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Emotion concept DISGUST and its German counterparts: Equivalence determination based on language corpora data

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Abstract: Our two-stage methodology was tested in order to determine the most accurate equivalent for Anglo-Saxon emotion concept (EC) DISGUST among German EKEL, ABNEIGUNG, ABNEIGUNG and ABSCHEU. At the first stage, the authors identified the closest in terms of content equivalents to DISGUST on the basis of the comparison of the German ECs names definitions in explanatory and bilingual dictionaries. It was established that equivalence with *disgust*, albeit incomplete, is shown only by the nouns *Ekel* and *Abscheu*, which are so semantically close to each other that they can be used interchangeably in some contexts. At the second stage, on the basis of a comparative analysis of the most frequent collocates of the concept names DISGUST, EKEL and ABSCHEU in representative corpora of the English and German languages, (a) the relevant content of these concepts was established and (b) a comparison of their semantic structures was made according to the criteria of arousal and valence. A comparison of the semantic structures of DISGUST, EKEL and ABSCHEU revealed that both German concepts show numerous overlaps with DISGUST. At the same time, ABSCHEU is semantically more similar to DISGUST than EKEL. This indicates that the transfer of DISGUST to the German language community by means of EKEL and ABSCHEU can be quite adequate, since both of these concepts evoke associations in representatives of German-speaking culture similar to those that arise in Anglo-Saxons in connection with DISGUST.

Keywords: emotion; translation; equivalent; arousal; valence

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1. Introduction

One of the urgent problems of cross-cultural linguistic studies is the identification of the specificity of the verbal objectification of ECs, where the names of emotions play an important role since they can (1) direct the expressive resources of the language to a specific type of emotional experience (Colombetti, 2009: 20) and (2) serve as a kind of catalyst for the activation of those emotions that would otherwise remain unnoticed (Foolen, 2012: 350). Additionally, if cross-cultural variation

is intrinsic to the names of emotions, it is logical to assume that representatives of different cultures can encode, remember, and respond to emotions differently (Russell, 1991: 427). At the same time, ECs of high cultural significance are larger, more complex, and are denoted by more words, whilst less significant concepts of emotion are smaller, simpler, and represented by fewer words (Bąk, 2022: 34).

In view of this, only accurate labelling of emotions can cause adequate emotional experience of the representatives of the target linguo-society. However, every translator is aware of the difficulty of achieving adequacy when reproducing lexical units of designating emotions. Obviously, this is due to the fact that a person's emotional world is a complex dynamic phenomenon that balances between the individual and the group to which they belong: on the one hand, the expression and course of even basic emotions is somewhat subjective, because each person has a unique physiology and a different level of mental and moral development, which affects both the physiological expression of emotions and the characteristics of the course of certain emotions in an individual; on the other hand, the expression and perception of emotions is also somewhat influenced by the ethno- and socio-cultural factors, because each individual belongs to a certain cultural environment.

This means that, when looking for lexical equivalents in the target language for the names of the emotions in the source language, the translator must consider how to transfer cultural concepts rather than to render the meanings of linguistic units. Therefore, they need to adequately reproduce certain parts of the "foreign" emotional world, which are represented by emotional concepts, and to convey the cultural meanings of the latter as accurately as possible. Here, ethno-specific ECs, whose names do not usually have translation equivalents in the target languages, present a serious issue (Mizin and Letiucha, 2019; Mizin and Petrov, 2021). However, it is rather challenging to find an equivalent for those ECs that have such analogues (Goddard, 2014; Ogarkova, 2007; Ogarkova et al., 2012).

Anglo-Saxon EC DISGUST is significant in this regard, because even in such closely related languages as English and German, it is quite problematic to convey its name. A conspicuous example is the German translation of Plutchik's "Wheel of emotions", where the English lexeme *disgust* is rendered in at least four ways: *Ekel, Abneigung, Ablehnung*, and *Abscheu* (see, e.g.: Emotion, 2022; Grötsch, 2022; Knipprath, 2021).

Due to the significant cross-cultural variation of the EC DISGUST (Goddard, 2014, 2018; Kollareth and Russell, 2017; Kollareth et al., 2021; Yoder et al., 2016), some scholars are rather pessimistic about attempts to find equivalents for the word disgust in other languages (Han et al., 2015; Wierzbicka, 1999). However, such searches must be continued by testing new methodological tools, since speakers of the target language can misinterpret the emotion the lexeme *disgust* denotes due to translation inaccuracies. This problem is more global in the cross-cultural dimension, because the transfer of an inaccurate equivalent for DISGUST to the target culture can distort its representatives' perception of the certain parts of the emotional world of the bearers of the source culture. In light of this, the purpose of the proposed paper is to identify the most accurate equivalent for Anglo-Saxon DISGUST among the German ECs EKEL, ABNEIGUNG, ABNEIGUNG, and ABSCHEU by using empirical data from language corpora.

2. Theoretical background of the study

2.1. Diffusivity and cultural labelling of emotion concepts

There has been formed the theory in psychology that developed in the second half of the 20th century under the influence of Darwinism, according to which emotional expression in representatives of various linguo-societies (facial expressions, physiological processes, etc.) is universal (Andrew, 1963; Ekman and Friesen, 1971; Susskind et al., 2008). However, its authors were soon forced to acknowledge that even when expressing primary (basic) emotions, a certain cross-cultural variability can be noticed. They tried to explain the latter with "cultural display standards" (Ekman and Friesen, 1969). In current psychological studies, this concept suggests that universal facial expressions of emotion could be managed and even modified according to social contexts by people of different cultures (Hwang and Matsumoto, 2015; Matsumoto, 2009). It is noteworthy that the findings of several studies cast doubt on some provisions about the universality of the expression of basic emotions, since it has been proven by applying cutting-edge experimental methods that both the expression of these emotions and their perception (recognition and decoding) can have cultural tagging among members of different linguo-communities (Chen et al., 2018; Doyle et al., 2021; Gendron et al., 2014; Jack et al., 2012).

Cultural specificity is manifested not so much in basic emotions as in secondary ones, since the latter are a result of the "enculturation" of the former due to the continuous socialization of individuals. It is thought that socialization is the basis for the development of social rather than instinctive features of basic emotions. The existence of two types of fear: physical (instinctive) and metaphysical (social), which are tagged by different words in some linguo-societies, can serve as an example (see, e.g., Eng. *fear* vs. *anxiety/angst* and Ger. *Furcht* vs. *Angst* (Mizin et al., 2021)). The result of the interaction of basic emotions is not only their similar social features as separate emotional experiences, but also new complex emotions—guilt, shame, jealousy, envy, empathy, pride, etc. (Levenson, 2011).

Despite the involvement of modern methodology and technical capabilities, the diffusivity of the emotional world of a contemporary person is the reason why the number of neither basic nor derived emotions is defined. It is due to the fact that scientists do not agree on the criteria for their distinction: some emotions are defined as basic in some works, while in others they are defined as derived (Mizin and Ovsiienko, 2020: 115). As there is even some uncertainty as for the "Big Six" basic emotions of enjoyment, surprise, fear, disgust, anger, and sadness (Ekman et al., 1969), the author of the "Big Six" Ekman expanded his list over time (Ekman, 1999; Ekman and Cordaro, 2011).

The problem of diffusion of emotions and their cross-cultural variation has become especially relevant in recent decades, as confirmed by numerous studies in the fields of psychology, anthropology, sociology, and linguistics. In particular, emotions are viewed as cultural concepts in cognitive and cultural linguistics (Kövecses, 1990; Sharifian, 2015; Underhill, 2015; Wierzbicka, 1999). This is due to the fact that the fuzzy nature of ECs makes them susceptible to cultural influences (Wilson and Lewandowska-Tomaszczyk, 2019: 92). The recognition of emotions as cultural concepts strengthens the linguistic analysis of the latter owing to interdisciplinary research tools (Foolen, 2012; Panasenko, 2012; Soriano, 2015), which provide a fairly objective disclosure of the categorization and conceptualization features of the surrounding world by speakers of different languages

and cultures (Lewandowska-Tomaszczyk and Wilson, 2018; Mizin and Petrov, 2021; Ogarkova et al., 2012). Therefore, the study of ECs directly correlates with acute contemporary issues like globalization, intercultural communication, and intercultural barriers.

2.2. Prerequisites for cross-cultural variability of "disgust-like" concepts

Socialization of individuals is the driving force that introduces social (cultural) elements into the processes of expression, flow, and perception of primary (instinctive) emotional experiences. Such elements permanently blur the distinctions between basic emotions, giving them certain diffuseness. This serves as the foundation for the development of new emotional shades in a person's emotional world in the form of secondary (derived) emotions. If extrapolated to the conceptual level, it means that *basic emotional concepts* (BECs), which represent basic emotions, serve as some "umbrellas" under which concepts derived from them are hidden. Each "umbrella" is a cluster that unites derived emotional concepts (DECs) sharing at least one feature inherited from the basic one. The complexity of the clusters that are formed by BECs together with their DECs, thus creating a kind of fuzzy hierarchical structure (Russell and Fehr, 1994: 187), caused the ambiguity of their definition, because scholars refer to them as "*x-like concepts*" (e.g., "fear-like", "anger-like", "shame-like") (Goddard, 2018), *emotional categories* (Boster, 2005; Ogarkova et al., 2012; Russell, 1991; Shaver et al., 1987), or *emotional episodes* (Russell, 2014).

Derived concepts differ from basic ones by qualitative (e.g., valence) and/or quantitative (e.g., arousal) characteristics, to visualize them, there are numerous models and schemes. One of the most famous ones is the above-mentioned circular model of emotions (the "Wheel of emotions") developed by Plutchik (1997). It clearly displays the arousal scale of emotional experiences organized around eight basic emotions: anger, anticipation, joy, trust, fear, surprise, sadness, and disgust. Although this model is called circular, it resembles more a flower with petals of different colours. Each petal is a cluster of related emotions united under the "umbrella" of the basic one. The latter is placed in the centre of the petal, and two derived emotions are marked on either side of it. They are significant in terms of expressing the lowest (periphery of the flower) and highest (centre of the flower) arousal of the course of the basic emotional experience (**Figure 1**). These two emotions form peculiar poles of the petal, between which a number of other related emotions are placed, that are not tagged on this model and differ from the basic one in both quantitative and qualitative parameters.

The purple petal of Plutchik's model represents "*disgust-like*" *concepts* (the term according to Goddard, 2014: 92), which increasingly attract attention of psychologists, philosophers, anthropologists, sociologists, and linguists (Gutierrez et al., 2012; Kelly, 2011; McGinn, 2011; Menninghaus, 1999; Miller, 1997; Pochedly et al., 2012; Rozin and April, 1987). The BEC DISGUST is in the centre of this petal, and the DECs BOREDOM and LOATHING are on the sides. The latter ones convey the lowest (BOREDOM) and the highest (LOATHING) arousal of the basic emotional experience. The boundary line between some "disgust-like" concepts is so unclear that even Anglo-Saxon psychologists cannot clearly identify which EC represents the least intense manifestation of disgust: BOREDOM or DISLIKE (cf. **Figure 1** and **Figure 2**).
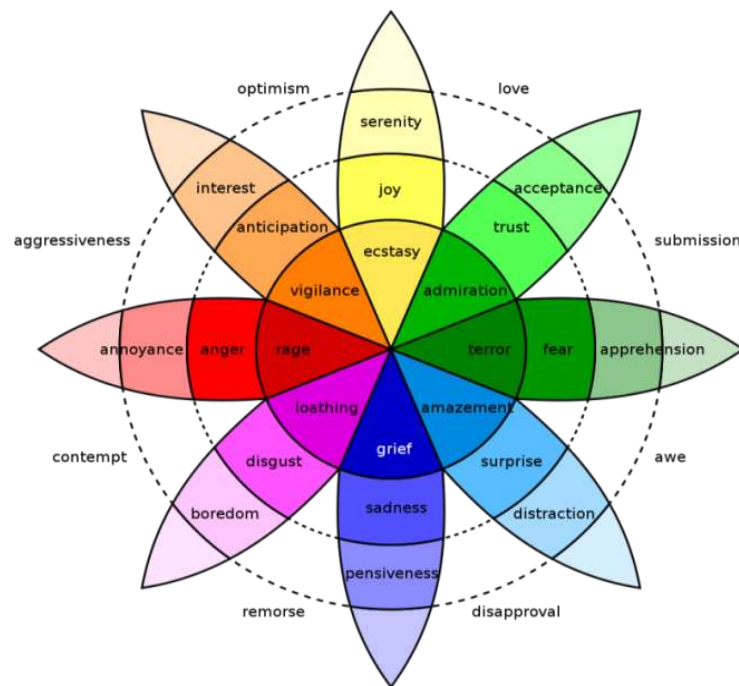
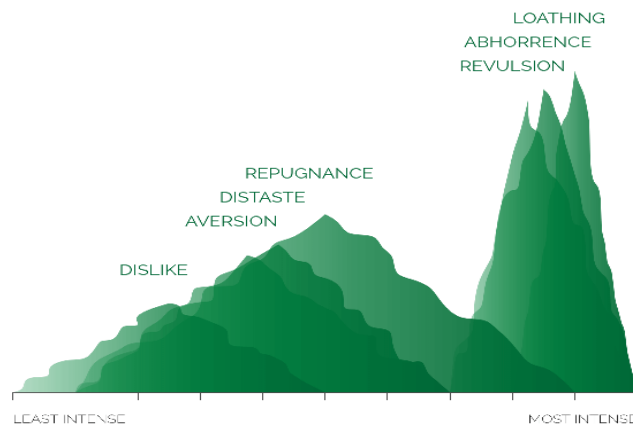**Figure 1.** Plutchik's wheel of emotions (the English language).

Figure 2. Spectrum of arousal of "disgust-like" emotions according to the Atlas of Emotions (AoE, 2023).

This ambiguity can be explained by a wide range of "disgust-like" experiences (**Figure 2**), since disgust contains a range of states with varying intensities from mild dislike to intense loathing, i.e., all states which are triggered by the feeling that something is aversive, repulsive and/or toxic (AoE, 2023). Additionally, cross-cultural variation in EC configuration may occur within this spectrum because representatives of different cultures categorize emotions somewhat differently (Russell, 1991: 444). Due to these variations, the same fragment of the "disgust-like" spectrum can have varying cultural relevance in different linguo-societies. At the same time, culturally irrelevant fragments do not always receive a linguistic designation, which makes the translation of the terminology of "disgust-like" emotions challenging.

3. Methods and language corpora

The methodology of the proposed study involves two stages:

(1) determining German equivalents closest in meaning to Anglo-Saxon BEC ᴅɪsɢᴜsᴛ through a comparative study of the definitions of "disgust-like" EC names in explanatory and bilingual dictionaries;

(2) identifying among German equivalents the concept, whose conceptual structure reveals most coincidences with ᴅɪsɢᴜsᴛ. This stage is based on two research procedures: (a) establishing the actual content of the ECs under study, and (b) comparing their semantic structures based on two criteria: arousal and valence. These procedures involve a comparative analysis of the most frequently occurring forms of EC names in representative corpora of the English and German languages.

The use of the analytical tools of corpus linguistics on the second stage of our research serves to confirm, clarify, or deny the results obtained on the first stage objectively. This approach is methodologically based on the fact that, in modern representative language corpora, which contain billions of words, it is possible to establish the semantic profiles of node words by means of the analysis of the frequency indicators of their collocates and co-occurrences. DWDS is a platform providing corpus-based services. Some corpora even have the function of automatic formation of word profiles.

The digital processing of linguistic data in corpora is constantly improving. This contributes to the increase of objectivity of indicators of the frequency and correlation strength of collocates and co-occurrences of node words. This gives reason to assume that, to some extent, the interpretation of data from corpora can supplement the results of definitional, contextual, and associative analyses of language units. First of all, this applies to those cases when the differences between close lexemes are established, because, in order to do so, it is necessary firstly, to reveal all of their content characteristics (through definitional and contextual analyses) and secondly, to identify the closest associations that emerge among speakers of the corresponding language in relation to the concepts that these lexemes denote (associative dictionaries, free associative experiments, etc.).

Taking into account the fact that the methodology of the suggested research involves a comparative study of corpus-based profiles of the node word *disgust* and its German counterparts, it is important to involve those corpora of the English and German languages that are comparable in type, size, tagging, and functions. The results of the study may be somewhat biased without them. Since there are no identical corpora in terms of structure and content, researchers should rely on the data of the closest corpora of the compared languages when analysing multilingual material in corpus-based studies.

In our paper, the selection of the most frequent collocates and co-occurrences of those node words, which are the names of German "disgust-like" emotion concepts, was carried out on the basis of lists that are automatically created in the DWDS corpus using the "DWDS-Wortprofil" function. 4.8 billion words are involved in the formation of profiles here, which shows the statistical relevance of the data of these profiles. The presence of this function and the significant amount of language material used for profiling in a certain way have influenced the search for a corpus of the English language comparable to the DWDS, since even such a representative and popular corpus as the British National Corpus (BNC) does not correlate with the DWDS in terms of language

relevance material (the first was created at the end of the last century), nor by size (BNC contains only 100 million words) (BNC, n.d.). Furthermore, BNC not only lacks the function of automatically forming node word profiles, but also does not provide the most frequent co-occurrences. At the same time, the collocates are presented in one list (the "Collocates" function), and not separately for each part of the language, without detailed morphological tagging. The listed differences between the DWDS and BNC corpora do not allow them to be considered comparable in those corpus-based studies that are based on the comparative study of the data obtained as a result of digital processing of language material.

More similar to DWDS in terms of the parameters mentioned above is, for instance, such a corpus of the English language as the Word Web Corpus (iWeb, n.d.), since it has a size commensurate with the first (14 billion words), and the collocates are presented in four lists divided by parts of speech (+NOUN/+ADJ/+VERB/+ADV). In addition, iWeb has a "Topics" function, so users can get a list of the most frequent co-occurrences of node words. Therefore, in view of the research methods applied in our paper, iWeb and DWDS can be considered comparable, even though they differ in type.

In our research, a sample of the most frequent collocates of those lemmas objectifying the Anglo-Saxon basic emotion concept DISGUST and its closest counterparts in the German-speaking community was carried out on the basis of two frequency indicators—(1) compatibility of these lemmas (Freq.) and (2) the correlation strength of this compatibility (logDice/MI-index). If extrapolated to the conceptual level, it means that it is possible to establish how closely the cultural, in particular emotional concepts, whose names these lemmas are, correlate with DISGUST and its equivalent German ECs. Concepts that show the closest connection are called *conceptual proximates* (CP) (Mizin et al., 2021: 82).

The fact that each cultural concept is the result of the interaction of other cultural concepts in the process of permanent interaction of individuals within a certain linguistic and cultural group serves as a methodological basis for distinguishing CPs. As a result of such interaction, one concept tags another one—the main meaning that is representative for the first concept. This semantic tagging serves as a conceptual link between two concepts; therefore, the conceptual structure of any cultural concept is a systematically organized hierarchy of a set of such semantic tags. Their highlighting (dominant position) and dimming (marginal position) depends on the proximity or distance from the main meaning of this concept. At the same time, the closest meanings largely determine the meaning of the concept as a whole. Since the cultural concept is a dynamic construct, the configuration of meanings in its conceptual structure is constantly changing. Highlighting and dimming of meanings creates the effect of conceptual approximation, when one conceptual connection can bring two concepts so close that they become interchangeable in certain cases.

The relevance of CP in the hierarchy of the semantic structure of emotion concept DISGUST and its German equivalents is shown by the indicators of the frequency and correlation strength of the lemma that is the name of this CP. These indicators are mostly interrelated, although not always, because some CPs can have (1) high frequency with low correlation strength or (2) low frequency with high correlation strength. In the first case, the relevance of a certain CP is distorted by "accidental" occurrences of lemmas: the one that objectifies the CP, and the one that objectifies the concept this CP correlates with. In the second case, the relevance of CP is distorted due to the high proportion of clichés (idiomatization) of the connection of these lemmas, since the latter can be used not as

names of corresponding concepts, but as components of set expressions. Therefore, such cases were "weeded out" when forming the sample of CPs of the proposed study by fixing the relevant values of their frequency and correlation strength: Freq. ≥ 5; MI-index ≥ 4.0 (iWeb); logDice ≥ 4.0 (DWDS, n.d.).

4. Correlation of German emotion concepts and A.-S. DISGUST

Among the factors that influence the cross-cultural variation of "disgust-like" concepts, one should mention not only the diffuseness of their semantic structure, but also the inhomogeneity of the basic emotion represented by the BEC DISGUST. The "double" nature of disgust—physical (visceral, pathogenic) and moral (Heinämaa, 2020; Tybur et al., 2020)—are meant here. The moral side of disgust is activated by violations of moral norms (Gutierrez et al., 2012; Power and Dalgleish, 1997), so it (together with contempt and anger) belongs to the triad of moral hostility (Rozin et al., 1999). In spite of the fact that the reactions caused by physical disgust in individuals may differ from the reactions of moral disgust, the Anglo-Saxons use the same word for both of them—*disgust* (Yoder et al., 2016: 305), although, for example, in the case of two types of fear—physical (instinctive) and metaphysical (social)—there are separate names for each of them in English and German (see above). At the same time, the semantics of moral disgust is derived from the meaning of the noun *disgust* only by implication, e.g.: "a strong feeling of disapproval and dislike at a situation, person's behaviour, etc." (CD, 2022); "a feeling of very strong dislike or disapproval" (Collins, 2022); "a strong feeling of dislike for somebody/something that you feel is unacceptable, or for something that looks, smells, etc. unpleasant" (OALD, 2022). These examples prove that the definitions of this noun in the explanatory dictionaries of the English language are almost the same, and the core meaning is the intense aversion and deep dislike for living beings/things.

The meaning of the Anglo-Saxon BEC DISGUST is complicated not only by its "dual" nature, belonging to the "moral triad" and numerous derived "disgust-like" concepts, but also by its close correlation with other BECs and DECs. The relationship between DISGUST and the BECs is shown by the statistical analysis of the sample of names of "blended emotion categories", carried out on the material of the English language, where the correlation of DISGUST and FEAR is represented by 44 language designations, DISGUST and ANGER—30, DISGUST, FEAR and SADNESS—10, DISGUST, FEAR, SADNESS and SURPRISE—7, DISGUST and SADNESS—7, DISGUST, FEAR and SURPRISE—4, ANGER, FEAR and DISGUST—3 (Bąk, 2022: 41). Correlations of DISGUST with ANGER, HATE, FEAR, and SADNESS are the subject of numerous works (Boster, 2005; Gutierrez et al., 2012; Heinämaa, 2020; Lee and Ellsworth, 2011; Nabi, 2002; Yoder et al., 2016). The connection between the BEC DISGUST and ANGER is particularly close, since, on the one hand, disgust can be defined as one of the forms of anger (Alvarado, 1998), and on the other hand, these BECs, together with CONTEMPT, are considered to be different forms of aversion (Traue and Kessler, 2003: 23). Correlation with emotion concepts such as ENVY, HOSTILITY (Russell and Fehr, 1994: 188) and GUILT (Power and Dalgleish, 1997) is also relevant for DISGUST.

A whole fragment of an individual's emotional world is built on the basis of a complex hierarchical organization of the "disgust-like" correlations between each other and with other BECs and DECs. This fragment is based on the universal characteristics of disgust as a basic emotion, so there is a reason to claim that in every culture, there are emotion concepts whose semantic structure is similar to the Anglo-Saxon DISGUST. Such emotion concepts also demonstrate a similar hierarchy of internal and

external conceptual connections. However, due to the presence of ethno- and socio-cultural meanings, they are only similar (incomplete equivalence), and not identical (complete equivalence).

The above-mentioned analysis is a reason to assume that there is no concept in the German linguo-society that could be a complete equivalent of the Anglo-Saxon DISGUST. However, there are several emotion concepts here that show incomplete equivalence with DISGUST. The first one that should be mentioned is EKEL, because German-speaking psychologists, as a rule, denote that emotion, which is basic among "disgust-like" emotions, by the name of this concept (see, e.g.: EP, 2009: 109). In addition, a number of English-German bilingual dictionaries put the lexeme EKEL first among other "disgust-like" words, emphasizing in this way that it overlaps the semantic structure of disgust to the greatest extent (CD, 2022; Collins, 2022; Langenscheidt, 2022). Psychologists who are not German native speakers also identify *Ekel* as the counterpart for *disgust*, because they tend to rely on data from dictionaries or on the works of German colleagues (see, e.g.: Gallo et al., 2017: 10). However, in some dictionaries the noun *Ekel* may have not the first, but the last position after the synonyms *Widerwille* and/or *Abscheu* (Beolingus, 2022; PONS, 2022). It is actually impossible to unambiguously establish the hypero-hyponymic hierarchy of these synonyms by studying German explanatory dictionaries, since, for instance, the universal dictionary Duden defines the lexemes *Abscheu* and *Ekel* through the *Widerwille* lexeme: *Abscheu*—"psychischer Ekel; heftier Widerwille"; *Ekel*—"Übelkeit erregendes Gefühl des Widerwillens, des Abscheus vor etwas" (Duden, 1996: 67, 420), and in the Wahrig dictionary, there is an indication that these lexemes are in a relationship of mutual correspondence: *Widerwille*—"Ekel, Abscheu"; *Abscheu*—"Ekel"; *Ekel*—"Widerwille, Abscheu" (Wahrig, 1972: 263, 1076, 4176). At the same time, *Ekel*, unlike the lexemes *Widerwille* and *Abscheu*, can convey the semantics of nausea (Mackensen, 1986: 306), which is also confirmed by the etymological dictionary (Pfeifer, 1993: 274). The dictionary of the German language DWDS (Digitales Wörterbuch der deutschen Sprache) highlights the homonymy of the noun *Ekel*: 1) *Ekel*, m—"a) strong physical dissatisfaction; b) strong moral antipathy"; 2) *Ekel*, m/n—"a repulsive, disgusting person". It should be noted that such "disgust-like" words as *Abneigung* and *Ablehnung* are almost never indicated in explanatory dictionaries as close synonyms to *Ekel*. Obviously, this is due to the fact that they convey the semantics of a less intense course of the disgust emotional experience than *Ekel*: *Abneigung*—"slight disgust"; *Ablehnung*—"refusal; rejection; reluctance; deprecation" (DWDS, n.d.).

Comparison of definitions of the English lexeme *disgust* and German "disgust-like" words *Ekel*, *Abscheu*, *Abneigung* and *Ablehnung*, which can be seen as translation equivalents of this lexeme when the "Wheel of emotions" model is reproduced in German, made it possible to immediately "weed out" two of them—*Abneigung* and *Ablehnung*. They do not convey a sufficiently high arousal of the emotion denoted by *disgust*, since it is characterized as a strong negative emotion, more concretely as an aversion accompanied by intense, even violent, bodily reactions (Heinämaa, 2020: 1). On the other hand, *Abneigung* and *Ablehnung* are closer in terms of the parameter of expressing a non-intense course of aversive experiences to English *dislike* (**Figure 2**). Therefore, those translations of this model where *disgust* is conveyed using these German lexemes (see above: Emotion, 2022; Grötsch, 2022) are incorrect.

A comparative study of the definitions of the noun *Widerwille* in various explanatory dictionaries of the German language confirms that it expresses more intense aversive experiences than the

lexemes *Abneigung* or *Ablehnung* (see, e.g., DWDS: *Widerwille*—"strong aversion"). Although this makes it meaningfully closer to *Ekel* and *Abscheu*, they convey much more intense expression of disgust. Therefore, both in dictionaries (see, e.g.: CD, 2022) and in scientific literature (see, e.g.: Erk and Walter, 2003: 64), *Widerwille* is usually translated into the English lexeme *distaste*, which is characterized by non-intensive semantics of aversion: *distaste*—"a dislike of something that you find unpleasant or unacceptable" (CD, 2022). This fact shows that the lexeme *Widerwille* can be interchangeable with *Ekel* and *Abscheu* only in certain contexts, and its equivalence with the English *disgust* is rather questionable.

On a conceptual level, there is also a reason that to some extent does not allow defining the emotion concepts WIDERWILLE and DISGUST as cross-cultural equivalents. The completeness of the transfer of cultural concepts presupposes their correlation according to the criterion of relevance, as it is methodologically wrong to consider an irrelevant concept in the source culture and a relevant one in the target culture as equivalent, and vice versa. The discrepancy according to this criterion can also be traced in the case of WIDERWILLE and DISGUST, since the first, unlike the second, quickly loses its relevance in the German-speaking society: in the period of 1900–1909, the frequency of the WIDER-WILLE lemma was 6.24 (Freq. = 6.24) per 1 million tokens; however, in 2019, its frequency is only 1.88 (Freq. = 1.88) (DWDS, n.d.). These numbers might indicate that the emotion concept WIDER-WILLE can be actually irrelevant in the German culture today.

Taking it into consideration, only the lexemes *Ekel* and *Abscheu* show notable equivalence with *disgust*. At the same time, the semantic shades of disgust are presented in the meaning of the noun *Ekel*. Because of that, it can even be defined as a hyperonym of *Abscheu* and *Widerwille*. It obviously influenced the fact that *Ekel* and *disgust* are defined as equivalent not only by psychologists, sociologists, and anthropologists, who can be considered to be somewhat "naïve" translators, but also by experts in the field of word semantics—linguists.

It was found in the field of cognitive linguistics that the equivalence of emotion concepts DISGUST and EKEL is incomplete, since the latter concept is closer to Anglo-Saxon REVULSION or NAUSEA in terms of its semantic structure than to DISGUST (Goddard, 2014: 76). The main differences between the concepts of EKEL and DISGUST concern the body-related features of their meaning: despite the fact that both of these concepts are based on an aversive cognitive scenario, conveying the meanings of a typical, involuntary bodily reaction, the aversive situation for DISGUST and the corresponding reaction are primarily related with the mouth, that is, reluctance to taste anything extremely disgusting, which may cause vomiting or regurgitation. Instead, for EKEL, both the aversive situation and the reaction to it concern the body as a whole. At the same time, the reaction to the reluctance of body contacting with something aversive is, as a rule, shuddering or shrinking. Prototypical stimuli for the emotion concept EKEL can be not only feces, vomit, or dirty food, but also decaying corpses, snakes, spiders, and insects. The latest irritants are unlikely for the emotion concept DISGUST.

Therefore, the suggested analysis has made it possible to establish that in the German-speaking community, two emotion concepts—EKEL and ABSCHEU—are the closest in terms of meaning to Anglo-Saxon DISGUST. However, both "naïve" (philosophers, anthropologists, psychologists, sociologists, et al.) and professional (linguists) translators define, as a rule, only EKEL as the equivalent. It is due to the fact that the equivalence of EKEL and DISGUST has acquired a certain "traditionality" in the scientific environment during the last century, starting with the work of A. Kolnai "Der Ekel", men-

tioned by Goddard (2014: 76). However, as mentioned before, there are reasons to doubt the objectivity of this "traditionality", so the question arises whether EKEL is actually the closest to DISGUST. One of the ways that can help to get an answer to this question is a comparative analysis of the relevant meaning of the Anglo-Saxon emotion concept DISGUST, German EKEL and ABSCHEU based on language corpora data.

5. Equivalence of the A.-S. EC DISGUST and its German correspondences EKEL and ABSCHEU

In the methodological section, it is stated that the study of the indicators of frequency (Freq.) and correlation strength (MI-index/logDice) of those lemmas objectifying the CPs of concepts DISGUST, EKEL and ABSCHEU can provide scientifically reliable data on the relevance of these CPs in the semantic hierarchy of the latter (**Table 1**). Since CPs representing emotions prevail in emotion concepts, a hierarchy of these CPs can be established within the structure of the studied ECs. It provides a more precise understanding of the semantic structure of DISGUST, EKEL and ABSCHEU, and, moreover, allows for these concepts to be compared in terms of their arousal and valence (**Table 2** and **Table 3**).

The hierarchy of CPs of the compared concepts DISGUST, EKEL and ABSCHEU is shown in three samples with 20 CPs each (**Table 1**). This number of CPs is sufficient to determine the semantic structure of these CPs. Besides, the indices of the lemmas outside this range in DWDS corpus is considered non-representative (with minimal frequency here ≥5).

According to the results of the comparative analysis of the data provided in **Table 1**, the following similar and different features of the semantic structure of the studied ECs have been established.

(1) The relevance of CPs REVULSION and LOATHING for a BEC DISGUST points both to arousal and the wide spectrum of "disgust-like" experiences encompassed by this concept. However, the top positions in the hierarchy of this BEC are occupied not by "disgust-like" meanings, but by anger (CP ANGER) and fear (CP FEAR, HORROR). The emotions of anger and fear are the reaction of an individual to the danger of their life or aggression, but the first one arises as the result of built-up aggression, while the second one, on the contrary, makes the individual avoid dangerous situations or pathogenic environment. It can be assumed that fear reactions, including the avoidance of pathogenic objects, are associated with the primary (instinctive) nature of the emotions of disgust. Instead, anger appeared as a result of the socialization of this emotion as a reaction to the "pathogenicity" of the social environment (individuals or a certain cultural community as a whole). This led to a significant negativity of DISGUST as a moral concept and its close connection with CPs SADNESS, CONTEMPT, SHAME, HATRED, DISAPPOINTMENT, FRUSTRATION and CONFUSION, which represent negative moral and social emotions. It should be noted that the current content of the EC DISGUST does not have meanings that convey aversive situation related to the mouth (the taste of something very disgusting, vomiting, expectoration, etc.) (see above: Goddard, 2014).

(2) The comparison of the content of EC EKEL and ABSCHEU confirms the opinion expressed above that these concepts can be interchangeable in certain situations. This is evidenced, in particular, by the presence of CP ABSCHEU in the semantic structure of EKEL and, conversely, of CP EKEL in the structure of ABSCHEU. The basis for interchangeability of EKEL and ABSCHEU is also the fact

Table 1. Indices of frequency and correlation strength of the lemmas objectifying the CPs of concepts disgust (iWeb corpus data), EKEL and ABSCHEU (DWDS corpus data)

	DISGUST	Freq. ≤ 100	MI-index ≤ 4.0	EKEL	Freq. ≤ 5	logDice ≤ 4.0	ABSCHEU	Freq. ≤ 5	logDice ≤ 4.0
1	*anger*	639	7.56	*Abscheu* "disgust; loathing"	81	11.3	*Empörung* "indignation; outrage"	277	11.5
2	*fear*	526	5.22	*Angst* "anxiety; fear"	31	6.1	*Entsetzen* "horror; terror"	135	10.8
3	*feeling*	485	4.56	*Hass* "hatred"	24	7.1	*Ekel* "aversion; disgust"	65	10.5
4	*sadness*	384	8.2	*Gefühl* "feeling"	21	4.2	*Krieg* "war"	48	7.2
5	*horror*	374	6.22	*Faszination* "fascination"	18	9.7	*Faszination* "fascination"	33	9.6
6	*contempt*	291	8.29	*Scham* "shame"	15	8.3	*Verachtung* "contempt"	29	8.7
7	*expression*	264	4.46	*Verachtung* "contempt"	13	8.0	*Gewalt* "violence"	25	7.1
8	*shock*	262	5.26	*Entsetzen* "horror; terror"	13	7.9	*Angst* "anxiety; fear"	20	5.4
9	*emotion*	255	4.95	*Leben* "life"	13	7.7	*Bewunderung* "admiration"	20	8.0
10	*shame*	254	6.0	*Politik* "politics"	11	9.0	*Hass* "hatred"	19	6.6
11	*surprise*	239	4.55	*Grauen* "horror; dread"	11	8.9	*Gefühl* "feeling"	19	4.0
12	*outrage*	202	7.74	*Welt* "world"	11	6.1	*Verurteilung* "sentence; disapproval"	14	7.8
13	*hatred*	185	6.74	*Wut* "rage"	7	5.6	*Verbrechen* "crime"	13	8.1
14	*disappointment*	155	6.15	*Überdruss* "weariness"	6	8.5	*Anschlag* "attack"	13	7.8
15	*nose*	130	4.15	*Mann* "man"	6	6.5	*Wut* "rage"	13	6.3
16	*frustration*	130	5.26	*Körper* "body"	5	8.4	*Furcht* "fear"	8	6.8
17	*revulsion*	130	10.53	*Gesellschaft* "society"	5	7.6	*Grauen* "horror; dread"	8	7.5
18	*pity*	117	6.99	*Mitleid* "pity"	5	7.2	*Politik* "politics"	7	7.3
19	*confusion*	112	4.64	*Anflug* "fit; burst"	5	5.3	*Mitleid* "pity"	6	6.8
20	*loathing*	108	9.65	*Mensch* "man; human being"	5	5.2	*Unwille* "indignation; unwillingness"	6	7.4

that their content shows a significant similarity, which is 65% (50% complete coincidences; 15% partial coincidences). However, a comparative analysis of the relevant CPs of these concepts made it possible to reveal clear differences between them. First, in the content of EC EKEL, there are CPs MANN, KÖRPER and MENSCH, which at the conceptual level serve to confirm the homonymy of the name of this concept, since the noun *Ekel* denotes not only the emotion of disgust, but also the disgusting person themselves (see Section 4). The semantics of nausea (vomiting), recorded in some explanatory and etymological dictionaries of the German language (see Section 4), is not traceable in the current content of EC EKEL. Secondly, EKEL and ABSCHEU as moral concepts differ somewhat in their spheres of functioning, since for the former, human life and society as a whole are relevant (CP LEBEN, GESELLSCHAFT), and for the second—actions (scenarios) that cause outrage (CP EMPÖRUNG, UNWILLE) or aversion (CP EKEL) as a result of violation of moral/legal/social norms or the use of violence (war, crime, etc.) (CP KRIEG, GEWALT, VERURTEILUNG, VERBRECHEN, ANSCHLAG). It is noteworthy that both EKEL and ABSCHEU demonstrate a close connection with politics (CP POLITIK), which emphasizes the negative perception of politics as a "dirty" phenomenon in the German-speaking society.

(3) CPs of all three concepts—DISGUST, EKEL and ABSCHEU—reveal numerous coincidences. In the semantic structure of these ECs, for example, the "triad of moral hostility" mentioned in Section 4 (CP ANGER, CONTEMPT, WUT, VERACHTUNG) is clearly visible. However, in terms of the content, EC ABSCHEU is more similar to DISGUST than EKEL, since the overall similarity of the CPs of the first concept with the CPs of DISGUST is 55% (35% complete coincidences; 20% partial coincidences), and of the second—45% (35% complete coincidences; 10% partial coincidences). Among the most relevant meanings of the compared ECs, the common one is fear (horror), i.e., the highest positions in the semantic hierarchy of these ECs are occupied by different meanings: anger in DISGUST, hatred in EKEL, indignation in ABSCHEU. It is noteworthy that in DISGUST, unlike EKEL and ABSCHEU, a specific semantic configuration can be traced, which is formed by the meanings of sadness (CP SADNESS), disappointment (CPs DISAPPOINTMENT, FRUSTRATION) and physiological expression of disgust (CPs EXPRESSION, NOSE).

Clarification and verification of the results obtained above is carried out by comparing the semantic structures of ECs DISGUST, EKEL and ABSCHEU according to the criteria of arousal and valence, which have long been considered one of the main characteristics of emotions (see, e.g.: Russell, 1980). For this purpose, from each list of lemmas presented in **Table 1**, 10 with the highest indicators were selected, but only those that objectify the emotional CPs of the ECs under study (**Table 2**). The arousal and valence of such CPs are determined on the basis of the data of the "Atlas of Personality, Emotion and Behaviour" (Mobbs, 2020). Both criteria are presented in this atlas on a scale from −2 to 2: in emotions characterised by low arousal, the indicator increases from −1 to −2; the indicator of emotions with neutral arousal is equal to 0; in emotions with high arousal, the indicator increases from 1 to 2. In turn, in negative emotions, the indicator increases from −1 to −2; a neutral rating is equal to 0; in positive emotions, the indicator increases from 1 to 2. The results of the analysis of these indicators of the DISGUST, EKEL and ABSCHEU semantic structures are shown in **Table 3** in the form of percentages.

A comparative study of the general indicators of the arousal and valence of emotional CPs presented in **Table 2** makes it possible to confirm the above assumption that both German ECs—EKEL and ABSCHEU—can be defined as equivalents to DISGUST (see also the data in **Table 3**). At the same

Table 2. Indicators of arousal (A.) and valence (V.) of the most relevant emotional CPs of concepts DISGUST, EKEL and ABSCHEU

	DISGUST	A.	V.	EKEL	A.	V.	ABSCHEU	A.	V.
1	ANGER	1	−1	ABSCHEU	1	−2	EMPÖRUNG	2	−2
2	FEAR	−1	−1	ANGST	−1	−1	ENTSETZEN	−2	−2
3	SADNESS	−1	−2	HASS	2	−2	EKEL	1	−2
4	HORROR	−2	−2	FASZINATION	2	2	FASZINATION	2	2
5	CONTEMPT	2	−2	SCHAM	1	−1	VERACHTUNG	2	−2
6	SHAME	1	−2	VERACHTUNG	2	−2	ANGST	−1	−1
7	SURPRISE	1	−1	ENTSETZEN	−2	−2	BEWUNDERUNG	−1	2
8	OUTRAGE	2	0	GRAUEN	−2	−2	HASS	2	−2
9	HATRED	2	−2	WUT	2	−2	WUT	2	−2
10	DISAPPOINTMENT	−1	−2	ÜBERDRUSS	−1	0	FURCHT	−1	−1
	General indicator	4	−15		4	−12		6	−10

Table 3. Percentage indicators of arousal and valence of ECs DISGUST, EKEL and ABSCHEU

EC	Arousal					Valence				
	VLA	LA	NA	HA	VHA	VNeg.V	Neg.V	NV	PV	VPV
DISGUST	10	30	0	30	30	60	30	10	0	0
	Total: 40			Total: 60		Total: 90			Total: 0	
EKEL	20	20	0	20	40	60	20	10	0	10
	Total: 40			Total: 60		Total: 80			Total: 10	
ABSCHEU	10	30	0	10	50	60	20	0	0	20
	Total: 40			Total: 60		Total: 80			Total: 20	

VLA—very low arousal; LA—low arousal; NA—neutral arousal; HA—high arousal; VHA—very high arousal; VNeg.V—very negative valence; Neg.V—negative valence; NV—neutral valence; PV—positive valence; VPV—very positive valence

time, this is a partial equivalence, since, firstly, the concept DISGUST contains more negative meanings than EKEL and ABSCHEU, and secondly, ABSCHEU is more intense and less negative than DISGUST and EKEL. Therefore, on the scale of arousal (**Figure 2**), ABSCHEU is obviously closer to LOATHING (cf. definition in CD: *loathing*—"great dislike and disgust") than to DISGUST. It is noteworthy that the concept EKEL, and to a greater extent ABSCHEU, is associated in the German-speaking environment with situations, objects or phenomena that cause not only a feeling of strong disgust or aversion, but can also mesmerize/fascinate at the same time (CPs FASZINATION, BEWUNDERUNG).

6. Conclusions

The proposed article is devoted to the topical, primarily in the field of cognitive and cultural linguistics, problem of cross-cultural search for equivalents of emotion concepts. The acuteness of this problem is due to the fact that the transfer of an inaccurate EC equivalent to the target culture can distort its representatives' perception of the whole fragment of the emotional world of the native culture. The object of the study was the Anglo-Saxon EC DISGUST and its equivalents in the German-speaking community, because even in translations of specialised literature (Plutchyk's wheel of emotions), four translation options can be found for the name of this concept—*Ekel*, *Abneigung*, *Ablehnung*, *Abscheu*. In view of this, it became necessary to determine the most accurate equivalent for DISGUST among German ECs EKEL, ABNEIGUNG, ABLEHNUNG and ABSCHEU. To achieve this goal,

a two-stage methodology was tested.

The first stage of the research involved the identification of the closest in terms of content equivalents to DISGUST by means of a comparative study of the definitions of the names of German ECs in explanatory and bilingual dictionaries. It was established that the nouns *Abneigung* and *Ablehnung* cannot be translation equivalents to the lexeme *disgust*, since they do not convey a sufficiently high arousal of the emotion that this lexeme denotes. Equivalence with *disgust*, albeit incomplete, is shown only by the nouns *Ekel* and *Abscheu*, which are so semantically close to each other that they can be used interchangeably in some contexts.

However, unlike *Abscheu*, the meaning structure of *Ekel* contains broader semantic shades of disgust. In addition, this noun is polysemantic, because it denotes not only the emotion of disgust, but also a disgusting person. It can be assumed that both "naïve" and professional translators define *Ekel* as equivalent to *disgust* precisely because of its hyperonymity in relation to other German "disgust-like" words. However, the prevalence of such an approach cannot be considered a criterion of its objectivity, since in some contexts, especially those where the semantics of intense moral disgust is present, *Abscheu*, and not *Ekel*, may be closer to *disgust* in terms of meaning.

At the second stage of the proposed work, on the basis of a comparative analysis of the most frequent collocates of the EC names DISGUST, EKEL and ABSCHEU in representative corpora of the English and German languages, (a) the relevant content of these ECs was established and (b) a comparison of their semantic structures was made according to the criteria of arousal and valence. It was found that the actual meaning of DISGUST, EKEL and ABSCHEU differs to some extent from the dictionary definitions of their names (in EC DISGUST, for example, there are no meanings that convey an aversive situation related to the mouth). The corpus data confirmed the results of the definitional analysis, as it was found that the similarity of the semantic structures of ECs EKEL and ABSCHEU is quite high (65%); therefore, in some "disgust-like" situations, these concepts can be interchanged without semantic loss. A comparison of the semantic structures of DISGUST, EKEL and ABSCHEU also revealed that both German ECs show numerous overlaps with disgust. At the same time, ABSCHEU is semantically more similar to DISGUST (overall similarity 55%) than EKEL (overall similarity 45%). This indicates that the transfer of DISGUST to the German language community by means of ECs EKEL and ABSCHEU can be quite adequate, since both of these concepts evoke associations in representatives of German-speaking culture similar to those that arise in Anglo-Saxons in connection with DISGUST.

The results of comparing the semantic structures of ECs DISGUST, EKEL and ABSCHEU according to the criteria of arousal and valence generally confirm the conclusions made on the basis of the study of the semantic hierarchy of these ECs, somewhat clarifying them. It was established, in particular, that the concept DISGUST contains more negative meanings than EKEL and ABSCHEU. In addition, the latter concept is more intense than DISGUST and EKEL; therefore, in emotional situations in which a higher arousal of disgust is expressed, ABSCHEU can be equivalent to the Anglo-Saxon LOATHING.

The involvement of language corpora data in the proposed study indicates a certain objectivity of its results and conclusions. Such conclusions can serve for translators as a vivid example of the fact that rendering the names of emotion concepts requires special efforts from the translator, including deep analysis both at the language and conceptual levels. This applies to both "naïve" and profes-

sional translators, because only in this way, translation errors can be avoided when reproducing such a subtle and at the same time dynamic and diffuse area of human nature as emotions.

Conflict of interest

No conflict of interest was reported by all authors.

References

Alvarado N (1998) A reconsideration of the structure of the emotion lexicon. *Motivation and Emotion* 22(4): 329–344. DOI: 10.1023/A:1021356424065

Andrew R (1963) Evolution of facial expression. *Science* 142(3595): 1034–1041. DOI: 10.1126/science.142.3595.1034

AoE (2023) *Atlas of Emotions*: *Disgust* [online]. Available at: http://atlasofemotions.org/#actions/disgust

Bąk H (2022) EmCat-Eng: A catalogue of 1,759 basic emotion terms in English. *Studia Anglica Posnaniensia* 57: 33–59. DOI: 10.2478/stap-2022-0003

Beolingus (2022) *Beolingus Dictionary* [online]. Available at: https://dict.tu-chemnitz.de/

BNC (n.d.) *British National Corpus* [online]. Available at: https://www.english-corpora.org/bnc/

Boster J (2005) Emotion categories across languages. In: Cohen H and Lefebvre C (eds.) *Handbook of Categorization in Cognitive Science*. Amsterdam: Elsevier, pp.187–222.

CD (2022) *Cambridge Dictionary* [online]. Available at: https://dictionary.cambridge.org/

Chen C, Crivelli C, Garrod O, et al. (2018) Distinct facial expressions represent pain and pleasure across cultures. *PNAS Proceedings of the National Academy of Sciences of the United States of America* 115*(*43): E10013–E10021. DOI: 10.1073/pnas.1807862115

Collins (2022) *Collins Dictionary* [online]. Available at: https://www.collinsdictionary.com/

Colombetti G (2009) What language does to feelings. *Journal of Consciousness Studies* 16(9): 4–26.

Doyle C, Gendron M, and Lindquist K (2021) Language is a unique context for emotion perception. *Affective Science* 2(2): 171–177. DOI: 10.1007%2Fs42761-020-00025-7

Duden (1996) *Deutsches Universalwörterbuch* [*German Universal Dictionary*]. Mannheim/Leipzig/Wien/Zürich: Duden.

DWDS (n.d.) *Digitales Wörterbuch der deutschen Sprache* [online]. Available at: http://www.dwds.de/ressourcen/korpora/

Ekman P (1999) Basic emotions. In: Dalgleish T and Power MJ (eds.) *Handbook of Cognition and Emotion*. New York: Wiley, pp.45–60.

Ekman P and Cordaro D (2011) What is meant by calling emotions basic. *Emotion Review* 3(4): 364–370. DOI: 10.1177/1754073911410740

Ekman P and Friesen W (1969) The repertoire of nonverbal behavior: Categories, origins, usage, and coding. *Semiotica* 1(1): 49–98. DOI: 10.1515/semi.1969.1.1.49

Ekman P and Friesen W (1971) Constants across cultures in the face and emotion. *Journal of Personality and Social Psychology* 17(2): 124–129. DOI: 10.1037/h0030377

Ekman P, Sorenson R, and Friesen W (1969) Pancultural elements in facial displays of emotions. *Science* 164(3875): 86–88. DOI: 10.1126/science.164.3875.86

Emotion (2022) *Was Ist Emotion? Psychologische Erklärungsmodelle* [*What Is Emotion? Psychological Explanatory Models*] [online]. Available at: https://arbeitsblaetter.stangl-taller.at/EMOTION/Emotion.shtml

Erk S and Walter H (2003) Funktionelle Bildgebung der Emotionen [Functional imaging of emotions]. In: Stephan A and Walter H (eds.) *Natur und Theorie der Emotion*. Paderborn: Mentis, pp.51–74.

Foolen A (2012) The relevance of emotion for language and linguistics. In: Foolen A, Lüdtke U, Racine T, and

Zlatev J (eds.) *Moving Ourselves, Moving Others: Motion and Emotion in Intersubjectivity, Consciousness and Language*. Amsterdam: John Benjamins, pp.347–368. DOI: 10.1075/ceb.6.13foo

Gallo I, Fernández-Dols JM, Gollwitzer P, et al. (2017) Grima: A distinct emotion concept? *Frontiers in Psychology* 8: 131. DOI: 10.3389/fpsyg.2017.00131

Gendron M, Roberson D, van der Vyver J, et al. (2014) Perceptions of *emotion* from facial expressions are not culturally universal: Evidence from a remote culture. *Emotion* 14(2): 251–262. DOI: 10.1037/a0036052

Goddard C (2014) On "Disgust". In: Baider F and Cislaru G (eds) *Linguistic Approaches to Emotions in Context*. Amsterdam: John Benjamins, pp.73–98.

Goddard C (2018) Vocabulary of emotions and its development in English, German and other languages. In: Schiewer GL, Altarriba J, and Ng BC (eds.) *Handbook of Language and Emotion*. Berlin: Mouton de Gruyter.

Grötsch C (2022) *Viele Wege Führen zur Emotionalen Kundenansprache* [*Many Paths Lead to an Emotional Customer Approach*] [online]. Available at: https://www.handelskraft.de/viele-wege-fuhren-zur-emotionalen-kundenansprache/

Gutierrez R, Giner-Sorolla R, and Vasiljevic M (2012) Core emotion or anger synonym? Moral context influences predictors of disgust word use. *Cognition and Emotion* 26(1): 53–64. DOI: 10.1080/02699931.2011.567773

Han D, Kollareth D, and Russell J (2015) The words for disgust in English, Korean, and Malayam questions its homogeneity. *Journal of Language and Social Psychology* 35(5): 569–588. DOI: 10.1177/0261927X15619199

Heinämaa S (2020) Disgust. In: Szanto T and Landweer H (eds.) *The Routledge Handbook of Phenomenology of Emotions*. Abington, Oxon/New York, NY: Routledge.

Hwang H and Matsumoto D (2015) Evidence for the universality of facial expressions of emotion. In: Mandal MK and Awasthi A (eds.) *Understanding Facial Expressions in Communication: Cross-cultural and Multidisciplinary Perspectives*. New Delhi: Springer, pp.41–56. DOI: 10.1007/978-81-322-1934-7_3

iWeb (n.d.) *Word Web Corpus* [online]. Available at: https://www.english-corpora.org/iweb/

Jack R, Garrod O, Yu H, et al. (2012) Facial expressions of emotion are not culturally universal. *Proceedings of the National Academy of Sciences of the United States of America* 109(19): 7241–7244. DOI: 10.1073/pnas.1200155109

Kelly D (2011) *Yuck! The Nature and Moral Significance of Disgust*. Cambridge, MA: MIT Press.

Knipprath R (2021) *Emotionstheorie nach Robert Plutchik* [*Emotion Theory according to Robert Plutchik*] [online]. Available at: https://rknipprath.de/emotionstheorie-nach-robert-plutchik-1927-2006/

Kollareth D and Russell J (2017) The English word disgust has no exact translation in Hindi or Malayalam. *Cognition and Emotion* 31(6): 1169–1180. DOI: 10.1080/02699931.2016.1202200

Kollareth D, Shirai M, Helmy M, et al. (2021) Deconstructing disgust as the emotion of violations of body and soul. *Emotion* 22(8): 1919–1928. DOI: 10.1037/emo0000886

Kövecses Z (1990) *Emotion Concepts*. New York: Springer. DOI: 10.1007/978-1-4612-3312-1

Langenscheidt (2022) *Langenscheidt Dictionary*: *English–German* [online]. Available at: https://en.langenscheidt.com/english-german/disgust

Lee S and Ellsworth P (2011) Maggots and morals: Physical disgust is to fear as moral disgust is to anger. In: Scherer KR and Fontaine JRJ (eds.) *Components of Emotional Meaning*: *A Sourcebook*. New York, NY: Oxford University Press, pp.271–281. DOI: 10.1093/acprof:oso/9780199592746.003.0018

Levenson R (2011) Basic emotion questions. *Emotion Review* 3(4): 379–386. DOI: 10.1177/1754073911410743

Lewandowska-Tomaszczyk B and Wilson P (2018) Sources of data and methodological foundations of a contrastive linguistic analysis of emotion concepts. *Biuletyn Polskiego Towarzystwa Językoznawczego* 74: 157–190.

Mackensen L (1986) *Deutsches Wörterbuch* [*German Dictionary*]. München: Südwest Verlag.

Matsumoto D (2009) Culture and emotional expression. In: Wyer RS, Chiu C, and Hong Y (eds.) *Understanding Culture: Theory, Research, and Application*. New York: Psychology Press, pp.271–287.

McGinn C (2011) *The Meaning of Disgust*. New York: Oxford University Press.

Menninghaus W (1999) *Ekel. Theorie und Geschichte einer Starken Empfindung* [*Disgust. Theory and History of a Strong Sensation*]. Frankfurt am Main: Suhrkamp.

Miller WI (1997) *The Anatomy of Disgust*. Cambridge, MA: Harvard University Press.

Mizin K and Letiucha L (2019) The linguo-cultural concept TORSCHLUSSPANIK as the representative of ethno-specific psycho-emotional state of Germans. *Psycholinguistics/Psiholingvistika* 25(2): 234–249. DOI: 10.31470/2309-1797-2019-25-2-234-249

Mizin K and Ovsiienko L (2020) Application perspectives of corpus-based methods within linguo-cultural and psycholinguistic analysis: German emotional concept SEHNSUCHT. *East European Journal of Psycholinguistics* 7(1): 111–127. DOI: 10.29038/eejpl.2020.7.1.miz

Mizin K and Petrov O (2021) Emotional state GEMÜTLICHKEIT in cross-cultural perspective: Corpus-based approach. *Studies about Languages/Kalbų Studijos* 38: 43–60. DOI: 10.5755/j01.sal.1.38.26581

Mizin K, Slavova L, and Khmara V (2021) The equivalence of terms denoting the emotion concepts of Ger. angst and A.-S. fear: A corpus-based method. *Lege artis. Language Yesterday, Today, Tomorrow* 6(2): 69–104.

Mobbs A (2020) An atlas of personality, emotion and behaviour. *PLoS ONE* 15(1): e0227877. DOI: 10.1371/journal.pone.0227877

Nabi R (2002) The theoretical versus the lay meaning of disgust: implications for emotion research. *Cognition and Emotion* 16(5): 695–703. DOI: 10.1080/02699930143000437

Ogarkova A (2007) "*Green-eyed monsters*": A corpus-based study of metaphoric conceptualizations of JEALOUSY and ENVY in modern English. *metaphorik.de* 13: 87–147.

Ogarkova A, Soriano C, and Lehr C (2012) Naming feeling. Exploring the equivalence of emotion terms in five European languages. In: Wilson P (ed.) *Dynamicity in Emotion Concepts*. Frankfurt and New York: Peter Lang, pp.253–284.

OALD (2022) *Oxford Advanced Learner's Dictionary* [online]. Available at: https://www.oxfordlearnersdictionaries.com/

Panasenko N (2012) Linguistic markers of emotional concept LOVE in literary texts. *US-China Foreign Language* 10(4): 1067–1084.

Pfeifer W (1993) *Etymologisches Wörterbuch des Deutschen* [*Etymological Dictionary of German*]. Berlin: Akademie Verlag GmbH.

Plutchik R (1997) The circumplex as a general model of the structure of emotions and personality. In: Plutchik R and Conte HR (eds.) *Circumplex Models of Personality and Emotions*. Washington: American Psychological Association Press, pp.17–46. DOI: 10.1037/10261-001

Pochedly J, Widen S, and Russell J (2012) What *emotion* does the "facial expression of disgust" express? *Emotion* 12(6): 1315–1319. DOI: 10.1037/a0027998

PONS (2022) *PONS Wörterbuch* [*PONS Dictionary*]. Available at: https://de.pons.com/

Power M and Dalgleish T (1997) *Cognition and Emotion: From Order to Disorder*. Hove, UK: Psychology Press.

Rozin P and Fallon A (1987) A perspective on disgust. *Psychological Review* 94(1): 23–41. DOI: 10.1037/0033-295X.94.1.23

Rozin P, Lowery L, Imada S, et al. (1999) The CAD triad hypothesis: A mapping between three moral emotions (contempt, anger, disgust) and three moral codes (community, autonomy, divinity). *Journal of Personality and Social Psychology* 76(4): 574–586. DOI: 10.1037/0022-3514.76.4.574

Russell J (1980) A circumplex model of affect. *Journal of Personality and Social Psychology* 39(6): 1161–1178. DOI: 10.1037/h0077714

Russell J (1991) Culture and the categorization of emotions. *Psychological Bulletin* 110(3): 426–450. DOI: 10.1037/0033-2909.110.3.426

Russell J (2014) My psychological construction perspective, with a focus on conscious affective experience. In: Barrett LF and Russell JA (eds.) *The Psychological Construction of Emotion*. New York, NY: The Guilford

Press, pp.183–208.

Russell J and Fehr B (1994) Fuzzy concepts in a fuzzy hierarchy: Varieties of anger. *Journal of Personality and Social Psychology* 67(2): 186–205. DOI: 10.1037/0022-3514.67.2.186

Sharifian F (2015) Cultural Linguistics. In: Sharifian F (ed.) *The Routledge Handbook of Language and Culture*. New York: Routledge, pp.473–493.

Shaver P, Schwartz J, Kirson D, et al. (1987) Emotion knowledge: Further exploration of a prototype approach. *Journal of Personality and Social Psychology* 52(6): 1061–1086. DOI: 10.1037//0022-3514.52.6.1061

Soriano C (2015) Emotion and conceptual metaphor. In: Flam H and Kleres J (eds.) *Methods of Exploring Emotions*. New York/London: Routledge, pp.206–214.

Stemmler G (2009) *Enzyklopädie der Psychologie: Psychologie der Emotionen* [*Encyclopedia of Psychology: Psychology of Emotions*]. Göttingen: Hogrefe.

Susskind J, Lee D, Cusi A, et al. (2008) Expressing fear enhances sensory acquisition. *Nature Neuroscience* 11(7): 843–850. DOI: 10.1038/nn.2138

Traue H and Kessler H (2003) Psychologische emotionskonzepte [Psychological emotion concepts]. In: Stephan A and Walter H (eds.) *Natur und Theorie der Emotion*. Paderborn: Mentis, pp.20–33.

Tybur J, Molho C, Camak B, et al. (2020) Disgust, anger, and aggression: Further tests of the equivalence of moral emotions. *Collabra: Psychology* 6(1): 34. DOI: 10.1525/collabra.349

Underhill JW (2015) *Ethnolinguistics and Cultural Concepts: Truth, Love, Hate and War*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9780511862540

Wahrig (1972) *Deutsches Wörterbuch* [*German Dictionary*]. Gütersloh/Berlin/München: Bertelsmann Lexikon-Verlag.

Wierzbicka A (1999) *Emotions across Languages and Cultures*: *Diversity and Universals*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9780511521256

Wilson P and Lewandowska-Tomaszczyk B (2019) Cognitive structure and conceptual clusters of emotion terms. *Filozofia i Nauka. Studia Filozoficzne i Interdyscyplinarne* 7(1): 91–123. DOI: 10.37240/FiN.2019.7.2.1.6

Yoder A, Widen S, and Russell J (2016) The word disgust may refer to more than one emotion. *Emotion* 16(3): 301–308. DOI: 10.1037/emo0000118