



Components of Emotional Meaning: A sourcebook

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CHAPTER

29 English “fear” and Polish “strach” in contrast: The GRID paradigm and the Cognitive Corpus Linguistic methodology

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Abstract

The GRID instrument and the corpus methodology were used in a contrastive study analyzing POWER features and fear event scenarios associated with *fear* and *strach*. Frequencies were gained from Polish and English corpora on two different *fear* event scenarios: FRIGHT [paralysing effect, Experiencer feels weak, submissive and controlled by fear], and FIGHT [active challenge, Experiencer feels powerful, dominant and in control of fear]. The metaphoric source domains of these two scenarios were also analyzed. The GRID features that had low and high loadings on the POWER dimension corresponded to the FRIGHT and FIGHT event scenarios, respectively. The two methodologies produced some interesting consistency. Most notably, it was found that FIGHT/high POWER was higher for *fear* than *strach*. Also, FRIGHT/low POWER had a relatively high degree of saliency. This pattern of results was discussed within the framework of the stable behavioral patterns that are associated with the *fear* response.

Keywords: *fear*, *strach*, corpus methodology, fright, fight, power, Polish, English

Subject: Developmental Psychology, Social Psychology

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29.1 Introduction

The present paper is a contrastive study of the English emotion *fear* and its Polish dictionary equivalent *strach*. Preliminary analyses based on the dimensional structure reported by Fontaine et al. (2007) highlighted potentially interesting differences between these two emotions on the POWER dimension. Fontaine et al. explain that the POWER “dimension is characterized by appraisals of control, leading to feelings of POWER or weakness; interpersonal dominance or submission, including impulses to act or refrain from action; changes in the rate and volume of speech; and parasympathetic symptoms” (2007: 1051). The POWER dimension is particularly relevant to fear, as the GRID features that have relatively high and low loadings on this dimension characterize two of the main fear responses that have been observed in both animals and humans: *fight* and *fright* (the third one – *flight* – will not be considered here). In this paper, we aim to demonstrate how *fear* and *strach* differ in terms of fight and fright response styles.

According to Eilam (2005), the fight response involves a direct attack aimed at the source of fear in order to dissuade it from launching its own offensive, and it occurs when it is not possible to freeze or flee. Placing the fight response in a wider human context, this response style can be witnessed whenever an individual actively confronts a source of danger. He/she then feels powerful, dominant and, if successful, in control of fear. Fontaine et al. (2007) explain that a high level of POWER is characterized by feelings of POWER, interpersonal dominance, and impulses to act. There is clear correspondence then between the fight response and high POWER.

Fright has been demonstrated in both animals and humans in a number of studies. Fisman et al. (2008) explain that fright “is a reflexive and involuntary defensive response characterized in several species by profound motor inhibition, lack of vocalization, tremors, and analgesia, with evidence of preserved awareness of the environment” (pp 193–194). Fright is a survival mechanism that is used to reduce the likelihood that a predator will continue its attack (Monassi, 1999). Human instances of fright have been described in World War I soldiers (van der Hart et al., 2000) and victims of sexual abuse (Heidt et al., 2005). In a broader context, LeDoux and Gorman (2001) explain that in more everyday situations the behavioral correlates of fright are becoming withdrawn, avoidant, and sometimes despondent. An individual with the fright response experiences a paralyzing effect and feels weak, submissive, passive, and controlled by fear. Fontaine et al. (2007) describe low POWER in terms of feelings of weakness and submission, as well as impulses to refrain from action. It is clear that fright corresponds closely to low POWER.

The results of our preliminary analyses showed that whereas *strach* was associated with relatively lower POWER, *fear* was characterized by higher POWER. This led to the more rigorous testing of the comparison between *strach* and *fear* on the POWER dimension using the GRID instrument. However, in addition to the GRID methodology, we employ a cognitive linguistic analysis of Polish and English corpus materials (Lewandowska-Tomaszczyk & Dziwirek, 2009; Dziwirek & Lewandowska-Tomaszczyk, 2010). The equivalents to low and high POWER in the corpus analysis are the fear event scenarios of FRIGHT and FIGHT, respectively (see sections 29.3, 29.4 and 29.5 below).

The two approaches employed are not mutually exclusive, but rather complementary. In what follows we will first present the results with the GRID instrument and then discuss aspects of cognitive linguistics which, combined with corpus data, provide converging and complementary results.

29.2 Semantic profiles analysis: the GRID data

Analyses were performed to compare Polish-speaking participants' ratings of *strach* (21 participants: mean age 23 years, 19 females) with British English-speaking participants' ratings of *fear* (36 participants: mean age 21.5 years, 21 females) on the GRID features that were associated with low and high POWER. First, it was necessary to identify these features. Principal component analyses performed on all the contributing languages in the GRID project has revealed that emotional representation can be divided into four dimensions (VALENCE, POWER, AROUSAL, and NOVELTY, in order of importance – see Chapter 7). Table 29.1 shows the features that loaded on the POWER dimension (with loadings in parenthesis), divided into high-power and low-power features. These are consistent with the FRIGHT and FIGHT event scenarios identified in the corpora (see below).

Table 29.1 GRID features defining the POWER dimension

Low-power features	High-power features
Decreased the volume of voice (0.749)	Increased the volume of voice (0.804)
Fell silent (0.708)	Had an assertive voice (0.749)
Felt weak limbs (0.667)	Felt dominant (0.643)
Closed his or her eyes (0.655)	Spoke faster (0.637)
Felt weak (0.645)	Wanted to take initiative him/herself (0.610)
Wanted someone to be there to provide help and support (0.625)	Wanted to act, whatever action it might be (0.550)
Spoke slower (0.624)	Wanted to be in control of the situation (0.501)
Wanted to hand over the initiative to somebody else (0.617)	Wanted to move (0.498)
Felt submissive (0.591)	Wanted to tackle the situation (0.491)
Wanted to make up for what she or he had done (0.591)	
Had a trembling voice (0.583)	
Showed tears (0.569)	
Had a lump in the throat (0.511)	

The means of the low-power features and the high-power features were determined for each subject. A 2×2 ANOVA was then performed on these means that had one between-subjects variable (language group: Polish *strach* vs English *fear*). There was also one within-subjects variable that was the dichotomization of features into low vs high POWER (POWER: low-power features vs high-power features – see Table 29.1). There was a significant main effect of POWER, $F(1, 55) = 52.22$, $p < 0.0001$. From Figure 29.1, it can be seen that low-power features were rated as comparatively more likely to occur than high-power features (means of 6.65 and 5.25, respectively). There was also a significant main effect of language group, $F(1, 55) = 6.15$, $p < 0.05$. *Fear* was associated with a higher likelihood of occurrence of the features on the POWER dimension than *strach* (means of 6.2 and 5.71, respectively). There was also a significant interaction between language group and POWER, $F(1, 55) = 10.59$, $p < 0.01$. Contrasts were performed to break down this interaction. There was a significant difference between *strach* and *fear* on the high-power features, $F(1, 55) = 12.12$, $p < 0.01$. Figure 29.1 shows that *fear* was

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relatively more associated with experiences of higher high-power ratings than *strach* (means of 5.81 and 4.7, respectively). By contrast, there was no significant difference between *strach* and *fear* on the low-power features, $F(1, 55) = 0.45$, $p > 0.05$. Both *strach* and *fear* had lower scores on the high-power features than the low-power features: $F(1, 55) = 43.48$, $p < 0.0001$, for *strach*; $F(1, 55) = 10.7$, $p < 0.01$, for *fear*. Looking at Figure 29.1, it can be seen that this difference was more pronounced for *strach* (means of 6.73 and 4.7 for low-power and high-power, respectively) than *fear* (means of 6.58 and 5.81 for low-power and high-power, respectively).

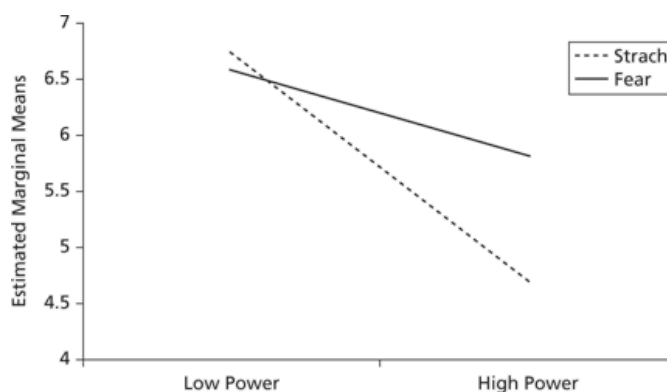


Figure 29.1 Means of *strach* vs *fear* on low and high-power features.

All in all the data suggests that both in English and Polish the concept of fear is conceptualized as involving a sense of low POWER, rather than high POWER. However, for the English participants the mean for the high-power features is higher than for the Polish participants which might mean that the Polish term *strach* is overall lower on POWER than the English word *fear*.

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29.3 Cognitive corpus linguistics analysis: Scenarios

Language materials

Instead of limiting our analysis to the de-contextualized meaning of words (like the GRID does), we also resort to large corpora of English and Polish. Such corpus-based studies describe meaning as being dependent on context, which can be uncovered by means of collocations and their frequencies and also by the conceptual environment pertaining to a word. Based on frequency of occurrence, corpus-based methods let us determine statistically which meanings are most salient.

Corpus studies are carried out most commonly by looking at words and their contexts in large collections of authentic natural language, compiled from written and oral sources. Quantitative data sets are compared to see if an observed phenomenon (e.g., a co-occurrence) is significantly more frequent than another; frequencies of lexical co-occurrences are also used for descriptive purposes and exemplification.

The materials we used come from several sources. First, we used the British National Corpus (100 million words) and a combined Longman and Microconcord corpus (15 million words) of English. Second, for Polish we used two large sources: the second demo version of the National Corpus of Polish (NKJP) (with over 400 million words at the time of the research, and still growing) and the Polish reference PELCRA corpus (93 million words), compiled at the Department of English Language and Applied Linguistics of Lodz University. Additionally, two samplers were also used: a PELCRA Polish Sampler with 14,098,028 words and an English Sampler (Combined Longman and Microconcord English data) with 14,001,641 words. Both large corpora and

both samplers are comparable in size and they cover well-balanced language materials of different genres and styles, including written and spoken (ca. 10%) conversational data.

Unlike the GRID instrument, corpus findings do not focus exclusively on nominal concepts, but can be extended to cover adjectives, adverbs, verbs, and their participial forms. This is desirable in the investigation of concepts, which can be manifested in multiple ways (e.g., the important role of prepositions in Polish or English, as in *fear of*, *fear about*, *fear from*, or *fear for* – cf. Dziwirek & Lewandowska-Tomaszczyk, 2010). However, to make them comparable to the GRID data, we only used data of the nominal *fear* and *strach* words in the present paper. We conducted automatic analyses of these word frequencies and their lexical collocations (more precisely, the verbs and prepositions that introduce them) in spoken and written texts. The search tools Wordsmith Tools and SlopeQ (<http://tnij.org/slopeq1>) were applied to generate the word frequencies and (parts of speech-sensitive) collocations. We also manually extracted contexts of relevant words and relevant metaphors (cf. Lakoff & Johnson, 1980; Lakoff & Kövecses, 1987), and annotated the axiological charge of the emotions (positive-negative) in context and their membership to FRIGHT or FIGHT scenarios. Frequencies were counted for the types of scenario and metaphor types.

Emotion Event scenarios

Emotion words, like any other, can be analyzed as isolated concepts, whose meanings can be extracted by means of questionnaires and which adequately describe prototypical emotion category members. On the other hand, one can look at emotion words as they are used in authentic language materials (spoken and written), by different speakers, in numerous contexts and infer their regular patterns of use in terms of canonical or elaborate Emotion Events (EEs). Canonical Emotion Events are patterned in terms of typical scenarios which cover states and activities and involve participants interconnected by relations in a given spatio-temporal context.

p. 429 *Fear* words participate in Events with a prototypical scenario involving two actors: a cause or stimulus of fear (see Document SM 1 for examples),² felt as a *threat* (prototypically a grammatical object), and an experiencer of fear (typically the grammatical subject). Fear relations in a fear-event can be accounted for by resorting to the concept of *force dynamics*. Force dynamics (cf. Talmy, 1988) describes the ways entities interact in an event where one of them is trying to exert *POWER* over the other using a physical (prototypically) or a mental force. Fear is conceptualized by assuming a scenario in which fear is perceived as an agonist (“doer”) and the experiencer as an antagonist. The outcome of the force dynamics depends on the balance of forces: either the agonist wins and fear overcomes the experiencer, or the experiencer succeeds and fear is conquered. Other EE participants are also potentially present in extended fear scenarios (e.g., agent, beneficiary).

We propose here that the concepts of *fear* in English and *strach* in Polish are polysemous, as the authentic corpus data we investigate show at least two senses, which can be captured in terms of two different scenarios with different reactions of the experiencer towards fear. The FRIGHT scenario (paralyzing effect, passive, the experiencer feels weak, submissive, and fully controlled by fear; examples 1–4) is expressed in the pattern *Fear overcame Experiencer* and the effect on the experiencer is paralysis. The FIGHT scenario (active challenge, the experiencer feels powerful, dominant, and in control of fear; examples 5–8) involves an active challenge towards the emotion and eventual control over it.

- 1 *Strach opanował wszystkich w mieście* (Fear overwhelmed everybody in town).
- 2 *Przez lata rządził nami strach* (For years fear ruled over us).
- 3 *Those nearest to him fell back in fear. Even Hazel could not have said a word for his life.*
- 4 *Okonkwo was not a cruel man. But his whole life was dominated by fear.*

- 5 *Skoczkowie wiedzą, że strach to jest coś, co po prostu trzeba pokonać* (Ski jumpers know that fear is something one has simply to fight).
- 6 *Zwykle podczas lotu strach rozpuszczam w podwójnym ginie z tonikiem* (Usually during the flight I dilute the fear in double gin and tonic).
- 7 *Paul fought down his fear.*
- 8 *Where East Germans conquer fear.*

A number of problems arose with the classification of the examples in the course of the analysis, connected with the nature of language and communication, and in particular with the absence of crisp inter-categorical semantic boundaries. Firstly, not all corpus examples are clear-cut instances of the category fear. In many cases, one does not experience a simple single emotion, but rather a fairly complex, or blended one. Such blended concepts or combinations of emotions occur in both languages, where emotions come in clusters, as in:

- 9 *Like Mickey Rooney staring down at him, unable to speak, trembling with fear and confusion.*
- 10 *In fear and trepidation.*
- 11 *Kipiał we mnie strach i odraza* (Fear and repulsion were boiling in me).
- 12 *Rozpacz i strach zagłusza szaleńczym treningiem szarych komórek* ([He] dampens despair and fear with mad training of gray matter).

p. 430 When two such emotions (e.g., *fear and repulsion*) are mentioned, the combination names a new conceptual/emotional space, which is composed by the two emotions named and an emergent, new conceptual structure that has a value that is different from the two component ones. The combination of *fear* and *repulsion* produces a complex emotion in which fear is not experienced consecutively before or after repulsion, but together with repulsion; both are strong and agitating emotions, and their blended experience does not happen to have a lexicalized label in Polish (or English).

We also note a number of problems with the interpretation of examples including modal and auxiliary verbs, like *he was trying to control his fear* or *he has to overcome his fear*. The former is rather consistent with the FIGHT scenario, but the latter can only be classified as a “potential” FIGHT reaction scenario. The same problems arise with questions and commands.

Negation is a different case. For example, in “*he is not paralyzed by fear*” the FIGHT scenario is not explicitly mentioned. Nevertheless, it is known from semantic analyses of negation (cf. e.g., Lewandowska-Tomaszczyk, 1996) that negative utterances are rich in presuppositional content and there is reason to assume that the example illustrates a FIGHT scenario. A force–dynamic pattern is presupposed in the negative sentence in which fear has a strong force but, against expectation, the experiencer does not yield and succeeds in defeating the emotion. This complex scene is rendered as a negated FRIGHT scenario, but a classification as FIGHT can be performed when the wider context is taken into consideration.

There is still a different problem with the experiencer’s reactions in the form of *trembling with fear* or *shaking with fear*. It is possible to be trembling or shaking with fear and still be fighting fear. But it is also possible to be trembling and shaking with fear and being inactive – i.e., FRIGHT. Such cases then, with no additional clues, cannot be unambiguously classified.

Emotion concepts, and fear among them, are frequently described metaphorically or metonymically, which uncovers additional facets of the meanings of *strach* and *fear*, not necessarily unambiguously covered in the

GRID features. The properties of such figurative uses, and in particular their source domains, are quite revealing in this respect. They merit special attention and will be described in Section 29.4.

Corpus findings

The first quantitative analyses revealed that the Polish noun *strach* is used more frequently than the English noun *fear* in the corpora consulted, but the difference is negligible (6,292 occurrences of *strach* and 6,028 of *fear*). During the next step, 1,500 *fear* and *strach* examples from each of the *fear/strach* concordances obtained from the BNC and PELCRA were randomly generated, and the concordances that describe reactions to fear in each language were manually excerpted (196 in English and 140 in Polish). In English, there were 78 FRIGHT scenarios (39.8%) and 82 FIGHT scenarios (41.8%), whereas in Polish there were 66 FRIGHT scenarios (47.1%), and 34 FIGHT scenarios (24.3%). These numbers refer to the cases that could be unambiguously interpreted (160 out of the 196 English concordances, and 100 out of the 140 Polish concordances). The remaining examples belonged either to the FLIGHT scenario (not discussed in the present chapter) or were ambiguous as to the interpretation.

The results show that whereas in Polish, FRIGHT is a more frequent scenario than FIGHT, and thus conceptually more salient, there is no significant difference between the two in English. Therefore, it could be conjectured that a (proto)typical reaction to a threatening stimulus is a *fright* response in Polish. The FIGHT scenario, however, is significantly more frequent in the English than in the Polish data. More light will be shed on this issue by the metaphoricity reported in Section 29.4.

p. 431 Collocational patterns of the fear nouns and VALENCE relations in English and Polish appear to add still another perspective to the fear concept. First of all, collocational patterns reveal typical causes of English *fear*, as reflected by the pattern *fear of* in the English Sampler. They include (*fear of*) *losing, God, consequences, the unknown, men, the future, failure, death, life, revolution, man, pain, the British, and POWER* (see Table SM 1 for more details). It is interesting to note that written corpus data (particularly recent press articles from 2006–2009) include *crime, debt, violence, crisis, and unemployment* as directly neighboring the frequencies obtained for “(*fear of*) *death*.” A full list of causes observed in the comparable Polish sample can be found in Table SM 2. The first 10 are *death, pain, life, Russia, blood, the night, Germans, love, war, and master/God*. Some of the causes, in particular those with the highest frequencies, overlap in both languages. They correspond to more universal concepts such as *death, pain, or the future*. Others, like *communism, war, Russia, and Germans*, appear more frequently in the Polish data. While one cannot identify significant differences over such a fairly small set of data, the results may be interpreted against the historical background of the communities using the two languages.

p. 432 The collocational patterns of *fear* and *strach* with other emotion terms uncover the most salient chains or clusters of emotion senses (see Table 29.2). One of our assumptions here is that meanings of emotion words are very difficult, if not impossible, to discreetly dissect into crisp notions. Instead, we think that such meanings overlap in some of their aspects and dimensions. Therefore, when people use language, they will have a tendency to mention a number of emotions in a row to convey an enriched and fuller description of their feelings to the interlocutor. Alternatively, some emotions appear as an integrated, blended concept whose input emotions may contain opposing features, as in *love and fear* (see Turner & Fauconnier (1998) for the concept of blending).

Table 29.2 Collocations of “fear” and “strach” with other emotion terms in the English and Polish samplers

Word	N° Texts	Total	Word	N° Texts	Total
ANGER	5	21	WSTYD “shame”	10	14
ANXIETY	4	21	LEK “anxiety”	11	13
GUILT	4	18	ROZPACZ “despair”	8	12
HATRED	4	12	NIENAWISĆ “hate”	7	12
JEALOUSY	3	10	NIENAWISCI “hate” [Gen]	6	10
PITY	3	8	RADOSCI “joy” [Gen]	10	10
PANIC	3	7	RADOSĆ “joy”	6	8
DESIRE	3	7	NIEPEWNOSĆ “uncertainty”	6	9
SHOCK	3	7	WOLNOSĆ “freedom”	6	9
LOATHING	2	6	NIEPOKÓJ “uneasiness/anxiety”	7	9
HORROR	2	6	ODPOWIEDZIALNOSĆ* “responsibility”	6	8
RAGE	1	6	OBAWA “weaker fear”	6	8
AGGRESSION	2	5	NIECHĘĆ “unwillingness”/“resentment” [Gen]	5	7
GREED	4	5	MIŁOŚĆ “love”	5	7
DISTRESS	2	5	ŻAL “sadness, yearning, longing for”	6	7
TERROR	3	5	CIEKAWOŚĆ “interest”	4	6
RESPECT	4	5	PRZERAZENIE “horror”	4	6
			ROZPACZY “despair” [Gen]	5	6
			NIECHĘĆ “unwillingness”/“resentment” [Gen]	5	6
			NADZIEI “hope” [Gen]	5	5
			PONIZENIA “humiliation” [Gen]	4	5

Note: [Gen] Genitive

One last observation refers to the higher incidence of positive emotions and attitudes in the emotion-word collocations of Polish *strach* compared to English *fear* (e.g., *wolność* “freedom,” *radość* “joy,” or *strach i nadzieja* “fear and hope”).

29.4 Corpus and cognitive linguistic analysis: conceptual metaphors

Although fear and other emotions are experienced by every human being, we believe that their meanings are not effable for explicit semantic characterization by means of necessary and sufficient properties of a given sense. Moreover, cross-linguistic comparisons show also that what is a fairly crisp concept in one language may be considered a blended notion in another (see Turner & Fauconnier, 1998; see also Chapter 36). However, the Principle of Effability, first proposed by the philosopher Katz (1978: 209–216), assumes that any thought a person can have “can be expressed by some sentence in any natural language,” so any thought expressed in one language can also be expressed in another. Our position in this respect is rather that parts of the meanings of emotion concepts are accessible via behavioral and experiential properties and conceptualized not as direct meanings but as networks of different kinds of meaning via figurative, frequently, metaphoric forms.

Therefore, while we accept and use a meaning description in terms of component features, we also make an attempt to enrich them with the analysis of *mental imagery* expressed in language, predominantly in terms of figurative uses, which frequently involve metaphor. Here we make use of the notion of conceptual metaphor as put forward in cognitive linguistics (see Chapter 4). Conceptual metaphor is a cross-domain mapping in which a conceptual domain is understood as a mental structure of related concepts capturing a body of knowledge. In conceptual metaphors, one of the domains (the “target domain”) is understood in terms of another (the “source domain”), which is usually more basic and physically grounded. The source functions as a mapping site for a given target domain. For example, the linguistic metaphor *Tom is a lion* is based on a conceptual metaphor in which the source domain of lions—which includes the wide concept of lions, their looks, behavior, habitat, associations, and evaluation—constitutes a mapping site for the conceptualization of Tom’s courageous behavior (the target domain). Emotions too can be mapped onto by a number of source domains, some of which apply to the notion of fear. According to our data, fear can be conceptualized as an opponent or enemy (*fighting against fear*), dirt (*I’m fasting to cleanse myself of fear and helplessness*), a ruler (*a dominion of fear, regime of fear*), an unwanted guest (*fear knocks at my door*), a winner (*fear overcame me*), or a defeated agent (*he killed the fear*).

Emotions can also be represented metonymically. Metonymy foregrounds areas of contiguity or inclusion between two domains. One illustrative example of metonymy is a *pars pro toto* or part-for-a-whole relation, in which one word or phrase is substituted for another with which it is closely associated (such as *crown* for *royalty*, *skirt* for *woman*, *the White House* for *the US presidency*). In the realm of fear, metonymy can be seen in expressions that refer to the physiological effects of the emotion, like *shock of fear*, or in complex metaphor-metonymy scenarios where what is exploited are both processes (metaphor and metonymy), as in “*the failure nevertheless sent a shiver of fear through both markets and the Treasury*,” in which a *shiver of fear* is part of the bodily reactions to fear (metonymy). The whole scene is metaphoric, involving a *failure* conceptualized as an agent that *sends* an object (*fear*), possibly an instrument, which is likely to be sharp (and dangerous) and goes *through* (i.e., affects rapidly and violently) the entire object, *markets and the Treasury*.

All the figurative expressions around the lexemes *fear* and *strach* can also be profitably analyzed as instances of the FRIGHT or the FIGHT scenario. Examples of the figurative FRIGHT scenario in Polish and English include the following phrases (for more examples from the corpora see Document SM 2): *umierał ze strachu* (was dying of fear), *dusi ją strach* (fear strangles her), *tortured by fear*, *a straitjacket of fear*, etc. Some figurative examples of FIGHT scenarios in Polish and English include *zagtuszył strach* (he dampened fear), *oddalił strach* (he sent his fear away), *przełamał strach* (he broke fear), *to choke back fear*, *defeat fear*, or *conquer fear*.

The analysis of the figurative expressions in our corpus data reveals that the majority of metaphor source domains are identical in both languages. For the FRIGHT scenario, the main domains used are sickness (madness, paralysis), death, temperature (freezing, cold), immobilization, rule and control. The predominant source domains with reference to the FIGHT scenario come from physical fighting and killing. Other domains involve occasional reference to bodily processes such as swallowing, or physical covering, breaking, and generally destroying.

A more detailed analysis of the metaphors reveals a frequent use of the processes of personification, reification, and spiritualization. In personification *fear* is conceptualized as an animate (human) agent acting upon the passive experiencer (as in *consumed by fear*, *dominated by fear*, *silenced by fear*, *locked by fear*), or where the experiencer is active and *knocks out* fear or *conquers* it. In reification, *fear* is considered an object or an instrument (as in *spit the fear* or *swallow fear*), a medical condition, or a wound (e.g., *to be weakened with fear*). Finally, in spiritualization, fear has a ghost-like nature, as in *possessed by fear* or *haunting fear*. In all cases, the metaphors convey an image of fear affecting the experiencer in the first phase, with possible FRIGHT (and *surrender*) or FIGHT (and *combat*) outcomes.

In sum, there are two co-operating figurative phenomena: (a) a metonymic representation of the emotion in terms of its effects (either potentially real – e.g., shaking – or fully metaphorical – e.g., dying) and (b) a metaphorical representation of the emotion, the most frequent of which is fear as a personified agent against which the experiencer has to fight. In this case, the struggle for emotion regulation can be won by the person (FIGHT scenarios) or by the emotion (FRIGHT scenarios).

Finally, we will look at the frequency of figurative vs literal expressions in FIGHT and FRIGHT scenarios in our Polish and English data (a random selection of 1,500 sentences containing the words *strach* and *fear*, respectively) and the number of figurative types observed (total number of different metaphors or metonymies). This can give us an idea of the relative centrality of FRIGHT and FIGHT reactions associated with *fear* and *strach*. In Polish, we identified 66 instances of FRIGHT sentences, of which 35 were non-figurative and 31 were figurative (the latter comprised 14 different types of figurative scenarios), and 23 FIGHT sentences, of which five were non-figurative and 18 were figurative (the latter comprised nine different types of figurative scenarios). For English, in 78 instances of FRIGHT sentences, there were 33 non-figurative and 45 figurative cases (the latter comprised 22 different types of figurative scenarios), and in 82 FIGHT sentences, there were 38 non-figurative and 44 figurative cases (the latter comprised 10 different types of figurative scenarios). The type-token ratio between the number of figurative uses and their types is shown in Table 29.3 (a full inventory of all figurative scenarios for FIGHT and FRIGHT in Polish and English in our data – a random 1,500 sentence selection – can be found in Document SM 2).

Table 29.3 Type-token relationship between fright and fight in Polish and English

	Polish	English
FRIGHT	31 examples – 14 types	45 examples – 22 types
	(2.2 tokens per 1 type)	(2.0 tokens per 1 type)
FIGHT	18 examples – 9 types	44 examples – 10 types
	(2.0 tokens per 1 type)	(4.4 tokens per 1 type)

The numbers suggest that the paralyzing effect of fear (i.e., FRIGHT) can be possibly considered the most salient scenario for this emotion (over FIGHT responses) for both Polish and English. FRIGHT has almost twice as many different figurative scenarios than FIGHT in both languages, and its type-token ratio is almost identical in them. However, the FIGHT number of instances is higher in English (44 tokens) than in Polish (18 tokens).

29.5 Cognitive corpus interpretation versus GRID data

The comparison of the two methodologies revealed some interesting consistencies. From Table 29.4, it can be seen that the significantly higher ratings on the high (vs low) POWER GRID features of *fear* (mean, 5.81) in comparison with *strach* (mean, 4.7) is congruent with the corpus results, where FIGHT is also more salient for *fear* (41.8%) than *strach* (24.3%) (see Section 29.3 for details of what the percentages refer to). Additionally, both methodologies reveal a more marked Polish preference for low (vs high) POWER reactions. This is shown in the GRID, where the mean difference for low and high-power features in Polish (means of 6.73 and 4.7, respectively) is larger than in English (means of 6.58 and 5.81, respectively). And this effect is even more salient in the corpus results: while the frequencies of FRIGHT and FIGHT scenarios are about the same for English *fear* (39.8% and 41.8%, respectively), FRIGHT is almost twice as frequent as FIGHT in Polish *strach* (47.1% and 24.3%, respectively). In sum, FIGHT/high POWER is higher (than FRIGHT/low POWER) for *fear* than for *strach*. And FRIGHT/low POWER is more salient (than FIGHT/high POWER) in *strach* than in *fear*.

Table 29.4 Comparison of the corpus and GRID results

	Fear	Strach
Corpus Methodology – FRIGHT Scenario (%)	39.8	47.1
Corpus Methodology – FIGHT Scenario (%)	41.8	24.3
GRID Methodology – Low-power features (means)	6.58	6.73
GRID Methodology – High-power features (means)	5.81	4.70

A word of caution regarding the reaction type frequencies (i.e., FRIGHT vs FIGHT) should be added in connection with the corpus methodology. Corpora have their limitations. There are tools available to generate frequencies of individual items and phrases, concordances with expanded contexts, collocations, and keywords. There are also encouraging results of automatic metaphor identification (e.g., Stefanowitch & Gries, 2007). However, when it comes to semantic and pragmatic annotations of meanings in use, particularly in large corpora, adequate corpus tools are practically in *statu nascendi*. This is especially relevant to our discussion of the FRIGHT and FIGHT scenarios. As indicated above, it is not always possible to automatically determine (at least not to the extent needed for the sake of an over-one-billion-item corpus) whether the use of an item, phrase or sentence is unmarked or marked, whether it is jocular, ironic, used as pretence, or whether it is entirely neutral and unmarked. Furthermore, some of the descriptions of the reactions do not refer to the Polish or English experiencers and may involve references to people of different national or ethnic backgrounds. When discussing frequencies of *fear* reactions then, one has to be careful in the interpretation of the data. That was also the reason why we decided to apply manual identification of the fear reactions and used, for the time being, only a small amount of data.

29.6 Discussion and conclusions

The GRID methodology proves to be a powerful tool suitable for the cross-linguistic comparison of emotion words. It focuses on concept prototypes and indicates areas of overlap and divergence. The Cognitive Corpus analysis of the material on the other hand provides additional insights in the cross-linguistic construction of emotions.³

Our aim of comparing the corpus and GRID methodologies on the responses associated with *strach* and *fear* is only valid insofar as these responses are equivalent in both methodologies. Looking at Table 29.1, it can be seen that the characteristics of the FRIGHT event scenarios (paralyzing effect, passive, the experiencer feels weak, submissive, and fully controlled by fear) are present in the low-power features in the GRID instrument. Likewise, the high-power features in the GRID are consistent with the characteristics of the FIGHT event scenarios (active challenge, the experiencer feels powerful, dominant, and in control of fear).

It is also important to acknowledge that this part of our research relates to conceptualization and semantic content, that is, how people represent things through language; but we cannot extrapolate to how a Polish person actually feels in comparison to an English person when they say they feel *fear/strach*. It is beyond the scope of this chapter to provide a detailed explanation of the reasons underlying the pattern of results reported here. However, with an eye on future studies it could be hypothesized that the relatively higher FIGHT/high POWER associated with *fear* compared to *strach* is due to *fear* being a weaker emotion than *strach*. If this is true, in our mental representation of the emotions, individuals experiencing *fear* vis-a-vis *strach* would be more likely to display a greater degree of dominance, POWER and activity as they overcome a fearful event. Conversely, the relatively greater FRIGHT/low POWER shown by *strach*, which was especially evident in the corpus data, could point to its relative greater intensity over *fear*, suggesting that individuals feeling *strach* are represented as more passive, weak and submissive than those described as feeling *fear*. This reasoning is consistent with proposals that it is the distance from a predator or danger that determines the type of fear response. For example, the “distance-dependent defense hierarchy” (Gallup, 1974; Ranter, 1977) explains that a moderately close predator induces fleeing, and that fighting occurs in response to an even closer predator/danger, where the intensity of the emotion should be higher, as the danger is more imminent. Bracha (2004) further explains that the fright response occurs when flight or fight are no longer an effective option, suggesting that the predator/danger is very close, even closer than in the scenarios in which fight can be effectively used. Mapping our results onto this pattern, it would seem that *strach* is associated more than *fear* with an imminent or close source of danger. Further work is necessary to test these predictions.

The proximity of the predator or danger is also relevant to determining whether FIGHT and FRIGHT should be considered as separate scenarios or as the same event but separated by points in time. Clearly, an organism can adopt different fear response behaviors depending on the proximity of the threat. However, these different behaviors should not be seen as following a causal pattern, as each to a large extent is dependent on the external situation (i.e., the proximity of the source of danger). Further evidence for viewing *fear* responses as separate scenarios comes from results showing that different fear responses are associated with different neurological structures (Eilam, 2005).

p. 436 It is clear that future work is needed to evaluate more fully the role of the third possible response, fleeing (FLIGHT), in our conceptualization of fear. FLIGHT constituted a fairly large proportion of fear reactions in the corpus data we investigated in both languages. The inclusion of FLIGHT would enable us to gain a more comprehensive understanding of the differences in how *fear* and *strach* are conceptualized.

The results obtained from the two sets of data support the claim that the two research methods are complementary. The GRID methodology accounts mostly for prototypical category members and presupposes the cross-linguistic equivalence of general categories. The Cognitive Corpus method is a combination of a quantitative approach, which analyses frequencies of use of linguistic units, and large amounts of heterogeneous linguistic material, and it provides valuable insights on individual linguistic units as well as on their relations with any of the potential cross-linguistic equivalent candidates. The methods employed together provide instruments to gain a better understanding of how emotions are conceptually represented across languages and cultures. The GRID instrument allows us to compare more precisely cross-linguistic differences in the native speakers’ models of the prototypical meanings of emotion words and uncover the differences in their profiles and dimensions (in this case, POWER for *fear* and *strach*). Cognitive linguistic tools

uncover similarities and differences in cross-linguistic and cross-cultural conceptualizations of members of the same emotion cluster and show both their universal core as well as language-specific differences. What has also been presented is a distinct composition of EEs, particularly from the point of view of the instantiation of the semantic roles of particular event participants. Corpus data and the frequency counts signal the typicality of certain structures and uses, and the marginality of others. It can thus be concluded that both approaches are not only compatible, but also complementary.

Notes

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- 2 All supplementary materials (SM) are available at the GRID website: <http://www.affective-sciences.org/GRID>. See Appendix 1 (“Availability”) for further details.
- 3 See Wilson (2012) for other studies employing the Cognitive Corpus methodology and other methodologies in cross-linguistic analyses of emotions.