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How to cite

SORIANO, Cristina. Linguistic theories of lexical meaning. In: Components of emotional meaning: A sourcebook. J.J.R. Fontaine, K.R. Scherer & C. Soriano (Ed.). Oxford : Oxford University Press, 2013. doi: 10.1093/acprof:oso/9780199592746.003.0005

This publication URL: https://archive-ouverte.unige.ch/unige:98105
Publication DOI: 10.1093/acprof:oso/9780199592746.003.0005

Chapter 4

Linguistic theories of lexical meaning

Cristina Soriano[1]

4.1 Introduction

Emotion is a multifaceted phenomenon affecting many and varied areas of human experience, which calls for a multidisciplinary approach in its investigation. The GRID project presented in this volume offers one such approach, integrating psychological, anthropological, and linguistic insight into a unified research agenda. Previous chapters have contextualized the GRID from a number of disciplinary orientations relevant to the paradigm, but since the study is first and foremost a linguistic one, given that it aims to describe the meaning of emotion words across languages and cultures, the goal of this chapter is to provide a theoretical framework for the paradigm and an explanation of its contribution from the point of view of linguistics and, more specifically, lexical semantics. The approach will also be compared with other methodologies available in the field for the study of lexical meaning. Among them the GRID is the only paradigm specifically designed to describe the meaning of emotion terms.[2]

The chapter is divided in two sections devoted to theories and methodologies, respectively. In the first one, we give an overview of three main areas of concern in lexical semantics and how they have been addressed by modern theories of lexical meaning. This will allow us to point out the advantages and disadvantages of each theoretical stance for the study of emotion, as well as to identify which one lends itself better to interdisciplinary research. In the second section, we give an overview of four of the most productive methodologies currently employed in the study of emotion term semantics. This will be important to identify in what sense and to what extent the GRID methodology can complement already existing approaches to the study of emotion words.

But before we proceed, two caveats need to be considered. First, this chapter focuses on the meaning of lexical units. Larger units of meaning, like the phrase or the sentence, will not be dealt with. Second, we will focus on *decontextualized* meaning, that is, off-line semantic representation. These two decisions are based on the nature of the GRID paradigm itself, designed to investigate the meaning of decontextualized lexical units (see Chapter 5).

4.2 Issues in lexical semantic theories

Although word meanings have been discussed in Western literature since antiquity, lexical semantics only evolved as a discipline in the 19th century (Paradis, 2012). Various schools of thought

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[2] Emotion words and emotion terms are used as synonymous expressions in this chapter. They refer to lexical labels like the English *love*, *fear*, or *anger*.

in linguistics since then have provided different answers to the two basic questions in the field: what is lexical meaning and how is it best studied. According to Dirk Geeraerts (2002, 2009), four main theories or schools of lexical semantics can be distinguished. The first is the pre-structuralist school, represented by the work of Brèal, Paul, Sperber, or Stern, interested in historical semantics. The second, governing most of the 20th century is the structuralist school, spurred by the work of Saussure and represented by Trier, Weisberger, Pottier, or Lyons, as well as by their contemporary "neostructuralist" heirs (like Coseriu, Cruse, or Halliday). Structuralists and neostructuralists view language as a system of interdependent constituents and are interested in the syntagmatic (i.e., combinatorial) and paradigmatic (i.e., substitutional/oppositional) relationships between the words in the language system. Toward the end of the century, the third school developed under the influence of Chomskian linguistics; it was the generativist semantic school represented by Katz and Fodor (Katz & Fodor, 1963), which has found continuation in the "neogenerativist" works of Pustejovsky and to a certain extent Jackendoff (see Geeraerts, 1997, 2002). Generativist semantics relies on the notion of (universal) rules that the speaker of a language needs to master to construct and decode meaning in a unit (e.g., rules for semantic extensions from core meanings). Finally, the cognitive school emerged in the late 1970s and 1980s, with the works of Fillmore, Lakoff, and Johnson on semantic/conceptual representation.

These schools reflect different concerns in linguistic research and, consequently, different conceptions about the nature and organization of word semantics. In order to review in more detail the definition and description of lexical meaning endorsed by each theory, we will organize the discussion around three issues addressed by each of them (cf. Geeraerts, 2002):

1 the nature of lexical meaning itself (the scope of linguistic meaning and its cognitive status)
2 the temporal frame in the study of lexical meaning
3 the preferential object of study in lexical semantics.

According to Geeraerts (2002), the last two are dimensions articulating lexical semantic research at large. In his view, a third dimension would be the interest that different scholars assign to referential vs non-referential types of meaning, that is, to the study of the denotation (concepts and referents) vs connotation (associated values) of words. Such dimension is not included in this chapter because the GRID instrument was designed to investigate denotation, not connotation. Studying non-referential aspects of meaning, like the affective connotations associated to everyday words, informs us of how language "expresses" emotion, rather than how language "represents" emotional experience by means of specific emotion labels (cf. Foolen, 1997, 2012; Grondelaers & Geeraerts, 1998; Reh, 1998), and it is only the second issue the GRID paradigm is interested in. Additionally, as Geeraerts himself explains, "non-referential types of meaning (like the emotive or stylistic value of words) have never occupied a central position within the actual research activities of lexical semanticists" (p. 8).

In the following sections we will describe the position of each theory/school with respect to issues 1–3 introduced above, and illustrate them with studies on the meaning of emotion words. We will also highlight the advantages and limitations of each approach in the context of interdisciplinary research.

The nature of meaning

A first aspect of lexical semantics cutting across different theories is the relationship between semantic and conceptual content: are they the same, related, or intrinsically different? This is one of the most debated issues in linguistics and a full consideration of its implications exceeds the scope

of this paper (but see e.g., Nuyts & Pederson, 1997, for an introduction). For that reason here we will merely provide a brief account of the two main positions, how they relate to the various schools in lexical semantics, and their main implications for emotion research.

Two main stances can be adopted with regard to the relationship between semantic and conceptual representation. The first one contends that semantic meaning need not be the same as conceptual representation and should not be treated in the same way. This confers true disciplinary independence to linguistics, an ideal of the structuralist paradigm, which pursues the study of linguistic units only with respect to other linguistic units, explicitly refusing to make use of "non-linguistic" constructs like conceptual representation and extralinguistic reference to explain the meaning of words. The speaker's knowledge of the world is considered independent from the language system. Structuralist approaches would sustain that meaning depends on intra-system oppositions and the range of combinatorial possibilities that a word can entertain with the rest of the words in the language system. That is to say, the description of meaning can only be done in the framework of grammatical templates. For example, the meaning of the word *anger* should be defined by establishing which other words could occupy the same slot in a sentence, and which words it can combine with. The main problem with this approach is that studies that define meaning strictly by means of intra-system relations cannot say anything about the ability of a language to represent the world, although it is experientially obvious that languages allow us to communicate about and interact with the external reality we inhabit. As Anolli puts it: "knowing that *zeffo* is the opposite of *zoffo*, a pejorative of *zaffo*, and the superlative of *ziffo* does not enable anybody to know the meaning of *zeffo* at all" (2005: 29).

Unlike structuralism, the generativist approach thinks of linguistic categories as psychological entities, but linguistic skills are nevertheless considered different from other cognitive skills and processes. Chomsky (1980) defends the existence of autonomous "cognitive modules" with system-specific principles, the linguistic module being one of them. For this reason, according to the generativist school, semantic representation should be described independently of other forms of conceptual representation. Therefore, the goal in generativist lexical semantics is to create an independent logical formalism to describe word meaning and its generation (a formalized grammar of meaning). This is mostly pursued through semantic feature decompositions: identifying the conceptual units (e.g., Place, Manner, Action, Event, Thing, Property, Cause, etc) out of which the meanings of linguistic items are built and the rules that combine them. The ultimate goal is to create predictive models susceptible of being implemented computationally.

An alternative position, defended by the cognitive approach (and coherent with the pre-structuralist school), submits that lexical meaning *is* conceptual representation, and is therefore affected by the same mechanisms and principles studied in psychology for other mental abilities like categorization and perception. The approach also implies that linguistic categories are particularly privileged as a "source of information" on conceptualization (Pederson & Nuyts, 1997: 4), although not all concepts are lexical, and important questions remain open, like whether conceptualization is derived or at least heavily influenced by language (the Sapir-Whorf hypothesis), or the other way round.

Another feature of the cognitive paradigm is that meaning is thought to be "encyclopedic," rather than "dictionary-like"; that is, word meaning is believed to reflect world knowledge, as opposed to a limited number of minimal and sufficient features of the sort one would find in a dictionary entry. The latter is the view of meaning endorsed by the structuralist and generativist schools. The reason for an encyclopedic view of meaning is that meaning in the cognitive paradigm is not understood as something self-contained in the word, but rather dependent on large networks of knowledge cued by the use of the word, which can be differentially activated depending on the context of use.

From the previous discussion it transpires that interdisciplinary communication between psychology, anthropology, and linguistics is better developed within the cognitive paradigm, where lexical meaning is seen as conceptual representation. Without this basic stance, linguistic categories and their relations could not be expected to reveal anything about the way we represent the world. Another advantage of the cognitive paradigm for interdisciplinary communication is that the view of meaning as encyclopedic world-knowledge can account for the role of culture in shaping and changing word meanings, as illustrated by Lakoff's (1987) seminal study on radial categories and how culture shapes categorization.

The temporal frame in the study of lexical meaning

This section looks at the two temporal frameworks that the study of lexical meaning can adopt: synchronic and diachronic. *Synchronic* studies investigate the current meaning of words, whereas *diachronic* studies focus on the evolution of their meaning. Each school of thought in lexical semantics has adopted a different temporal framework.

Modern linguistics starts with the pre-structuralist school's focus on diachronic semantics, that is, with an interest in etymology and the reasons why word meanings change over time (Geeraerts, 2002: 23–24). This interest in temporal processes is strongly contested by the structuralist school, which advocates a change of focus from diachronic to strictly synchronic phenomena. Their goal is to make linguistics a science, which, in their opinion, requires the study of meaning to be circumscribed to the observable phenomena taking place "here and now." The focus on synchronic phenomena is also shared by the generativist school, and it is only with the development of cognitive linguistics at the end of the 20th century that diachronic studies have flourished again.

The two temporal approaches are not mutually exclusive, though. It is generally accepted that both accounts of meaning are useful and complementary. Even if one is only interested in the current meaning of words, looking back at their semantic evolution is highly desirable because "the more or less coherent sets of concepts that cultures use to structure experience and make sense of the world are not reinvented afresh with each new period in the culture's development. [. . .] It is only by investigating their historical origins and their gradual transformation that their contemporary form can be properly understood" (Geeraerts & Grondelaers, 1995: 176; cited in Gevaert, 2002: 275).

An example of diachronic research on emotion words is Gevaert's (2002) investigation of the concept ANGER[3] in Old and Middle English. She explains how the conceptual domain of ANGER in both periods is fairly stable, but a Latin influence can be observed around the years 850 to 950 because of a strong biblical influence, whereas a return to more Germanic concepts takes place between 950 and 1050.

Another example of the diachronic orientation in emotion lexical semantics from a cognitive linguistic perspective is Tissari's work on the semantic evolution of the lexemes *affection*, *friendship*, *passion*, and *charity* in English since the fifteenth century (Tissari, 2001). Tissari explains how the semantic changes are due to general cognitive processes of generalization and specialization, as well as metonymic and metaphoric thinking (see "Conceptual metaphor and metonymy" in Section 4.3 on the latter two concepts). For example, the word *passion* in Early Modern English used to refer to a strong emotion for which the symptoms were often explicitly described; on the

[3] In the remainder of this chapter, italics are used for specific lexemes in a language (e.g., English *anger*) and small capitals for the overall concepts (e.g., ANGER), which can have several lexicogrammatical instantiations (e.g., *anger, to annoy, furious*, etc).

contrary, the current use of the term is mostly concerned with emphasizing intensity at the expense of a specific characterization of the emotion. Tissari suggests this semantic development is metonymy (PART FOR WHOLE) because one of the original components of the meaning of the word (i.e., "intensity") becomes foregrounded and takes up most of the space in the current meaning of the word. Tissari also describes the secularization of the term, which used to be heavily associated to Christ's suffering, but has currently acquired the new sense of "loving *things* intensely" (e.g., *a passion for opera*), a sense that was absent in Early Modern English.

In spite of the recent interest in diachronic studies, most modern works on emotion lexical semantics adopt a synchronic approach. Indeed, all studies referred to in the remaining of this chapter illustrate this orientation, so no specific example is necessary at this point. Although both temporal frameworks are useful and could be said to complement each other, for the sake of interdisciplinary collaboration a synchronic approach may be preferable. The reason is that linguistic studies of the *current* meanings of words can be immediately compared with the work from psychology or neuroscience, whose findings are necessarily time-bound to the features and circumstances of the current speakers of a language.

The preferential object of study in lexical semantics

A third transversal topic of concern in modern lexical semantics is the orientation in the study of meaning. In other words, how should the relationship between conceptual/semantic domains and the meanings of specific words be tackled? Should we study how concepts are labeled, or rather focus on the meaning of specific words? Studies that focus on how the lexis of a language captures a given concept or area of semantic space are said to adopt an *onomasiological* approach, from the Greek noun *ὀνομα*, "name" (since one focuses on the "names" that a language has for conceptual entities). On the contrary, studies that focus on the characterization of the meaning of specific words adopt a *semasiological* orientation, from the Greek word *σημασία*, "meaning."

As in the previous case, the approaches are not mutually exclusive, and the different theories in lexical semantics mostly reflect a degree of preference for one or the other approach, rather than an absolute commitment to any of them. According to Geeraerts (2002), the pre-structuralist and neogenerativist schools are mainly characterized by a semasiological orientation, while the rest endorse an eminently onomasiological approach (although cognitive semantics can be said to commit to both). In what follows we illustrate a few types of semasiological and onomasiological studies of emotion terms.

Semasiological studies of emotion terms

Linguistic research with a focus on the meaning of words (semasiology) concerns itself with issues like the number and types of meanings (i.e., senses) a word can have and the relationships between them. That is to say, typical semasiological studies look at polysemy (the fact that words may have several related meanings) and word meaning structure.

The study of polysemy applied to emotion words tells us, for example, that in many languages the names of body parts and body substances are used to refer both to the body and to certain affective states (Enfield & Wierzbicka, 2002; Sharifian, Dirven, Yu, & Niemeier, 2008). A good example is the English noun *bile*, which refers both to the secretions of the liver and to anger (cf. Geeraerts & Grondealers, 1995 for an account of bile-anger in the framework of the Medieval physiology theory of the "four humors"). Another example is the word "heart," which is cross-culturally considered one of the most typical metaphorical seats of emotion (e.g., Kövecses, 2000; Taylor & Mbense, 1998; Yu, 1995).

A second type of semasiological study is the description of the semantic structure of words. This is classically done by means of semantic features—a concept developed by the structuralist school. For example, *man* can be decomposed into the features "animate" + "human" + "male" + "adult" (cf. e.g., Jackendoff, 1983, Chapter 7 for a review of feature-based theories of meaning). Notice, however, that although the notion of "feature" is useful for semantic analysis, it is a matter of open debate whether lexical meaning can be reduced to a limited set of *necessary and sufficient* features or conditions capable of distinguishing the meaning of a word from any other in the system. The structuralist school defended this idea, also endorsed by generativists like Katz (1966: 72–73, Katz & Postal, 1964) and Fodor (Katz & Fodor, 1963). Another supporter is the anthropological linguist Anna Wierzbicka (e.g., 1972, 1996), who defends the existence of a limited number of semantic universals that can be used as metalanguage to describe the meaning structure of any word, including emotion terms (see "Natural Semantic Metalanguage" in Section 4.3 for details on this approach). The same idea is implicit in the work on the emotion lexicon by some emotion psychologists. For example, for Johnson-Laird and Oatley (1989) HAPPINESS, SADNESS, FEAR, ANGER, and DISGUST are emotional primitives (non-decomposable semantic concepts) used to build the remaining emotion categories in a language by adding propositional content to them. In their account, *disappointment* could be defined as "sadness by a failure to achieve a goal" (Ibid, p. 112) and *relief* as "happiness as a result of something that brings to an end fear or sadness" (Ibid., p. 118).

Other works in psychology remain agnostic about the existence of sufficient and necessary conditions for category membership in the affective lexicon (Ortony, Clore, & Foss, 1987), while this possibility is explicitly denied in studies endorsing a prototype approach (e.g., Fehr & Russell, 1984; Russell & Fehr, 1994). The same idea would also be rejected by neogenerativist linguists like Jackendoff (1983) and above all by cognitive semanticists (e.g., Taylor, 1995). For Jackendoff certain meaning features are necessary, but they are not sufficient, because another parameter is needed to represent meaning: preference rules (like the rules that govern gestalt perception). Cognitive semantics in turn rejects the existence of necessary and sufficient conditions on the grounds that meaning is organized in terms of prototype structures with fuzzy boundaries, containing more and less typical or defining features for any given word, none of which are *necessarily* indispensable, nor sufficient, to define the meaning of the term. This position is supported by the observation that most features central for the meaning of a word can be negated or cancelled without significantly changing the meaning of the unit (see, for example, Geeraerts' (1989) analysis of the English word *bird*). Consider, for example, the emotion concept ANGER. The perception of injustice seems to be a recurrent feature in the experience of the emotion (Mikula, Scherer, & Athenstaedt, 1998). Yet, the feature is not necessary for all the variants of the emotion, like *irritation* or *annoyance* (we can be *irritated* or *annoyed* about something that is not intrinsically unfair, but simply tedious). The existence of prototype representation does not preclude the possibility that, occasionally, there may be "essential" or "constitutive" features shared by all members of a category (cf. e.g., Cruse, 1986; Violi, 2001; Teroni & Deonna, 2008).

Whether a universal set of necessary and sufficient features exists that is capable of defining *emotional* meaning in particular is a matter of empirical research that still requires investigation within linguistics (but see Shaver, Schwartz, Kirson, & O'Connor, 1987; Fehr, 1988; Fehr & Russell, 1984; Russell & Fehr, 1994 for a psychological account). Additionally, to our knowledge, no works exist to date within linguistics adopting a prototype perspective of the sort described above to study the meaning features of emotion terms in the same category (e.g., the place of English *rage* vs *indignation* vs *irritation* within a prototype broad ANGER category, and the patterns of features responsible for their relative position within the prototype).

Onomasiological studies of emotion terms

In the study of emotion, an onomasiological approach (i.e., a focus on the wording of concepts) concerns itself with relationships of similarity, hierarchy and, in general, interdependence between the words in a given domain. For example, within the structuralist/neostructuralist tradition, the approach is illustrated by studies on paradigmatic semantic (dis)similarity (i.e., synonymy, antonymy), paradigmatic semantic relations (e.g., hyponymy, hyperonymy), and syntagmatic relations and restrictions (Geeraerts, 2002). Synonymy refers to (near) equivalence in meaning (e.g., *good* ≈ *positive*). Antonymy refers to oppositions in meaning (e.g., *good* vs *bad*). Hyponymy and hyperonymy are category-inclusion relationships. For example, *anger* would be a hyponym of *emotion* (i.e., a more specific kind) and *emotion* would be a hyperonym of *anger* (i.e., a more generic, overarching category including *anger*). The onomasiological approach, with its interest in similarity and hierarchical structures, also characterizes psychological studies of the emotion lexicon based on word similarity ratings, cluster analysis, and hierarchical modeling, which aim to reveal the underlying structure of the affective domain (see Chapter 2 for examples).

A good example of onomasiological research within linguistics is Miller & Fellbaum's *WordNet* Project (Fellbaum, 1998). WordNet is an online lexical database in which English nouns, verbs, adjectives, and adverbs are grouped into synonym sets or "synsets" representing the same overarching lexical concept (e.g., the lexical items *anger*, *choler,* and *ire* are grouped into the concept or synset ANGER). The relations between the various synsets (hyperonymy, hyponymy, etc.) are also spelled out. The WordNet project has now been expanded in a way particularly relevant for emotion research by including additional details in the meaning of emotion terms specifically, and affective information in the meaning of regular words. For example, *SentiWordNet* (Esuli & Sebastiani, 2006; Baccianella, Esuli, & Sebastiani, 2010) is a lexical resource that assigns three "affective scores" to each synset of WordNet: positivity, negativity, and objectivity. The same can be done for individual words instead of synsets (Esuli & Sebastiani, 2005). For example, high scores in objectivity for a word indicate that the term is not a marker of opinionated content (e.g., the noun *computation*), whereas high scores in positivity or negativity indicate that the term involves a subjective judgment, or affective connotation (e.g., the nouns *honesty* and *offense*). The scores are assigned in an automatic fashion based on the analysis of the glosses (definitions) given to the terms in WordNet. The main application of SentiWordNet at the moment is automatic opinion mining.

Another interesting development of WordNet is *WordNet-Affect* (Strapparava & Valitutti, 2004; Valitutti, Strapparava, & Stock, 2004), a lexical resource that assigns additional labels with affective information to the WordNet synsets representing affective concepts. Examples of new classificatory labels include "emotion" (e.g., *anger*), "trait" (e.g., *aggressiveness*), "emotion-eliciting situation" (e.g., *awkwardness*), "attitude" (e.g., *intolerance*), and "emotional response" (e.g., *cold sweat*). Then, within the elements tagged as "emotion," additional tagging is provided about their valence (positive, negative, neutral, or ambiguous—i.e., context dependent) and the causative/stative nature of the lexemes, specifically adjectival lexemes. An emotional adjective is considered "causative" if the noun it modifies causes the emotion referred to by the adjective (e.g., *amusing movie*: movie that causes amusement). Conversely, an emotional adjective is considered "stative" if the noun it modifies experiences the emotion referred to by the adjective (*happy boy*: boy who feels happy).

The onomasological approach is also typical of much of the emotion work carried out in corpus linguistics. For example, collocational analysis is a direct heir of the general interest in syntagmatic relations of the structuralist tradition. Collocations are words that co-occur more frequently than would be expected by chance (typically in a fixed order). A salient exponent in

this field of research is Halliday, although not much of his work has focused on emotions. In one of his studies, however, Halliday (1998) uses corpora to study the lexicogrammar of *pain*, concluding that this emotion is conceptualized in English as a process (in fact, various kinds thereof), as a quality, and as a thing, being impossible to ascribe it to any one single semantic domain.

Many types of onomasiological studies are also available within the cognitive linguistic tradition. They include basic-level categorization studies, metaphor research, and prototype semantics. A well-known case is Lakoff and Kövecses' work on the general concept of ANGER in English (in Lakoff, 1987), in which they explain what features are most central in the prototypical representation of the emotion and what makes some anger variants less central members of the category (see "Frame and prototype semantics" in Section 4.3). But Lakoff and Kövecses's work on ANGER is more famous for its illustration of another eminent approach in onomasiological (cognitive) lexical semantics: the study of conceptual metaphor (see "Conceptual metaphor and metonymy" in Section 4.3).

Both approaches reviewed so far are compatible with interdisciplinary research on emotion and they are both individually valuable. Yet, the most interesting insight does not emerge from one or the other orientation, but rather at the intersection of the two, when cumulative analyses of the meaning of individual emotion words reveal information about the broader underlying concepts. In this sense, a valuable contribution for the future would be to investigate the relative centrality of various semantic features across emotion words and languages (e.g., the most defining features for the lexemes in the category ANGER in English, or in Japanese, or cross-culturally). It would also be interesting to empirically determine whether a core set of features exists for *all* members of the category EMOTION in a language (and across languages) (cf. Fehr and Russell's (1984) analysis of English). These remain open questions in emotion lexical semantics at the intersection between semasiological and onomasiological research.

4.3 Current methods in emotion lexical semantics

Four main trends can be observed nowadays in the linguistic study of emotion lexicons. They correspond to four methodologies and their corresponding theoretical backgrounds. They commit to a view of lexical meaning as conceptual representation and they mostly adopt a semasiological synchronic approach, although some of them also allow for diachronic and onomasiological research. In these approaches, the goal is to provide a description of the meaning of words independent of any particular context, although their proposals are always based on the systematic analysis of those terms in context. These approaches are Anna Wierzbicka's Natural Semantic Metalanguage, the corpus semantics approach, and two paradigms within cognitive linguistics: conceptual metaphor theory and frame semantics. They will all be discussed in the following sections.

Natural Semantic Metalanguage (NSM)

The Natural Semantic Metalanguage (NSM) is a methodology for semantic analysis developed by Anna Wierzbicka (1972, 1992b, 1992c, 1996) and her colleagues (Goddard, 1998; Goddard & Wierzbicka, 1994, 2002). It attempts to describe semantic representation in a language-independent way (i.e., unbiased by the semantic structures of any given language). To achieve this goal, it uses a small inventory of semantic universals, that is, lexically-expressed concepts claimed to exist in all languages. The proposal of these semantic universals is what makes NSM a semantic theory, in addition to a methodology. The semantic universals include notions like "feel," "good," "bad," and "do," which are, therefore, candidate building blocks of semantic content for any word (including emotion ones) in any language in the world. NSM claims that the 60 (or so) identified

semantic universals (also called semantic primes) reflect irreducible universal concepts, which can be considered the core of human thought and are "intuitively clear (and presumably innate) and do not require any explanations" (Wierzbicka, 2006: 17). Additionally, NSM claims that these primes combine in the same way in all languages, which means that there is also a universal grammar in language. The methodology further describes meaning as implicit scripts made of the semantic universals when combined by means of the universal grammar. The approach has also been applied to the characterization of cultural models (Goddard, 1997; Wierzbicka, 1994a, 2006).

There are many examples of this line of research applied to emotion in a number of languages, like German (Durst, 2001), Russian (Gladkova, 2010), Japanese (Hasada, 2008; Travis, 1998), Chinese (Ye, 2001, 2006a), Greek (Athanasiadou, 1998), Amharic (Amberber, 2001), Mbula (Bugenhagen, 2001), East Cree (Junker & Blacksmith, 2006), Malay (Goddard, 1998), Australian aboriginal languages (Harkins, 1990, 2001), Biblical Hebrew (Myhill, 1997), and English (e.g., Goddard, 2002a; Wierzbicka, 1992b, c, 1999). For example, Wierzbicka (1999a: 51–53) describes the difference between English *happiness* and *joy* in the following terms: *joy* is characterized by the assessment that "something very good is happening" and "I want this to be happening." *Happiness*, on the other hand, implies an evaluation about the past (not the present) concerning more than one event, and affecting *me* specifically; therefore, it is defined by the features "some very good things happened to me" and "I wanted things like this to happen." Additionally, unlike *joy*, *happiness* includes the idea that "I can't want anything else," which makes it closer to *contentedness*.

One of the major advantages of the NSM paradigm is that the semantic primes constitute a systematic common language to identify cross-linguistic differences or, conversely, combinatorial regularities in the emotion scripts. Another advantage of the method is that, according to Wierzbicka, "the NSM formulae are open to verification (they can be tested against native speakers' intuitions)" (2006: 17). This would indeed be a necessary step in NSM research. The GRID methodology presented in this volume offers a way to achieve that goal (cf. Chapter 27).

Conceptual metaphor and metonymy

Conceptual Metaphor and Metonymy Theory (CMT) is the most typical paradigm for the study of emotion terms within cognitive linguistics. It was initiated by the realization that we talk about abstract concepts in fairly systematic ways. Emotions, for example, seem to be associated to a fairly limited number of recurrent themes, or semantic domains, like FIRE or PHYSICAL FORCES. These associations are observed in the figurative expressions used in a language to refer to the emotions and in the words surrounding literal emotion terms. For example, an association of ANGER with the domain of FIRE is implicit in the figurative verb *fuming*, in the collocation "*kindle* somebody's *anger*" and in more creative expressions like "to see smoke coming out of somebody's ears." What we observe in all cases is an underlying implicit representation of anger as fire. These associations are captured in CMT by formulas like "ANGER IS FIRE" and they are referred to as conceptual metaphors.

The main idea is that conceptual metaphors are conceptual representations of one domain in terms of another, i.e. stable associations in our representation of the world that guide reasoning and influence behavior. For example, if anger is conventionally thought of as a fire, one is invited to infer that the emotion causes an increase in body temperature and is generally dangerous, because – like fire – it is depleting for the experiencer (it can "consume" him/her), it can harm others, and it can easily propagate.

Conceptual metonymies are a similar phenomenon. In this case, the two domains at stake are already related because they are members of a more general one, or because one contains the other.

A typical case of conceptual metonymy is the relationship PART-FOR-WHOLE, where we refer to a thing by mentioning one of its parts (e.g., "we need new *blood* in the team," instead of "we need new people"). This casts the thing referred to in a new light, by highlighting the features of the entity actually mentioned (e.g., in the example above we do not need just "people," but specifically the things associated to people's *blood*: their personality, their idiosyncrasies, and thus the variety they will bring into the team). In the emotion domain many expressions used to label affective experiences are metonymic in this sense because they refer to one of the components of emotion only. For example, in the lexical representation of ANGER in English, we find expressions like "*offended*" that refer to the emotional experience foregrounding only the appraisals concerning its cause. Other examples include "*hot under the collar*" (bodily reaction), "*aggressive*" (action tendencies), or "*upset*" (general feeling). In metonymic expressions, the profiling of one of the components backgrounds the remaining ones.

In CMT, conceptual metaphors and metonymies are sometimes used to characterize the meaning of specific emotion words (for example, English *happiness* vs English *joy*—Stefanowitsch, 2004), but most studies adopt an onomasiological stance and focus on broad emotion concepts. For example, they may study the general category ANGER looking at the metaphors entertained by words like *anger*, *fury*, and *indignation*, as well as at other phrases and idioms like *blow your top* or *let off steam*.

The studies in this paradigm span a full palette of emotion concepts and languages. They include the work by Barcelona on Spanish and English sadness (1986, 1989) and romantic love (1992, 1995), Kövecses on English pride and love (1986, 1990), happiness (1991), and anger in several languages (1995a, b, Lakoff & Kövecses, 1987), Matsuki (1995) on anger in Japanese, Mikołajczuk (1998) on Polish anger, Ogarkova on English love (2004), jealousy and envy (2007), Soriano on Spanish and English anger (2003, 2005), Taylor, & Mbense (1998) on anger in Zulu, Yu (1995) on Chinese anger and happiness, etc. Some of them have a diachronic orientation (Tissari, 2001, 2006; Györi, 1998). A widespread trait in the field is to use corpora as a source of the linguistic expressions to be analyzed (e.g., Stefanowitsch, 2004, 2006; Ogarkova, 2007). The most recent trend is to look at specialized discourses (e.g., Berger & Jäkel, 2009). Lately some of these findings are also being explored experimentally by psychology (Casasanto & Dijkstra, 2010; Gibbs, 1994; Meier & Robinson, 2004; Nayak & Gibbs, 1990; Williams & Bargh, 2008; Willowski et al., 2009; Zhong & Leonardelli, 2008, etc—for a review of experimental research on emotion conceptual metaphors see Crawford (2009) and Meier & Robinson (2005)).

CMT is a versatile methodology that continues to spur numerous studies on emotion semantics cross-culturally. However, it also entails two limitations. The first is that most studies focus on broad emotion categories, rather than specific emotion concepts; an approach sensitive to lexical variation would be useful to complement these broad onomasiological observations. The second limitation is that CMT uses linguistic patterns to make claims on how emotions are understood by the speakers of a language; as with NSM, a necessary step for the approach would be to contrast the insight provided by language patterns with that provided by the speakers themselves (see Chapers 28, 30, and 36 for examples of how this could be done).

Frame and prototype semantics

Frame and prototype semantics are two typical paradigms for semantic research within cognitive linguistics, although their application to emotion research is less widespread than (the also cognitive) CMT just discussed.

In both approaches, and coherent with the cognitive stance in meaning, concepts are believed to be organized as coherent sets of world knowledge. Semantic frames are representations that capture one part of those conceptual domains (Fillmore, 1975, 1985). More specifically, semantic frames are schematic representations of situations based on repeated experience that are captured by language. They can be characterized in terms of a limited number of interdependent participants (frame elements), necessary in the representation of the frame. For example, the "feeling" frame contains the frame elements Emotion, Emotional State, Experiencer, Evaluation, and Cause. The frame elements are typically realized by lexemes in the sentence. It is assumed that words in use evoke specific frames of knowledge and realize one of the frame roles. For example, the word *angry* in "*Martha feels angry*" realizes the role Emotional State of the "feeling" frame.

The FrameNet Project (https://framenet.icsi.berkeley.edu) is the most important development of this approach. FrameNet is an online database of semantic frames and lexical units associated to them, developed on the basis of linguistic corpora analysis. The frame database "contains, for each frame, its name and description, a list of frame elements, each with a description and examples, and information about relations among them" (Fillmore, Baker, & Sato, 2002: 2). The lexical database is a collection of nouns, adjectives, and verbs with indication of the frames to which their meaning can be related. For example, the noun *anger* is associated to the frame "emotion_directed." According to FrameNet, "the adjectives and nouns in this frame describe an Experiencer who is feeling or experiencing a particular emotional response to a Stimulus or about a Topic." In sentences like (1), *Beth* would be the Experiencer, *Max* the Stimulus, and *intervention* the Topic. Experiencer, Stimulus, and Topic are core elements in the frame "emotion_directed."

1 *Beth* repressed her anger at *Max* about *his intervention*

Other core elements of the frame "emotion-directed" are the Event (the occasion in which Experiencers participate) (2) and the Expressor (3) (body part, gesture, or other form of expression that reflects the Experiencer's emotional state). Non-core elements include the Circumstances (4) (conditions under which the Stimulus evokes its response), the Degree (5) (degree to which the Experiencer feels the emotion), and the Reason (6) (explanation for why the Stimulus evokes a certain emotional response).

2 Some sympathetic bystanders joined the anger *parade*.

3 He could see the anger *in her eyes*.

4 She feels the anger rise *whenever he enters the room*.

5 There is *little* anger left.

6 They can't get over their anger at the company *for how they were treated*.

Different emotion nouns instantiate different types of frame. For example, "Emotion_directed" also applies to *sadness*, *interest,* and *despair*. By contrast, words like *disgust* and *surprise* instantiate the frame "Stimulus_focus," in which the attention is on the Stimulus and its capacity to bring about a particular emotion in the Experiencer. Another group is formed by words like *compassion* or *pleasure*, which instantiate the frame "Experiencer_focus," where the Experiencer (rather than the Stimulus) is profiled.

An example of FrameNet applied to emotion research is Subirats and Petruck's (2003) analysis of SURPRISE in Spanish and English, or Crocket's (2002) account of Russian SHAME, RESENTMENT, ENVY, and PITY. The goal in both cases is to investigate the various lexicogrammatical realizations of a general affective category, rather than the meaning of any one single term. For example, Subirats and Petruck (2003) notice that, for the expression of emotion predicates in general, English

and Spanish share the grammatical frame "Experiencer_subject," in which the Experiencer of the emotion is construed as the subject of the sentence (e.g., *Max panicked*/*Max se alarmó*). However, while English only has one lexical option for the specific lexicalization of SURPRISE according to this frame, namely the adjective *surprised* (e.g., *Max is/got surprised*), Spanish has two lexicalization possibilities: the adjective *sorprendido* (i.e., "surprised," as in English) and the verb *sorprenderse* (to "undergo-surprise"). As the example illustrates, FrameNet is useful to study cross-linguistic differences in the lexicalization patterns of the same emotion concepts.

Frames often have a temporal dimension, which turns them into a kind of script. The same idea is voiced in psychology for example by Russell (1991a), who in his early work emphasized the process (vs object) nature of emotions and characterized emotion prototypes as scripts. Additionally, frames are to be understood as prototypes. In other words, these temporal frames or scripts are not made of sufficient and necessary features, but prototypical ones (i.e., statistically likely to be present). Following the insight of Wittgenstein (1953) in philosophy and Rosch (1973b, 1975) in psychology, within cognitive linguistics prototypical elements of a category are not assumed to exhibit features that are common to (and indispensable for) the members of the category. Since no features are a priori deemed essential (necessary and sufficient), the central or most prototypical member of a category is defined as the member that shares the largest possible number of features with the rest of the members of the category and the smallest possible number of features with the members of the neighboring ones. Prototypical features are those most frequently shared by the members.

The link between frame/script and prototype semantics had already been suggested by Lakoff (1987) in his "Idealized Cognitive Models" (ICM), which can be defined as prototypical temporal scenarios. One of the best studied ICMs is the ANGER one (Lakoff & Kövecses, 1987), very similar to Shaver's (Shaver et al., 1987) prototype, but defined in terms of ontological elements (e.g., Self, Wrongdoer, Anger, etc) and predications (e.g., Wrongdoer is at fault, Anger exists, there is damage to Self, etc). Lakoff and Kövecses explain what features are most central in the representation of the emotion in English and how deviations from the prototypical script account for less central members of the category. Some of these deviations from the prototype are lexicalized in English by means of a noun (*wrath*), others by means of an adjectival phrase (*cold* anger, *redirected* anger), others by means of a metaphor (*slow burn*) or even an idiom (*don't get mad, get even*), and in many cases the non-prototypical instances of anger are not encapsulated by any specific lexical label, and can only be named indirectly by means of paraphrases or description, like the emotional variants "anger with controlled response" or "anger with an indirect cause." Even in cases where there is no specific "name" (lexical unit) for the emotion variant, the category seems to exist in our conceptualization, because it underlies many of our conventional ways to talk about the emotion. For example, "anger with controlled response" is a non-prototypical form of anger in English, manifested in expressions like *venting one's anger, letting off steam*, or *channeling anger* (a slightly different interpretation of these examples is offered in Lakoff, 1987: 402). In the case of "anger with an indirect cause," the emotional variant seems to be coded grammatically: if the anger is caused by the consequences of an act, rather than by the act itself (i.e., "indirect cause"), English prefers the preposition "about" (angry about something), rather than "for" (angry for something) (Lakoff, 1987: 403).

Frame semantics and the broader domain of prototype semantics offer a valuable framework to study emotion semantics. However, to the best of our knowledge they have not been thoroughly applied to the study of specific emotion words. They are preferred for onomasiological studies (e.g., lexicalization patterns in a general semantic domain, like SURPRISE or ANGER), although their application for semasiological research is possible too.

For example, the frame approach contributes a rich inventory of aspects of the experience referred to by a word (the frame elements) that can be used as an ontology of the domain. Additionally, the approach can reveal differences between similar words in the conceptual frames they prototypically evoke. In turn, prototype-based analyses of emotion concepts allow us to identify the most salient features of a domain and provide a framework to account for the less salient ones.

Corpus-based approaches

Corpus-based methodologies advocate the use of large compilations of naturally occurring discourses from written and oral sources in order to study language. General or reference corpora like the British National Corpus (BNC) tend to include at least 100 million words and are designed to reflect what a language is like at a given period in time.

Within corpus linguistics emotion words are studied as elements in grammatical constructions; hence this approach is said to look at the "lexicogrammar" of the emotion domain. The underlying assumption is that grammatical structure reflects conceptualization: the grammatical shape that concepts acquire in discourse is supposed to reflect how the concepts are mentally represented or construed.

The meaning of specific emotion words can be studied using corpora in a number of ways. First, one can look at the phrases in which a specific emotion term appears (e.g., "*sick with* fear," "*buy* happiness," "*fall in* love"), which are frequently metaphorical. These metaphorical phrases are called "metaphorical patterns" by Stefanowitsch (2004, 2006) and they can help us distinguish the meaning of close synonyms. For example, *happiness* and *joy* are typically considered members of the same emotion category and they are often interchangeable in a sentence. However, the relative frequency of some metaphorical patterns over others for those words tells us that one emotion is more saliently represented in language as a desirable object (we "seek *happiness*", rather than *joy*), while the other is more saliently seen as a substance filling the body (we "overflow with *joy*", rather than *happiness*) (Stefanowitsch, 2004).

A second corpus-based methodology would be to look at the preferred semantic functions that an emotion word adopts in the sentence. For example, emotion nouns could preferentially appear as agents or as patients therefore suggesting that the emotion is more typically conceptualized as a trigger of reactions (emotion does something) or as a state affected by external forces (agent does something to emotion).

A third methodology would be to look at the collocates of an emotion term, i.e. at the words that co-occur with it more often than would be expected by chance. But notice that, defining the meaning of an emotion word in terms of "the company it keeps" through lists of co-occurring terms does not describe explicitly what the word actually means, only the fact that those words are related.

Finally, another corpus approach would be to look at the general lexicogrammatical shape of the sentence in which the emotion term appears. This analysis allows us to identify recurrent lexicogrammatical patterns and it reveals that emotions tend to be represented in complex mixtures (complex emotions), rather than individual types (see Dziwirek & Lewandowska-Tomaszczyk, 2010).

For the onomasiological study of general emotion concepts, it is also interesting to look at their preferred grammatical realization: as nouns, verbs, or adjectives. For example, Wierzbicka (1992b, 1999) has suggested that, for emotion talk, English favors the adjectival construal, while Russian prefers the verbal one. This was corroborated by Pavlenko (2002b) in a study of oral narratives in both

languages. Grammatical construals of this sort are referred to by Halliday (1994) as "grammatical metaphors," because a lexical root realized as a noun reflects a cognitive construal as "thing" (e.g., the emotion becomes a metaphorical "object"), whereas the same root as a verb reflects a representation as "process"; adjective construal, in turn, reflects "property or circumstance" (see Chapter 30). Additional detail can be obtained from the grammatical features of those emotion lexemes. For example, SADNESS is preferentially expressed through "active" vs "passive" emotion verbs in Russian, as opposed to English (Wierzbicka, 1995b: 39–40). Finally, word counts in a domain can also tell us about the centrality of a given emotion term in a culture and suggest basic-level candidates in categorization.

The use of linguistic corpora and their annotation for affective features has contributed decisively to the burgeoning study of the ways in which languages represent and express feeling states. The study of emotion term semantics is only a small part in this field. However small, though, the use of corpora in the study of emotion terms has at least three important advantages. First, it provides access to authentic language data representative of large populations. Secondly, it allows for a varied set of methodologies and insights, including quantitative and statistical measures. Third, it makes it possible to consider the role of grammatical form in the meaning of a word. Finally, corpora are an ideal platform for the study of the modulating role of context in word meaning.

4.4 The place of the GRID paradigm among the theories and methodologies

To the extent that the research based on the GRID paradigm aims to investigate the meaning of emotion words, the endeavor is eminently a linguistic one. Therefore, it is important to characterize its position with respect to the theoretical and methodological options discussed in the previous sections.

As stated at the beginning of this chapter, a characteristic feature of the GRID paradigm is that it investigates decontextualized words. This, to a certain extent, constitutes a limitation. The importance of context in the study of meaning is obvious, since words may have a default meaning, but when used in a specific discourse they always adopt a specific sense (cf. sense vs meaning, Vygotsky, 1986). Yet, people seem to be able to say what a word "means," even without a context. A useful concept to account for this ability to pin down (some kind of) meaning in the absence of context is the concept of "modal meaning" defined by Anolli (2005, p. 41) as "the standard outcome of the semantic and pragmatic synchrony process, that is, the prevailing and recursive meaning throughout conventionally given situations within a certain cultural community. [. . .] modal meaning is the preferred (or default) one, regularly predominating in a given set of contexts". This is the definition of semantic meaning endorsed in the GRID study. A similar concept, "modal emotions," has been proposed by Scherer (1994, see Chapter 1) for emotional experiences as well. Modal emotions would be the states resulting from predominant or prototypical appraisal patterns, and the subsequent physiological effects, expressive behaviors, action tendencies, and feeling states that stem from them. Since, arguably, lexical labels capture experiences that are relevant for a particular community, and emotional experiences that recur in a community are more likely to be relevant than infrequent ones, the meaning profiles captured by the GRID can be profitably described as modal meanings reflecting modal emotional experiences in the lingual communities at stake.

With respect to the three main orientations in lexical research, the GRID stands as follows. First, it assumes that word meanings reflect world knowledge, because features deemed relevant by

emotion psychology to characterize the emotional experience are used to characterize the meaning of the emotion words that label those experiences. Second, it adopts a synchronic approach for the study of meaning, since it relies on the judgment of native speakers on the current meaning of words in their language. Finally, it adopts both a semasiological and an onomasiological perspective. The starting point is clearly semasiological (feature-based description of the meaning of specific words), but the subsequent identification of the underlying semantic dimensions structuring the semantic space is closer to an onomasiological concern. Additionally, one can investigate the lexicalization of a specific broad concept (e.g., ANGER) identifying the featural profile of the various lexemes (*anger, irritation, fury*, etc) instantiating the overall category and the semantic dimensions articulating the space covered by them (cf. Chapter 22).

The GRID also exhibits some advantages and some limitations with respect to the four methodologies discussed in previous sections. The main advantage with respect to NSM is its capacity to investigate meaning with an empirical, replicable methodology based on quantifiable observations amenable to statistical analysis. It also provides more richness of information in the description of the meaning of words. The main limitation compared to NSM is that, in spite of having been effectively translated into more than 20 languages, the features chosen for the GRID questionnaire may reflect some degree of cultural of language bias, or even ambiguity. By contrast, the features used in the NSM approach should be free of these risks, since they are constructed on the basis of a very limited vocabulary claimed to reflect universal concepts.

The main advantage of the GRID paradigm over frame semantics for the description of specific words out of context would be the amount of featural detail provided. But frames, in turn, reveal in a more explicit fashion the main constituent elements of the emotional scene coded by language (Experiencer, Stimulus, Reason, Result, etc) and they afford us interesting insight about the broad conceptual scenes a particular lexeme typically entertains (e.g., "directed emotion": *anger*, *sadness*; "stimulus focus": *disgust*, *surprise*; "experiencer focus": *compassion, pleasure*).

The GRID also offers advantages with respect to metaphor and corpus studies. The main one is its capacity to explicitly spell out the features that differentiate the meaning of two terms. By contrast, in the study of metaphor one needs to infer what the various metaphorical patterns reveal about key semantic aspects like the causation or intensity of the experiences described in figurative terms. Similarly, corpus studies also depend on interpretation to characterize what the various grammatical and co-occurrence patterns of a lexeme tell us about the way a particular emotion is represented. But both metaphor and corpus-based methods offer other advantages over the GRID. The principal one is their ability to generate hypotheses. The nature of the GRID makes it necessary to have a priori predictions about the aspects that may be relevant in the meaning of an emotion word, so that they can be formulated as questions and tested. Conceptual metaphor, corpus studies, and any other approach that looks at the way words are used in language are better suited to generate those predictions to begin with.

In spite of their differences, none of these features make the various approaches incompatible, but rather complementary. There is only one fundamental aspect in which they are intrinsically different: the GRID uses elicited data, while the remaining methodologies rely on observed language use. This may seem unproblematic from a psychologist's point of view. Ortony, for example, explicitly states the following: "if people's *concepts* of emotions have cognitive content, how can we find out what it is? The answer is surely 'Ask them' " (Ortony, 1988: 99). But the matter is not completely uncontroversial for some linguists like Wierzbicka, for whom meaning "can only be established by systematic study of the way words are used (including an investigation of common collocations)" (Wierzbicka, 1995b: 32). She goes on to argue that "to think that untrained native

speakers can tell us what a word (e.g., *rabbia*) means, or how it differs in meaning from another word (e.g., *anger*), would be as naïve as to think that an untrained patient can make the best diagnosis of his or her own illness" (Ibid: 32). It seems indeed rather unlikely that people can produce comprehensive accounts of the meaning of a word if simply cued to "describe what it means." However, it is equally unlikely to suppose that they cannot make judgments when presented with specific questions. However partial or inhomogeneous it may be, native speakers of a language have an awareness of what a word entails in their language. Verbal communication would not be possible otherwise. Determining just how comprehensive or homogeneous that knowledge is remains a question for empirical scrutiny and the GRID paradigm is capable of addressing exactly this issue (see Chapter 5). If the semantic profiles emerging from native speakers' judgments of the meaning of emotion words are homogenous (see Chapter 6), the next step will be to compare those profiles with the insight afforded by language use observations (see Chapters 27 to 30). Arguably, the final step would be to compare accounts of the meaning of emotion words with accounts of actual emotional episodes, to ascertain to what extent linguistic representations resemble our representation of experience (see Chapter 15).

4.5 Final discussion and conclusions

Emotions are complex phenomena whose nature and functioning cannot be fully accounted for by any one single discipline. Linguistics contributes to this research agenda by looking at the way emotions are represented and expressed in language. The contribution is extremely valuable, given the centrality of language in the experience and communication of emotion, and its relevance in the methodologies employed by other disciplines (notably psychology). In this chapter we have focused on one salient area of research, the emotion lexicon, and we have reviewed the main theories of lexical meaning of the past century and their take on three crucial aspects of inquiry: the nature of meaning versus concept, the optimal temporal scope in semantic research, and the orientation to adopt in the semasiological-onomasiological axis.

Some stances on these issues are preferable over others if one is to pursue cross-disciplinary research. For example, a synchronic approach is preferable to a diachronic one because the experimental sciences are naturally bound to the here and now of their human participants. Both a semasiological and an onomasiological perspective are desirable, in order to provide detailed descriptions of the meaning of emotion words, as well as accounts of the ways in which broad domains of knowledge are represented in language. Finally, an indispensable condition for interdisciplinary collaboration will be to agree with Ortony, Clore, and Collins (1988: 8) that "emotions are not themselves linguistic things, but [that] the most readily available nonphenomenal access we have to them is through language." This perspective assumes that semantic structure is conceptual structure and that semantic categories reflect the way we represent the world. The question remains whether these semantic concepts observe a prototype structure, as defended in cognitive linguistics, or are susceptible to classical definitions by means of a small number of minimal and sufficient features, as proposed by the generativist school. The answer may lie in between. It may be that prototype categorization is sometimes accompanied by the presence of necessary but non-sufficient features in some categories. The GRID study may help us shed light in this respect.

As an instrument for linguistic inquiry, the GRID paradigm offers an empirical, quantitative, replicable approach to the study of emotion word semantics. It also responds to a pressing need for methodological triangulation in emotion research. Russell put it this way: "We need further evidence of all kinds, but we especially need new methods. Conclusions drawn from current methods need to be subjected to empirical tests that are based on other methods" (Russell, 1991a: 445). This

is a crucial idea for the GRID. Linguistics is well equipped to provide accounts of emotion semantics, as illustrated by the four methodological approaches described in this chapter. As we saw, they all have individual advantages. However, they also illustrate two main overall limitations with respect to the GRID paradigm. NSM and frame semantics could be said to offer too skeletal an account of meaning. Metaphors and corpora studies, on the other hand, can only offer indirect information about the meaning of specific words, based on the systematic associations of those words to others in language. For both reasons, a new methodology capable of providing both explicit and detail-rich accounts of lexical content would be a desirable contribution in the field of lexical semantics. The GRID paradigm presented in this volume aims to offer such an approach.

This is not to say that the GRID methodology is devoid of limitations. The most important one may be that it aims to investigate words outside of context. Naturally, the study of decontextualized lexemes is always a partial account of linguistic meaning, to be complemented with studies of the senses acquired by the words in use. This, however, does not undermine the validity or the importance of the decontextualized approach. A methodology like the GRID provides us with *averaged default meanings* (featural and dimensional) of the emotion words, which can be considered a baseline against which to compare meaning modulation in different contexts. Finally, the componential GRID paradigm, built on the basis of psychological and anthropological theoretical principles in the study of emotion, provides a common framework for the comparison of findings across disciplinary domains.