, which they were generated in. This makes it possible to apply the corpus-based method in revealing specific features of a certain culture. In particular, language corpora make it possible to study the distribution of those lexical units that represent culturally marked concepts, in order to identify the cultural meanings of the latter. However, researchers in this case must be sure that such words validly represent cultural concepts (Stefanowitsch 2020: 254).

There is not much discussion in academic circles as to the perception of the fact that emotion concepts are distinct cultural concepts (see, e.g., Kitayama & Markus 1997; Kövecses 2003; Schwarz-Friesel 2008; Wierzbicka 1999). In addition, there is no doubt

about the relevance of the emotion concept *ANGST* for representatives of German-speaking linguo-cultures (Wierzbicka 1999: 124). Therefore, to identify the most accurate equivalent of this concept in English-speaking linguo-cultures, we propose to strengthen the proper linguistic analysis of the lexemes *Angst*, *Furcht*, *fear*, *anxiety*, and *angst* by applying the corpus-based method. To this end, we should consider in more detail the basic notions of corpus linguistics, as well as its analytical tools, which are directly or indirectly involved in our research.

It is commonly known that the main benefit of corpus linguistics is that it relies on the study of language units in their implementation, i.e. in "real life" (McEnery & Wilson 2001: 1). In this context, the notion "semantic preference" is important for developing the methodology of corpus linguistics (see, e.g., Partington 2004). This notion is based on the idea that each word shows its own semantic preference, i.e. it demonstrates typical combinations with other words which are semantically consistent with it. Thus, there appear various typical combinations of words. They serve as the basis, on which the various semantic nuances of the word are formed (Kövecses 1986: 129).

In the Anglo-Saxon tradition, this combination of words has received several denominations: *collocation* (see, e.g., Firth 1957), *collocability*, or *selective restriction* (see, e.g., Leech 1982). Corpus linguistics demonstrates a clear preference for the first term, although its content has undergone certain changes. Semantic preference closely correlates with the notion "collocation", which means a statistical tendency of the words to co-occur (Hunston 2002: 12). The relevance of this notion is determined by the fact that the real units of speech and writing are not individual, i.e. separate, words, but *larger-than-word units* (see, e.g., Sinclair 1991) or *patterns* (see, e.g., Hunston & Francis 2000).

The notion "pattern" is especially common in cognitive sciences, primarily in cognitive psychology, cognitive linguistics, and psycholinguistics. However, in corpus linguistics it has occupied its separate if not its basic epistemological niche, because the primary

objective of corpus linguistics is to describe and interpret patterns (Biber & Jones 2009: 1287), which result from the use of language signs in speech.

Since the patterns are not random but cognitively motivated, this suggests that a corpus-based analysis can identify those elements in a language, which are typical, normalised, and predictable (Stubbs 2004: 111). Therefore, the corpus-based method is considered to provide a more objective view of the language than intuition (Krieger 2003; McEnery & Wilson 2001) because it is empirical, inductive, and quantitative.

Corpus linguistics involves both quantitative and qualitative analytical procedures (Biber et al. 1998: 4), offering a quantitative-based qualitative approach (Biel 2018: 26) to the study of linguistic signs. This approach has been tested in numerous linguistic studies, especially in the fields of cognitive linguistics, contrastive linguistics, cultural linguistics, and translation studies. It offers an important methodological advantage of reducing speculation in the field of linguistic studies by verifying research hypotheses using large databases. This area of knowledge uses not only material (actual corpora, list of co-occurrences, and statistics), but also conceptual tools for verification. For the latter, in addition to the above-mentioned notion of "semantic preference", no less important is the notion of "semantic prosody". The first notion is something like a semantic field, in which the collocates of the corresponding word are dominant, while the second notion is a more general characteristic of these collocates in terms of positive or negative evaluation (Oster 2012: 338). Proponents of corpus linguistics are inclined to believe that evaluation is a major component of the language (see, e.g., Hunston 2010). The very study of semantic prosody reaches a pragmatic level, because the evaluative potential of the word is not always obvious (see, e.g., Channell 2000).

The notion of "semantic prosody" is based on the assertion that the semantic structure of each word is complemented by the meanings of its collocates, i.e. the frequent contextual units with which it is combined in speech (Whitsitt 2005). The importance of this notion for corpus linguistics is underlined by the fact that in an isolated position,

i.e. out of context, it is impossible to establish a positive / negative semantic prosody of a word even at the level of intuition. It is clear that for this purpose it is necessary to analyse as many contextual uses of this word as possible. This is why corpus linguistics, including studies of semantic prosody, is dominated by the study of concordances, or rather concordance lines, in which the word query is surrounded by contexts (see, e.g., Hunston 2002).

Some scholars argue that this approach is more objective than that proposed in other linguistic fields, in particular in cognitive linguistics and Noam Chomsky's generative linguistics, where researchers often analyse "artificial" examples, which are not formed on the basis of data on the natural compatibility of words (Winter 2019: 179). However, it should be noted that concordance lines only present information, but do not interpret it. The interpretation itself is based on the intuitive insight of the researcher (Hunston & Francis 2000: 65), because the corpus is a repository (storage) of the used language (ibid., 3). Therefore, the need to interpret empirical data should not be ignored in corpus-based studies (Grondelaers et al. 2007: 150). In our research, in particular, a "manual" interpretation of concordance lines and statistical data of word forms was used in two research procedures – (1) in determining the dominant conceptual metaphors that represent the emotion concepts *ANGST*, *FURCHT*, *FEAR*, and *ANXIETY*, as well as (2) in establishing the indicators of intensity and axiological marking of each of these concepts. In applying these procedures, we are aware that the "manual" analysis of semantic prosody is considered somewhat problematic, because the axiological meaning of the lexemes studied in the concordances is difficult to determine objectively (Bednarek 2008: 122). In addition, the "manual" interpretation of concordance lines, according to some scholars (see, e.g., Winter 2019: 179), is a factor that can even delay research progress in addressing the issue of semantic prosody.

To clarify the equivalence of the terms denoting metaphysical fear in English and German one needs large corpora to reveal the factors that influence the choice of a word form (Divjak et al. 2016: 2). With regard to translation, this means that such

decisions, usually subconscious, regarding the choice of a particular word among other words with similar semantics may, in turn, affect the translator's choice of an interlingual equivalent (counterpart).

This clarification was deemed necessary due to the doubts expressed in the Introduction as to whether the English lexeme *fear* is fully equivalent to the German *Angst*. Those researchers who consider them to be equivalents primarily ignore experts' opinion on the issue of the problem of metaphysical fear. For example, in translations from Danish into English of the works of the existentialism philosophical school founder Kierkegaard, physical fear is conveyed by the English word *fear*, and metaphysical – *anxiety*: "Fear and trembling" (2013) (in the original: "Frygt og bæven") and "The concept of anxiety" (2015) (in the original: "Begrebet angst"). In addition, the fundamental studies of cognitive linguists Kövecses and Wierzbicka, in which, in fact, the study of emotion concepts through the prism of their close interaction with human cognition and language was initiated, also differentiate between physical and metaphysical fear (Kövecses 1986: 125; Wierzbicka 1999: 151).

The corpus-based method of the study involves four research stages.

Stage 1. Identifying common and divergent semantics of the lexemes denoting physical and metaphysical fear in English and German through a comparative analysis of their definitions. For this purpose, not only dictionaries and reference books are used, but also the definitions of these types of fear in the works of psychologists and philosophers are taken into account.

Stage 2. Determining the linguistic and cultural relevance of emotion concepts of Ger. ANGST / A.-S. ANGST, FURCHT, FEAR, and ANXIETY by comparing the frequency data of node words Ger. *Angst*, *Furcht* and Eng. *fear*, *anxiety*, *angst* in the Google Books Ngram Viewer (GBNV) online search service by Google. This service allows creating graphs of the language units frequency on the basis of a huge number of printed sources

published during the 16-21 centuries and collected in the Google Books service. Methodologically, this procedure is based on the idea that language is a dynamic system, and changes in a language are directly correlated with socio-historical and socio-cultural changes in the language environment (linguo-culture).

Stage 3. Identifying typical (conventional, traditional) connections of emotion concepts ANGST, FURCHT, FEAR, and ANXIETY in order to determine the dominant meanings in their semantic structure. If we extrapolate this idea to the level of language / speech, in the context of the analytical tools of corpus linguistics it is nothing else but an analysis of the semantic preference of the node words *Angst*, *Furcht*, *fear*, and *anxiety*.

At the conceptual level, such typical connections are represented by conceptual metaphors. Considering the fact that a large array of examples of contextual uses of these node words may draw attention to completely marginal or even accidental conceptual connections, we focused our study on eight conceptual metaphors relevant to the emotion of fear, identified by comparing the work of our predecessors (Kövecses 2003: 23; Lakoff et al. 1991: 140-166; Oster 2012: 337; Stefanowitsch 2006: 93), who, despite different methodological approaches, achieved essentially similar results in this regard: 1) EMOTION IS AN ENEMY; 2) EMOTION IS FIRE; 3) EMOTION IS SOMETHING INSIDE THE BODY; 4) EMOTION IS AN ILLNESS; 5) EMOTION IS A FLUID; 6) EMOTION IS A SUBSTANCE; 7) EMOTION IS A FORCE; 8) EMOTION IS A CREATURE.

The semantic preference of a word is formed not only by its left and right collocates, but also by co-occurrences, i.e. those word forms that can often be found with it in the contexts of concordance series. The quantitative indicators of the collocates and co-occurrences of the node words *Angst*, *Furcht*, *fear*, and *anxiety* are fairly objective markers that can be used to determine the relevance of each of the eight conceptual metaphors we have identified for the emotion concepts ANGST, FURCHT, FEAR, and ANXIETY. The degree of relevance demonstrates which characteristics (meanings) of

physical or metaphysical fear dominate in these concepts, and this, in fact, is the basis for establishing a more accurate interlingual equivalence of the lexemes *Angst*, *Furcht*, *fear*, and *anxiety*.

For this stage, the correlation of word frequency indicators in English and German language corpora is methodologically important, as corpora in interlingual studies should be balanced (as far as possible) in terms of size, composition, and technical capabilities (set of tools). Such representative corpora can be, in our opinion, iWeb (iWeb) and Digitales Wörterbuch der deutschen Sprache (DWDS), because they are, firstly, freely available and have a similar size and composition, and secondly, the indices of correlation strength – *logDice* for DWDS and *MI-index* for iWeb – are to some extent related.

The iWeb corpus contains 14 billion words (22 million web pages represented by different types of discourses: Internet discourse, journalism, science, fiction). The volume of the DWDS corpus is currently more than 27 billion tokens. The basis for the automatic creation of word profiles (DWDS-Wortprofilen) is a newspaper corpus of about 3 billion tokens. These profiles provide data on the frequency of left and right collocates of query words (general list and lists for each part of speech separately – part-of-speech tagging) and co-occurrences forms. The function of automatic creation of similar profiles is also available in the iWeb corpus.

It should be noted that the *logDice* (DWDS) and *MI-index* (iWeb) indices, although developed on the basis of different techniques, serve the same purpose – to establish a typical compatibility and "weed out" a random one, so these indices can be considered, at least for the purposes of this study, essentially relevant ones. Currently, there are more than eight dozen such statistical metrics for estimating word compatibility (see more in Pecina 2009). They allow calculating the strength of the connection between the elements of phrases, based on the frequency of these phrases and their constituent words.

Stage 4. Comparing the concepts ANGST, FURCHT, FEAR, and ANXIETY by indicators of intensity and axiological marking, as in the intercultural perspective they can serve as criteria for equivalence of cultural concepts. What is meant here is the perception of the concepts in question by representatives of the respective linguo-cultures in terms of the intensity of the emotion of fear and the dominant evaluation (the ratio of the negative and the positive). In this study, these indicators are determined by establishing the range of emotional concepts that have the closest connection with ANGST, FURCHT, FEAR, and ANXIETY. By analogy with *conceptual proximity* of Oster (2012: 338), for the purpose of the present research, such concepts will be called *conceptual proximates*. Given a person's permanent desire to balance negativity and positivity in their dynamic emotional world, it can be assumed that emotions close to physical and metaphysical fears can be not only negative but also positive or ambivalent. Since fear is generally considered to be a negative emotion, the percentage of negative and/or intense conceptual proximates can be a fairly objective indicator of which of the concepts – ANGST, FURCHT, FEAR, or ANXIETY – conveys emotionally "severer" (more negative) and/or deeper (more intense) fear. It should be mentioned that the identification of conceptual proximates using corpus data is in fact the establishment of semantic prosody (negative / positive / ambivalent meanings) of the node words *Angst*, *Furcht*, *fear*, and *anxiety*. Due to the "manual" evaluation procedure, our analysis is limited to those word forms that denote or characterize emotions (a sample of 100 collocates and co-occurrences with the highest frequency and strength of their connection with the node words).

3. Results

The four stages of the method of the present study involve the following research procedures: 1) comparing definitions of the lexemes Ger. *Angst*, *Furcht* and Eng. *fear*, *anxiety*, *angst*; 2) comparing frequency graphs (Google Books Ngram Viewer online service) of the node words *Angst*, *Furcht*, *fear*, *anxiety*, and *angst* in order to determine the significance of emotional concepts Ger. ANGST / A.-S. ANGST, FURCHT, FEAR, and ANXIETY for English-speaking and German-speaking linguo-cultures; 3) establishing

those conceptual metaphors from our list that are most relevant to each of the emotional concepts under study; 4) comparing *ANGST*, *FURCHT*, *FEAR*, *ANXIETY* by indicators of intensity and axiological marking.

3.1 Comparative analysis of definitions of the lexemes Ger. Angst, Furcht and Eng. fear, anxiety, angst

A dictionary definition gives information about the meaning of the concept, but such information is not devoid of certain elements of subjectivity due to the ideological priorities and methodological guidelines of lexicographers. In addition, printed dictionaries, even the most modern ones, lag far behind the dynamics of language development (archaisation of lexical units, neologisation of lexical composition, generalisation / specialisation of the meanings of lexemes).

Despite this fact, electronic dictionaries are usually compiled on the basis of printed ones. Attempts to update the meaning of words relying on digital data are not always successful. The definitions of the lexemes *Angst* and *Furcht* in the DWDS corpus may serve as an example: *Angst* – 1) banges Gefühl, Furcht; 2) Sorge [1) the feeling of fear (apprehension), fear; 2) anxiety]; *Furcht* – 'banges Gefühl, Angst' [the feeling of fear (apprehension), anxiety]. These definitions do not contain enough information about the concepts they denote, so recipients can understand that the lexemes *Angst* and *Furcht* are completely interchangeable (absolute synonyms). However, the difference between them is much more significant than the additional meaning of 'anxiety' of the lexeme *Angst*, as evidenced by their definitions in authoritative dictionaries, e.g.: *Angst* – 'great anxiety, restlessness; vague, often unfounded sense of threat'; *Furcht* – 'a feeling of threat from something definite (specific) that is associated with a desire to defend oneself or to flee' (see, for example, DKW: 73, 368). In these definitions there is a clear contrast of the compared lexemes on the semantic feature 'indefinite (subconscious, often unfounded) threat' – 'defined (specific) threat'.

The definitions of the English lexemes *angst*, *anxiety*, and *fear* also show noticeable differences in their meanings, e.g.: *angst* – 'a feeling of acute anxiety about a certain situation or someone's life' (Wiktionary); *anxiety* – 'an intense feeling of horror (fear, dread); vague foreboding'; *fear* – 'an intense emotion arising from danger, pain, or evil, which are threatening, inevitable, or visible to the individual' (NWDTEL: 41, 343). The lexeme *fear* denotes a broader concept of fear. The threat that causes such fear has a real embodiment, so in German it is appropriate to define the word *Furcht* as the lexical equivalent of *fear*. Whereas the German lexeme *Angst* has two English equivalents – *angst* and *anxiety*. It is noteworthy that neither of them shows a complete coincidence of definitions with *Angst*, i.e. the equivalence is partial.

Thus, in defining the concepts of Ger. ANGST / A.-S. ANGST, ANXIETY, on the one hand, and FURCHT, FEAR, on the other, researchers should always remember that they are opposed on the axis "metaphysical fear" (horror, anxiety, vague foreboding) – "physical fear" (real danger, threat to life). Those definitions that do not indicate this opposition are, at the very least, incorrect because they do not provide the recipient with objective information about the concepts under study. Even non-specialists in the field of psychology, in particular linguists, have no right to ignore the convincing position of psychologists on the distinction between these two types of fear.

This distinction is profound in nature as it is related to the instinct of human survival. The phenomenal foundation of the emotion of *Angst* is considered to be the conflict between bodily (physical) constraints (compression, constriction) and the urge (impulse) to escape directed against it: on the one hand, an individual feels constriction and tightness in the throat, chest, and abdomen (cf. the etymology of the noun *Angst*: Greek *anchein* – 'choke; strangle; press'; Latin *angor* – 'choking, clogging'; *angustus* – 'tight; narrow' (DWDS)); on the other hand, they feel an impulse (desire, urge) to escape to avoid threatening tightness (constriction). It is clear that the situation giving rise to such fear does not allow immediate escape, so the person is hovering in a state of diffuse anxiety with the aimless urge to move. Because of this limitation, i.e. the awareness of

the hopelessness of the situation, the impulse to flee grows stronger, which, in turn, increases the feeling of constriction. The latter can intensify the emotion of *Angst* and make it unbearable. It is this antagonism of these two sensations, which cannot be eliminated, that gives rise to the paralysing effect of *Angst*. At the same time, the fear of narrowing (constriction), unattainability, or loss of opportunities for personal self-development is a kind of existential claustrophobia, one of the types of *Angst* emotion on the existential level. This is expressed primarily by the fear of fixing (fixation) and binding. This fear makes an attempt to keep life plans as long as possible in a suspended state, since because of it every restriction is perceived as a narrowing (constriction) (Fuchs & Micali 2013: 11).

It should be noted that *Angst* is considered to be a graded phenomenon between two poles: diffuse fear (apprehension), on the one hand, and a specific fear directed at a certain object, on the other hand (Demmerling & Landweer 2007: 80). This means that on its second pole the blurred and forward-looking *Angst* reveals the characteristics of physical fear (Becker 2011: 9-10). That is, *Angst* can to some extent be transformed into *Furcht*, and vice versa. Therefore, there are situations when even an individual cannot determine exactly what they are experiencing – physical or metaphysical fear.

In view of this, linguists made repeated attempts to establish a reliable criterion according to which the emotion concepts of A.-S. FEAR and ANXIETY and Ger. ANGST and FURCHT can be differentiated. Kövecses points out, in particular, that the emotion *fear*, unlike *anxiety*, is always directed at the object (1990). The same is emphasised by Wierzbicka (1999: 124), who underlines that the German specific concept ANGST conveys a state of depression, while A.-S. FEAR is not a state. She argues that the German word *Furcht* is closer to the English *fear* than *Angst*, although the latter is more common in the German-speaking world. The objectivity of this conclusion can be verified today with the help of data on the frequency of the mentioned words.

3.2 Determining the significance of emotion concepts of Ger. *ANGST* / A.-S. *ANGST*, *FURCHT*, *FEAR*, and *ANXIETY* for English-speaking and German-speaking linguo-cultures (frequency graphs)

The above definitional analysis has revealed that the English lexemes *angst* and *anxiety* are equivalent to the German lexeme *Angst*. Taking into consideration that the calque ("foreign") word *angst* is uncommon in the English-speaking world, used mainly in the field of psychology (according to iWeb, its frequency is 19495 uses, while that of *anxiety* is 426858; see also Fig. 1), the position of those scholars, who believe that the English word *anxiety*, and not *angst*, is equivalent to the German word *Angst* (see, e.g., Becker 2011: 9-10), may be correct. This seems logical, since the lexeme *angst* is a calque that has lost a part of its meaning and now it differs significantly in content from the German *Angst*. It is important to note that the lexeme has lost namely the meaning that emphasised the specificity of the original lexeme *Angst*, i.e. the linguistic and cultural marking of the concept *ANGST*. That is why in some definitions, *angst* is even interpreted as emotional chaos or painful sadness (see, for example: WikiDiff). *Anxiety*, on the contrary, according to the DSM-5 nosological system (the "nomenclature" of mental disorders developed by the American Psychiatric Association) is activated by a threat that is unknown, probable or virtually indeterminate, as opposed to *fear*, which is caused by a known or understandable threat (DSM-5).

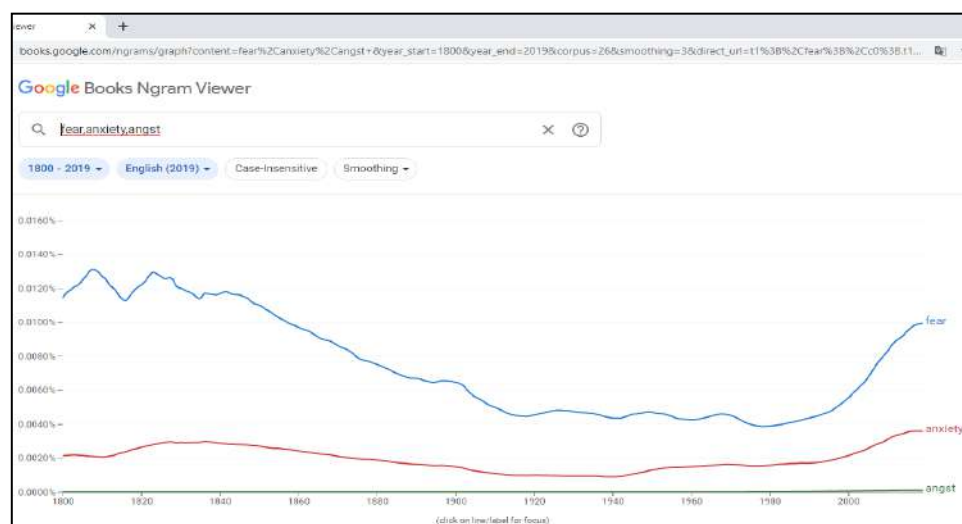


Figure 1. Graph of the frequency of the node words *fear*, *anxiety*, and *angst* according to Google Books Ngram Viewer; English; 1800–2019; smoothing 3 (GBNV)

One can assume that the significance of cultural concepts plays an important part in finding their equivalents. Some researchers define A.-S. FEAR and Ger. ANGST as equivalent concepts because they demonstrate the dynamics of increasing relevance in the respective linguo-cultures, but the graphs of frequency can demonstrate different results as for the equivalence of cultural concepts (see Fig. 2; cf. Fig. 1).

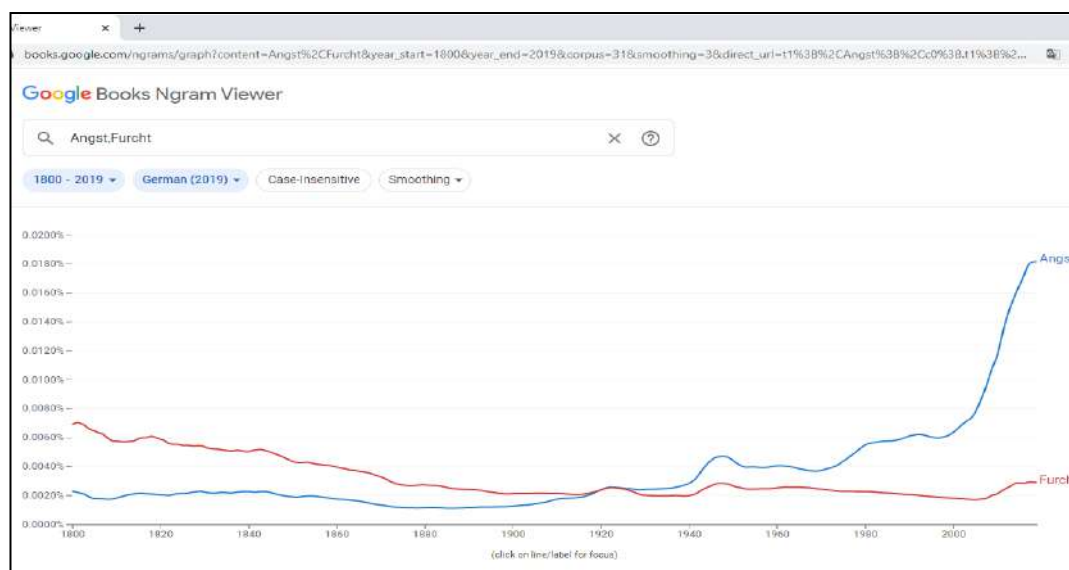


Figure 2. Graph of the frequency of the node words *Angst* and *Furcht* according to Google Books Ngram Viewer; German language; 1800–2019; smoothing 3 (GBNV)

3.3 Establishing the most relevant conceptual metaphors for emotion concepts *ANGST*, *FURCHT*, *FEAR*, and *ANXIETY*

It has been noted above that the frequency of names of cultural concepts is considered to be a fairly objective criterion for establishing their linguistic and cultural significance. However, the logDice (DWDS) and MI-index (iWeb) indices are equally important, as they indicate the strength of the associative relationship between the concepts of the source sphere and the concepts of the target sphere within the conceptual metaphors that represent cultural concepts. In this case, it is not about conventional conceptual metaphors (the language level), but about relevant (the speech level) ones. This procedure makes it possible to determine the dominant meanings of physical / metaphysical fear in the emotion concepts of *ANGST*, *FURCHT*, *FEAR*, and *ANXIETY*, which in turn creates a basis for establishing a more accurate equivalence of the lexemes *Angst*, *Furcht*, *fear*, and *anxiety*.

Tables 1 and 2 (see Appendix) present the collocates and co-occurrences of the query words *Angst* and *Furcht* / *fear* and *anxiety*, which are selected on the basis of "manual" analysis by criteria of (1) the highest statistics (logDice / MI-index indices + frequency) and (2) semantic proximity to the concepts representing the target sphere of the eight conceptual metaphors singled out above. Word forms are arranged in tables by frequency.

Data processing revealed that among the eight conceptual metaphors, only five are the most relevant to the emotion concepts of ANGST, FURCHT, FEAR, and ANXIETY: 1) EMOTION IS AN ENEMY; 2) EMOTION IS AN ILLNESS; 3) EMOTION IS A SUBSTANCE; 4) EMOTION IS A FORCE; 5) EMOTION IS A CREATURE. The latter ones are unevenly represented in the conceptual structure of the studied concepts (see Table 3).

Table 3. Representation of the dominant metaphors in the conceptual structure of concepts ANGST, FURCHT, FEAR, and ANXIETY (in ascending order from light to black colours)

	Conceptual metaphor	ANGST	FURCHT	FEAR	ANXIETY
1	EMOTION IS AN ENEMY				
2	EMOTION IS AN ILLNESS				
3	EMOTION IS A SUBSTANCE				
4	EMOTION IS A FORCE				
5	EMOTION IS A CREATURE				

Table 3 clearly shows the significant similarity of the conceptual structures of the concepts of Ger. FURCHT and A.-S. FEAR, which demonstrates four complete coincidences and one incomplete one (the latter is due to the fact that in Anglo-Saxons the fear, which is nominated by the lexeme *fear* is more associated with illness than the emotion *Furcht* in the representatives of German-speaking linguo-cultures). This semantic similarity substantiates our position that the German equivalent of the English lexeme *fear* is *Furcht*, not *Angst*.

It is noteworthy that the metaphorical representation of the emotion concept ANGST shows more similarities with the concept FEAR than with ANXIETY: the comparison with FEAR revealed three complete coincidences and two partial, and with ANXIETY – one

complete coincidence, three partial, and one discrepancy. The latter concept is of a lesser linguistic and cultural significance in the English-speaking world, as it is common primarily in the field of psychotherapy, mostly associated with mental disorders and various phobias (see Appendix, Table 2). Nevertheless, it should be emphasised that the very concept of Ger. ANGST and A.-S. ANXIETY mostly conveys the meanings of existential fear (e.g., Ger. *Depression, Stress, umtreiben, lähmen, paranoid*; Eng. *depression, disorder, stress, insomnia, worry, paranoia, restlessness*). This fact provides an objective basis for concluding that the English lexeme *anxiety* is more equivalent to the German word *Angst* than *fear*.

3.4 Comparison of the concepts ANGST, FURCHT, FEAR, ANXIETY on indicators of (1) intensity of the emotion of fear and (2) axiological marking

In this article, the number of word forms that denote or characterize emotions / emotional states is limited to 100 collocates and co-occurrences of the node words *Angst, Furcht, fear, and anxiety* with the highest indicators of typical combinability and frequency. This restriction was introduced both in view of the "manual" procedure for determining the intensity and evaluation, and for two other reasons. First, this number of word forms is quite sufficient, in our opinion, to identify the most relevant characteristics of any concept. Secondly, technically, the automatic word profile processing in the DWDS corpus is designed for a maximum of 100 word forms, so due to proportionality as a methodological principle of the comparative analysis, we have limited the number of studied word forms in the iWeb corpus to the same number.

As intensity is a subjective emotional category based on six parameters (Sonnemans & Frijda 1995: 484), our focus is only on the strength of the emotion of fear in the concepts of ANGST, FURCHT, FEAR, and ANXIETY. Each of these concepts conveys a different intensity of fear and contains a different ratio of the negative and the positive, which confirms the analysis of collocates and co-occurrences of our samples (see Appendix, Table 4, and Table 5).

The results of the data analysis of collocates and co-occurrences, which are the names of emotional conceptual proximates of the concepts *ANGST*, *FURCHT*, *FEAR*, and *ANXIETY*, are represented in percentage in Table 6. This indicator clearly shows that to the greatest extent the intensity of expression of fear is conveyed by the concepts of Ger. *FURCHT* and A.-S. *FEAR*. Since in opposition "physical fear" – "metaphysical fear" the former is considered to be more intense (see also above the conceptual metaphor *EMOTION IS A FORCE*), it is one more confirmation of our conclusion that it is the meanings of physical fear that dominate in the concepts of Ger. *FURCHT* and A.-S. *FEAR*. As for such a characteristic as evaluation, the concepts Ger. *FURCHT* and A.-S. *FEAR* show similarity, because they are perceived by representatives of the respective linguo-cultures more positively than the concepts Ger. *ANGST* and A.-S. *ANXIETY*. It is noteworthy that *ANXIETY* does not show a relevant connection with positive emotion concepts at all. Obviously, this is due to the fact that it represents mostly a medical discourse (depression, mental disorders, etc.). The other concepts under consideration – *ANGST*, *FURCHT*, and *FEAR* – correlate only with those positive emotions they are opposed to or in which fear is an existential threat. At the same time, the concept *ANGST*, like *ANXIETY*, is "severer", i.e. more negative, because it conveys not only the emotion of fear, but also a "severe" emotional state of fear and anxiety associated with depression, stress, pain, sadness. As was mentioned above, it is metaphysical fear that is characterised by such an emotional "bouquet". This means that in terms of Ger. *FURCHT* and A.-S. *FEAR* physical fear dominates, and in terms of Ger. *ANGST* and A.-S. *ANXIETY* – a metaphysical one. In view of this, the results represented in Table 6 fully confirm the conclusions made at the previous stages of our study that the emotion concept *ANXIETY* is more equivalent to the concept *ANGST* than *FEAR*. In this case, it is appropriate to define the latter as the equivalent of the German *FURCHT*.

Table 6. Indicators of intensity and axiological marking of concepts *ANGST*, *FURCHT*, *FEAR*, *ANXIETY*

Emotion concept	Intensity	Evaluation		
		Negative	Positive	Ambivalent
ANGST	32.4	81.1	13.5	5.4
FURCHT	53.1	71.9	12.5	15.6
FEAR	54.5	75.7	6.1	18.2
ANXIETY	37.1	85.2	0	14.8

4. Conclusions

By applying a corpus-based method, this article has attempted to specify the Anglo-Saxon equivalent for the specific metaphysical fear widespread in German-speaking linguo-cultures, which is expressed by the emotion concept ANGST. To achieve the goal of the research, a comprehensive methodology has been developed. The latter involved the implementation of four research steps: 1) comparing the definitions of the lexemes Ger. *Angst*, *Furcht* and Eng. *fear*, *anxiety*, *angst*; 2) comparing the frequency graphs of node words *Angst*, *Furcht*, *fear*, *anxiety*, *angst* in order to determine the significance of emotion concepts Ger. ANGST / A.-S. ANGST, FURCHT, FEAR, ANXIETY for English-speaking and German-speaking linguo-societies; 3) establishing the conceptual metaphors most relevant to these concepts; 4) comparing the concepts under study on the basis of the indicators of intensity and axiological marking.

The results obtained by testing this methodology have led to the rejection of the conclusion made by some linguists that the German emotion concept ANGST is equivalent to the Anglo-Saxon FEAR, as it is proved that metaphysical fear in linguo-cultures under comparison is conveyed by the concepts of Ger. ANGST and A.-S. ANXIETY, and physical one – by Ger. FURCHT and A.-S. FEAR. In this light, one can conclude that, ANXIETY is more equivalent to the concept ANGST than to FEAR. It is clear that ANXIETY, and still less FEAR, cannot convey to representatives of English-speaking communities all the linguistic and cultural specificity of the German concept ANGST.

Notes

All the examples are borrowed from the following corpora:

- 1) English: iWeb <https://www.english-corpora.org/iweb/>;
- 2) German: DWDS <http://www.dwds.de/ressourcen/korpora/>.

All the examples have been translated by the authors.

List of abbreviations

A.-S. – Anglo-Saxon

DKW – Der kleine Wahrig. Wörterbuch der deutschen Sprache

DSM-5 – Diagnostic and statistical manual of mental disorders

DWDS – Digitales Wörterbuch der deutschen Sprache

Eng. – English

GBNV – Google Books Ngram Viewer

Ger. – German

iWeb – Word Web Corpus

NWDTL – New Webster's dictionary and thesaurus of the English language

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Résumé

By applying a corpus-based method, this article has attempted to specify the

equivalence of terms designating metaphysical fear, as the analysis of large corpora allows revealing the factors that influence an individual's decision to use a particular word form. With regard to the translation process, this means that such decisions, usually subconscious, regarding the choice of a particular word among other words with similar semantics may influence the translator's choice of an interlingual equivalent. The research methodology involves the implementation of four steps: 1) comparing the definitions of the lexemes Ger. *Angst*, *Furcht* and Eng. *fear*, *anxiety*, *angst*); 2) comparing the frequency graphs of node words *Angst*, *Furcht*, *fear*, *anxiety*, *angst* in order to determine the significance of emotion concepts Ger. ANGST / A.-S. ANGST, FURCHT, FEAR, ANXIETY for English-speaking and German-speaking linguo-cultures; 3) establishing the most relevant conceptual metaphors to these concepts; 4) comparing the concepts under study according to the indicators of intensity and axiological marking. The results obtained through this methodology make it possible to reject the conclusion made by some linguists that the German emotion concept ANGST is equivalent to the Anglo-Saxon FEAR. It has been proved that metaphysical fear in linguo-cultures under comparison is conveyed by the concepts of Ger. ANGST and A.-S. ANXIETY, and a physical one – by Ger. FURCHT and A.-S. FEAR. In this light, one can conclude that, ANXIETY is more equivalent to the concept ANGST than to FEAR. It is clear that ANXIETY, and still less FEAR, cannot convey to representatives of English-speaking communities all the linguo-cultural specificity of the German concept ANGST.

Key words: emotion concept, angst, fear, anxiety, corpus-based method, conceptual metaphor.

Appendix

Table 1. Conceptual metaphors with source sphere ANGST / FURCHT
(corpus data; logDice ≤ 4.0 , Freq. ≤ 20)

	Conceptual metaphor	ANGST			FURCHT		
		The most frequent collocates and co-occurrences	log Dice	Freq.	The most frequent collocates and co-occurrences	log Dice	Freq.
1	ANGST / FURCHT IS AN ENEMY	<i>Tod</i> [death] <i>Anschlag</i> [stroke; attack; sabotage] <i>überwinden</i> [overcome; conquer] <i>Terror</i> [terror] <i>Terroranschlag</i> [terrorist attack] <i>abbauen</i> [break down; dismantle] <i>Aggression</i> [aggression] <i>besiegen</i> [defeat] <i>plagen</i> [afflict; plague] <i>weichen</i> [yield; give way] <i>vertreiben</i> [drive out] <i>verdrängen</i> [oust] <i>überwiegen</i> [outweigh; prevail] <i>bannen</i> [drive out; overcome]	5.8 5.9 8.8 5.9 5.9 8.2 7.7 7.3 7.4 7.3 6.8 7.1 6.7 6.8	1052 672 633 572 501 372 210 141 129 136 126 118 97 74	<i>Anschlag</i> [stroke; attack; sabotage] <i>Terroranschlag</i> [terrorist attack] <i>Terror</i> [terror] <i>überwinden</i> [overcome; conquer] <i>fliehen</i> [flee] <i>weichen</i> [yield; give way] <i>überwiegen</i> [outweigh; prevail] <i>flüchten</i> [flee] <i>beschleichen</i> [creep; stalk] <i>entspringen</i> [escape] <i>plagen</i> [afflict; plague] <i>bannen</i> [drive out; overcome] <i>überkommen</i> [come over; overwhelm] <i>besiegen</i> [defeat]	5.8 6.0 4.8 6.6 4.5 7.0 6.9 5.7 7.4 6.9 6.2 6.9 6.7 5.8	409 178 112 93 91 54 53 50 35 32 23 22 22 21
2	ANGST / FURCHT IS FIRE	<i>schüren</i> [poke]	10.7	1498	<i>schüren</i> [poke]	8.6	149
3	ANGST / FURCHT IS SOMETHING INSIDE THE BODY	<i>latent</i> [latent] <i>tiefsitzend</i> [deep-rooted] <i>unterschwellig</i> [subconscious; latent]	7.2 7.4 7.2	116 109 101	<i>latent</i> [latent] <i>tiefsitzend</i> [deep-rooted]	7.2 7.8	42 30
4	ANGST / FURCHT IS AN ILLNESS	<i>Schmerz</i> [pain] <i>Depression</i> [depression] <i>Stress</i> [stress] <i>umtreiben</i> [plagued] <i>lähmen</i> [paralyse] <i>lähmend</i> [paralysing] <i>krankhaft</i> [pathological] <i>paranoid</i> [paranoid]	6.0 8.3 7.3 7.8 7.7 7.2 6.2 6.1	622 343 162 147 144 103 52 46	<i>Zittern</i> [trembling; tremor] <i>Ansteckung</i> [infection; contagion] <i>umtreiben</i> [plagued] <i>lähmend</i> [paralysing] <i>lähmen</i> [paralyse]	5.6 4.6 7.2 7.2 6.8	84 41 32 30 28
5	ANGST / FURCHT IS	<i>einflößen</i> [instil]	5.9	39	<i>einflößen</i> [instil]	9.3	107

	A FLUID						
6	ANGST / FURCHT IS A SUBSTANCE	<i>verbreiten</i> [disseminate]	8.9	557	<i>verbreiten</i> [disseminate]	7.8	158
		<i>spüren</i> [feel]	7.2	254	<i>grassieren</i> [spread]	8.6	81
		<i>grassieren</i> [spread]	8.4	229	<i>schwinden</i> [disappear]	6.9	50
		<i>zerstreuen</i> [disperse]	8.3	229	<i>spüren</i> [feel]	5.0	40
		<i>schwinden</i> [disappear]	7.0	110	<i>mischen</i> [mix]	6.5	36
		<i>pur</i> [pure]	6.6	107	<i>verbergen</i> [hide]	6.1	35
		<i>verbergen</i> [hide]	6.8	105	<i>zerstreuen</i> [disperse]	7.1	20
7	ANGST / FURCHT IS A FORCE	<i>wachsen</i> [grow; increase]	7.9	1110	<i>wachsen</i> [grow; increase]	6.8	476
		<i>auslösen</i> [trigger; cause]	7.4	416	<i>groß</i> [large]	6.7	400
		<i>treiben</i> [drive; push]	7.5	356	<i>treiben</i> [drive; push]	6.6	147
		<i>verstärken</i> [strengthen]	6.6	139	<i>auslösen</i> [trigger; cause]	5.5	88
		<i>erzeugen</i> [create; generate]	6.7	136	<i>erzeugen</i> [create; generate]	5.8	47
		<i>stark</i> [strong; intense]	6.6	108	<i>verstärken</i> [strengthen]	5.8	45
		<i>verfliegen</i> [vanish; fly]	7.1	99	<i>dämpfen</i> [lessen; dampen]	6.7	41
		<i>dämpfen</i> [lessen; dampen]	6.7	91	<i>stark</i> [strong; intense]	4.6	24
8	ANGST / FURCHT IS A CREATURE	<i>nehmen</i> [take]	7.2	1869	<i>umgehen</i> [go around]	8.0	278
		<i>umgehen</i> [go around]	10.1	1711	<i>nähren</i> [feed; nurture]	8.0	93
		<i>sitzen</i> [sit]	6.4	597	<i>wecken</i> [wake (up)]	6.0	69
		<i>wecken</i> [wake (up)]	8.1	417	<i>einjagen</i> [scare; intimidate]	8.3	46
		<i>nackt</i> [naked]	7.5	277	<i>drücken</i> [press; squeeze]	5.2	45
		<i>packen</i> [seize; grip]	6.7	144	<i>verbergen</i> [hide]	6.1	35
		<i>regieren</i> [rule]	6.8	130	<i>erwecken</i> [wake (up)]	5.5	32
		<i>nähren</i> [feed; nurture]	7.2	124	<i>herrschen</i> [prevail]	5.4	27
		<i>hervorrufen</i> [provoke]	6.8	124	<i>hervorrufen</i> [provoke]	5.3	25
		<i>einjagen</i> [scare; intimidate]	7.4	112	<i>hegen</i> [foster; cherish]	5.6	24
		<i>herrschen</i> [prevail]	6.5	103	<i>packen</i> [seize; grip]	5.0	22
		<i>mitspielen</i> [join in a/the game]	6.6	93			
		<i>mitfahren</i> [go with]	6.8	79			

Table 2. Conceptual metaphors with source sphere FEAR / ANXIETY
(corpus data; MI-index ≤ 2.0 , Freq. ≤ 100)

	Conceptual metaphor	FEAR			ANXIETY		
		The most frequent collocates and co-occurrences	MI-index	Freq.	The most frequent collocates and co-occurrences	MI-index	Freq.
1	FEAR / ANXIETY IS AN ENEMY	<i>overcome</i> <i>death</i> <i>strike</i> <i>conquer</i> <i>confront</i> <i>persecution</i> <i>danger</i> <i>intimidation</i> <i>prejudice</i> <i>flee</i> <i>aggression</i> <i>cope</i> <i>creep</i> <i>banish</i> <i>mortal</i> <i>haunt</i>	6.13 2.77 3.60 5.75 4.36 5.56 2.52 6.45 4.44 3.14 4.28 2.57 3.34 4.35 3.63 3.17	14488 8626 4256 3538 2071 1590 1461 1411 1014 939 820 621 430 418 383 380	<i>attack</i> <i>overcome</i> <i>struggle</i> <i>cope</i> <i>combat</i> <i>battle</i>	4.32 4.87 3.47 4.97 3.63 3.04	9349 3319 2200 1805 706 475
2	FEAR / ANXIETY IS FIRE	<i>spark</i> <i>stoke</i>	3.92 5.94	1314 1088			
3	FEAR / ANXIETY IS SOMETHING INSIDE THE BODY	<i>deepest</i> <i>deep-seated</i> <i>subconscious</i> <i>innermost</i> <i>subliminal</i> <i>deep-rooted</i>	5.26 6.54 4.76 4.44 4.64 5.52	1396 350 325 133 129 117	<i>perinatal</i>	7.29	391
4	FEAR / ANXIETY IS AN ILLNESS	<i>tremble</i> <i>phobia</i> <i>paralyze</i> <i>paranoia</i> <i>freeze</i> <i>trepidation</i> <i>debilitating</i> <i>lingering</i> <i>obsession</i> <i>morbid</i> <i>anguish</i> <i>nagging</i> <i>paralyzing</i> <i>shiver</i> <i>pathological</i>	7.26 7.40 6.96 5.94 2.78 6.71 4.45 3.98 2.65 5.32 4.48 5.08 8.39 4.52 4.32	2842 2306 1850 898 985 521 382 382 303 296 293 287 283 238 233	<i>depression</i> <i>disorder</i> <i>stress</i> <i>suffer</i> <i>pain</i> <i>treat</i> <i>insomnia</i> <i>treatment</i> <i>relieve</i> <i>medication</i> <i>worry</i> <i>headache</i> <i>paranoia</i> <i>restlessness</i> <i>illness</i> <i>trauma</i> <i>addiction</i> <i>nausea</i> <i>cure</i> <i>schizophrenia</i> <i>palpitation</i>	8.83 7.56 6.97 5.03 3.59 3.40 8.34 2.68 5.95 3.85 5.24 4.50 7.28 8.38 3.08 4.41 3.93 5.33 3.69 5.72 7.22	56980 32796 28996 10625 5909 5034 4785 4436 3936 2764 1960 1483 1255 1235 1201 1188 1130 1076 808 608 528
5	FEAR / ANXIETY IS A FLUID	<i>instill</i> <i>instil</i> <i>fuel</i>	6.75 6.63 3.61	1561 1387 553	<i>sweat</i> <i>fuel</i>	3.41 3.03	289 204
6	FEAR / ANXIETY IS A SUBSTANCE	<i>mongering</i> <i>dispel</i> <i>widespread</i> <i>spreading</i> <i>sow</i> <i>palpable</i>	9.62 5.79 3.07 4.53 3.35 4.63	1184 952 845 431 366 296	<i>substance</i> <i>dispel</i> <i>dissipate</i>	2.69 3.96 3.40	980 147 126

		<i>pervasive</i>	3.76	269			
7	FEAR / ANXIETY IS A FORCE	<i>greatest</i>	3.38	3854	<i>alleviate</i>	6.20	2124
		<i>violence</i>	3.18	2920	<i>decrease</i>	3.95	2122
		<i>allay</i>	9.35	2888	<i>trigger</i>	3.96	1700
		<i>intense</i>	3.60	2293	<i>reduction</i>	3.08	1291
		<i>calm</i>	4.61	1798	<i>calm</i>	4.77	1103
		<i>alleviate</i>	4.94	1621	<i>induce</i>	4.44	1055
		<i>trigger</i>	2.63	1231	<i>lower</i>	2.72	968
		<i>motivate</i>	2.93	1156	<i>lessen</i>	5.39	936
		<i>assuage</i>	8.23	1029	<i>provoke</i>	5.17	910
		<i>overwhelming</i>	3.14	997	<i>incite</i>	4.81	471
		<i>induce</i>	3.28	857	<i>quell</i>	6.08	286
		<i>quell</i>	6.40	675	<i>elevated</i>	2.75	197
		<i>incite</i>	4.81	471			
		<i>subside</i>	4.57	450			
		<i>lessen</i>	3.44	440			
		<i>diminish</i>	2.62	415			
		<i>heightened</i>	4.11	363			
		<i>engender</i>	5.19	347			
8	FEAR / ANXIETY IS A CREATURE	<i>face</i>	3.28	9234	<i>arouse</i>	3.60	135
		<i>lord</i>	2.99	4407			
		<i>grip</i>	4.49	1061			
		<i>accompany</i>	2.60	709			
		<i>voice</i>	3.52	683			
		<i>exploit</i>	2.83	643			
		<i>evoke</i>	3.68	543			
		<i>arouse</i>	3.78	412			
		<i>germ</i>	4.58	483			
		<i>bodily</i>	3.29	385			

Table 4. Conceptual proximates of emotion concepts ANGST and FURCHT (corpus data)

ANGST			FURCHT		
collocates / co-occurrences	logDice ≤ 6.0	Freq. ≤ 20	collocates / co-occurrences	logDice ≤ 6.0	Freq. ≤ 20
Schrecken [horror; fear]	10.7	1777	Schrecken [horror; fear]	10.3	313
Sorge [trouble; anxiety]	9.9	1140	Hoffnung [hope]	8.8	270
Hoffnung [hope]	9.6	1134	Angst [metaphysical fear]	7.8	243
Schreck [fright; fear; horror]	10.1	1050	Mitleid [sympathy]	9.9	191
panisch [panic]	10.4	989	Misstrauen [distrust]	9.2	154
Wut [rage; fury]	8.9	571	Hass [hatred]	8.3	148
Schmerz [pain]	8.6	473	Schreck [fright; fear; horror]	9.4	122
Sehnsucht [passion; anguish]	8.7	444	panisch [panic]	9.0	94
Misstrauen [distrust]	8.5	385	Sorge [trouble; anxiety]	7.7	87
Hass [loathing]	8.2	379	Zittern [trembling; awe]	9.1	81
Wunsch [desire]	8.2	377	Freude [joy]	7.0	59
Verzweiflung [disappointment]	8.4	374	Scham [shame]	7.9	51
Depression [depression]	8.3	343	Verzweiflung [despair]	7.0	42
Scham [shame]	8.1	282	Ärger [anger; irritation]	6.6	38
Trauer [grief; sorrow]	7.9	281	Trauer [grief; sorrow]	6.5	34
Panik [panic]	8.1	253	Verwirrung [embarrassment]	7.4	30
Furcht [physical fear]	7.8	243	Sehnsucht [passion; anguish]	6.6	30
Lust [joy; desire]	7.5	218	Panik [panic]	7.4	28
Bange [fear; creeps]	7.9	215	Abscheu [disgust]	7.4	28
Aggression [aggression]	7.7	210	Schmerz [pain]	6.1	28
Unruhe [unrest; anxiety]	7.6	199	Ehrfurcht [reverence]	7.5	27
Liebe [love]	6.6	198	Zorn [anger; rage]	6.7	25
Freude [joy]	7.3	196	Spannung [tension]	6.2	25
Stress [stress]	7.3	162	Bewunderung [delight]	7.4	24
Befürchtung [apprehension]	7.4	159	Gier [greediness]	7.1	24

Entsetzen [horror]	7.1	136	Grauen [horror; disgust]	7.2	23
Ärger [anger; irritation]	6.9	121	Entsetzen [horror]	6.8	23
Zorn [anger; rage]	6.9	119	Argwohn [suspicion]	7.3	22
furchtbar [terrible; horrible]	6.8	112	Unruhe [restlessness; anxiety]	6.5	21
Schuldgefühl [a sense of guilt]	6.9	109	Neid [envy]	6.4	21
Ekel [disgust; abomination]	6.8	107	Verlangen [desire; anguish]	7.2	20
Ressentiment [resentment]	6.6	95	Ekel [disgust; abomination]	7.0	20
Nervosität [nervousness]	6.6	92			
Glück [happiness]	6.1	88			
Neid [envy]	6.3	83			
Leiden [suffering]	6.1	73			
Frustration [frustration]	6.0	61			

Table 5. Conceptual proximates of emotion concepts FEAR and ANXIETY (corpus data)

FEAR			ANXIETY		
collocates / co-occurrences	MI-index ≤ 3.0	Freq. ≤ 500	collocates / co-occurrences	MI-index ≤ 3.0	Freq. ≤ 500
anxiety	5.80	12676	depression	8.83	56980
hope	3.69	7858	stress	6.97	28996
anger	5.14	3505	fear	5.80	12671
violence	3.18	2920	suffer	5.03	10625
tremble	7.26	2842	panic	7.65	8136
worry	4.74	2523	pain	3.59	5909
panic	5.08	2485	irritability	8.62	2203
phobia	7.40	2306	frustration	5.17	1969
hatred	5.41	2145	worry	5.24	1960
shame	4.16	2072	anger	5.16	1950
guilt	4.94	2070	phobia	7.94	1834
terror	4.36	1942	nervousness	8.50	1774
loathing	8.74	1685	confusion	4.35	1481
confusion	3.60	1598	distress	5.43	1417
frustration	3.95	1538	sadness	5.99	1330
greed	5.63	1468	guilt	5.15	1320
intimidation	6.45	1411	agitation	7.49	1295
sadness	5.18	1385	restlessness	8.38	1235
hate	4.13	1218	nausea	5.33	1076
excitement	3.12	1071	depressive	7.39	1024
grief	3.91	996	grief	4.77	997
dread	5.70	995	excitement	3.76	915
embarrassment	5.25	968	insecurity	5.75	794
apprehension	5.91	800	shame	3.15	569
despair	4.47	717	palpitation	7.22	528
sorrow	4.09	699	disturbance	4.45	525
distress	3.51	679	boredom	5.61	521
resentment	4.93	649			
jealousy	4.62	579			
awe	4.06	570			
rage	3.14	566			
disgust	5.22	527			
trepidation	6.71	521			

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