Chapter 2
Literature Review

2.1 Definition and Categorization

Generally speaking, oppositeness is defined as two words holding contrast meanings (cf. Lyons 1968, 1977; Cruse 1986, 2004; Murphy 2003; Cann 1993, 2002; Steven 2002) and it is agreed by Chinese researchers (cf. Sheng 1958; Fu 1996; Shi 1983; Jiang 2000; Xu 2000; He et al. 2005; Zhang 2009). But any native speaker of Chinese would naturally feel that the way of how 死 *si3/dead* contrasts to 活 *huo2/alive* is not the same as the one of how 买 *mai3/buy* contrasts to 卖 *mai4/sell*. There are sub-types of opposites under the general definition.

Lyons, Cruse and their following researchers agree that for the basic distinction within opposites is whether they are gradable and ungradable. The ungradable opposites are termed as "complementaries" (Lyons, 1968; Cruse 1986), or "binary antonyms" (Cann 2011), while the gradable ones are called "antonyms" (Lyons 1968, 1977; Cruse 1986, 2004). For the rest opposites, Lyons (1968, 1977) defines pairs like *buy: sell*, *husband: wife* as "converses" and pairs like *come: go*, *up: down* as "directional opposites".

Cruse (1986) makes a further distinction among opposites by directions, for example: antipodals are the ones "in which one term represents an extreme in one direction along some salient axis, while the other term denotes the corresponding extreme in the other direction", like *all: none*, *black: white*; and, counterparts, "which essential defining directions are reversed", like *male: female*, *yin: yang*; and, reversives, "those pairs of verbs which denote motion or change in opposite directions", like *rise: fall*, *ascend: descend*; also the relational opposites, that is, converses, are "for the time being at least, by the fact that when one member of a pair is substituted for the other in a sentence the new sentence can be made logically equivalent to the original one by interchanging two of the noun phrase arguments", like *below: above*, *in front of: behind.*

In his later work (Cruse 1994), Cruse modifies the above definitions with prototype theory. That is, for a feature model of prototype structure of certain

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lexical relation, the more some items one pairing manifests, the more central it is in the category.

As to the very common converse pairs, such as *buy: sell*, Croft and Cruse (2004) note that "their oppositeness is not a necessary consequences of their being converses, but arises from other factors (for instance, the oppositeness of the directions of transfer of goods and money in buy and sell)" (cf. 2004: 164–6). For the "dynamic construal approach", the authors mean that, "sense relations are treated as semantic relations… between particular contextual construals of words" (2004: 141), and, "oppositeness is a matter of construal, and it subject to cognitive, conventional and contextual constraints" (2004: 164).

In our studying, we decide to take a rough but clear classification for the overall group of opposites. The word pairs which hold a meaning contrast would be generally called **opposites**. Within that, the ones which are semantically bi-parting the scale/domain, that is, it is supposed to have only two states, A or not A, in a normal or given domain, are called **complementaries**. The typically examples are *dead: alive*, *even: odd*. In other words, the complementary pairs are semantically ungradable. On the other hand, the ones which are semantically gradable are called **antonyms**. Typical examples include: *big: small*, *hot: cold*, *young: old*. The word pairs which are defining the same relation from different aspects, like *husband: wife*, *buy: sell*, are called **converses**. The three sub-types of opposite are the main targets in this paper. Besides, this paper (especially in Chap. 3) also involves cases like *red: black*, *summer: winter*, *happy: sad*, which do not satisfy the definition of either of the three sub-types but are used as contrasting pairs in Chinese. Such pairs are called **taxonomies**. Complementary, antonym and converse are all binary relations while taxonomy is not. Taxonomy relation is a multiple relation (Fig. 2.1).

The advantage of this semantic standard is that, it is unambiguous in practices. That is to say, the category of certain pairing can be entailed from their meanings and there is only one possible relation for a given pair. In saying that, we are referring to the basic or original meaning of the words. In other words, some pragmatic usages of certain pairs, no matter how frequently they behave, cannot be

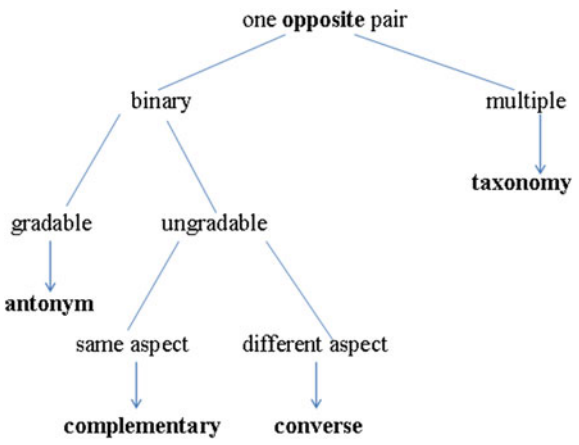


Fig. 2.1 Categorization of opposites

accounted for classifying the related pairs. Hence, the opposite pair of *si3: huo2* is considered as complementary, since the physiological status of normal beings can only be alive or dead. And it would not be changed to antonym even having 半死不活 *ban4/half si3/dead bu4/not huo2/alive* "half dead half alive" is a very commonly used saying in Chinese.

Our definition of opposite overlaps with the main storm studies of opposites (cf. Lyons 1968, 1977; Cruse 1986, 2004; Cann 1993, 2002, 2011; Steven 2002; Murphy 2003). The gradable/ungradable distinguish between antonym and complementary is accepted by most of the researchers (Lyons 1968, 1977; Cruse 1986, 2004; Steven 2002; Murphy 2003; Croft and Cruse 2004; Cann 2011).

We cover "directional opposite" in Lyons (1968, 1977), which is exampled as *up: down,* as well as the "polar antonym", "overlapping antonym", "equipollent antonym" (Cruse 1986; Croft and Cruse 2004), in the category of antonym. The term antonym is equal to the "gradable contrary" in Murphy (2003). For the category of converse, it has a majority agreement among Lyons (1977), Cruse (1986), Cann (1993) and Murphy (2003). We employ the word taxonomy to refer to the multiple contrasting pairs, in response to Mettinger's (1994) "non-systemic semantic opposition", in his three levels of meaning contrasts and pragmatic usages of some non-binary contrast word pairs in natural language, and, similar to Cann's (1993) "opposite" which can shift from "hyponymy".

2.2 Some Properties of Being Opposite

2.2.1 Canonicity

Opposite pairs are assumed to be stored in human mind as conceptual opposite in nature (Murphy 2003; Paradis 2003, 2005; Paradis et al. 2009; Willners and Paradis 2010). That means for the two opposite concepts there could be more than one possible pairing since each concept would have various lexicalized words.

It somehow agrees with the Prototype Theory. The Prototype Theory can be traced back to Wittgenstein's notion of "family resemblance", which is illustrated by the famous GAME example and generate into a theory after Eleanor Rosch's categorizing for internal structures in 1970s (cf. Geeraerts 2002).

For the lexical relation studies, early researchers do not employ the term 'prototype' but also realize the fact that some pairs may be thought as better pairings than the others. Lehrer and Lehrer (1982) firstly distinguish *perfect* antonym pairs, like *hot: cold*, from the imperfect antonym, like *hot: cool*. The criterion is whether they have the same "[similarity] distance from the midinterval" (cf. 1982: 488–90). Herrmann et al.'s (1986) later criteria also include the clarity of the dimensions on which the pairs are based as well as the distances from the midpoint of the domain should be equal for both opposite members.

Cruse's (1994) "prototype effects" of being opposites include: fuzzy boundaries, graded goodness-of-examplar scores; early and frequent mention by subjects to list

members of categories; early acquisition; faster verification of category member pairs; stronger priming effect of category name on member. Under such a theory, Cruse re-defines opposites as a general category, which should be diametric, symmetric, binary and exhaustively dividing superordinate domain. Cruse also mentions that these features are not simply present or absent but in some sense gradable.

Croft and Cruse (2004: 166f) summarize the criteria of judging the goodness of an opposite pair: (a) intrinsic binarity ("within the appropriate domain, there are only two possibilities", or "[a]t a more abstract level, there are only two directions of change between two states", which "have a kind of built-in logical twoness", but not self-sufficient in many cases); (b) the "purity" of the opposition (for example, for the basic opposition of MALE: FEMALE, the pair of *male: female* is better in the opposite sense than the one of *man: woman*, while the later one is better than the one of *aunt: uncle*); (c) symmetry (symmetrically disposed about the reference point); (d) matched non-propositional features (non-propositional features should be the same for both members of a pair). (2004: 166–7)

The term "canonicity", sometimes "canonical antonym" or "antonym canonicity", is widely used by recent studies on deciding good (or even "super" good) antonym pairing members. Following the cognitive prototype approach (Cruse 1994, 2004; Croft and Cruse 2004) mentioned above, researchers (for example, Murphy 2003; Jones and Murphy 2005; Paradis et al. 2006, 2009; Jones et al. 2007; Willners and Paradis 2010; Jones et al. 2012) show great interests in using corpora and experiments to measure the canonicity of antonym pairings. These studies mainly focus on English but also some work for other languages like Swedish and Japanese.

To start with, what is "canonicity"? Then, what is "canonical antonym"? Or, what is "antonym canonicity"? And, most importantly and interestingly, how to measure it?

Murphy (2003: 31) defines the canonicity of antonym is "the extent to which antonyms are both semantically related and conventionalized as pairs in language". Paradis et al. (2009) then extends the definition and further explains, "A high degree of canonicity means a high degree of lexico-semantic entrenchment in memory and conventionalization in text and discourse, and a low degree of canonicity means weak or no entrenchment and conventionalization of antonym couplings. The lexical aspect of canonicity concerns *which* words pairs are located *where* on a scale from good to bad antonyms and the semantic part focuses on *why* some pairs might be considered better oppositions than others." (2009: 380–1) In short words, the canonical ones are supposed to have a high co-occurrence in contexts as well as in human brain, hence it can be reflected in many aspects of language.

Jones et al. (2007) uses the World-Wide-Web as corpus to investigate the antonym canonicity from a number of seed words, by building certain lexico-grammatical constructions in discourse, such as *X and Y alike*, *between X and Y*, *both X and Y*, *either X or Y*, *from X to Y*, *X versus Y* and *whether X or Y*, which are identified by Jones (2002).

Basing on the result of Jones et al. (2007) and employing two experiments, one for elicitation and one for judgment, Paradis et al. (2009) then continue the work of defining what good opposites are. They conclude that there is a small but distinct group of conventionalized canonical antonyms, also, a continuum from excellent antonym pairings with a total participant consensus to pairings with a steady decrease in agreement. Antonymy, as their findings, is primarily a conceptual relation in that binary contrast is always a possibility in meaning construals and such construals are based on general knowledge-intensive cognitive processes.

2.2.2 Markedness

Some opposite pairs are said to have one member as unmarked and the other as marked. Several methods can be used to test which one is unmarked. A literature review on it has been done by Ding and Huang (2013) and we cited their work as follow.

Firstly, a common method is the neutralized question (Lehrer 1985; Lyons 1968, 1977).

It is normal to accept a question like:

How long is it?

Rather than:

How short is it?

The first sentence is always considered as a natural way to ask for the length of something, without any presupposition. So the answer to the first question is free from the limitation of length range—it can be thousands and millions of miles, like for the distance from earth to the sun, but also can be only a few millimeters, like for the measurement of a cell.

In contrast, when using the sentence of "How short is it", the speaker is actually having the supposition that the object he or she refers to is supposed to be short, or shorter than the expected length. So if a basketball player falls to be selected into the national team, because of his height, people might ask: "How short is he?" Even the fact is a basketball player is probably higher than the majority of population. So the marked question, could be "*How short is he?*" but not "*How tall is he?*", "carry with the presupposition that the object in question has already been placed towards one end of the scale rather than the other" (Lyons 1968: 467).

The unmarkedness of opposite members is also "neutralized" (Lyons 1968: 467) by that of nominalization. We may already notice that the word "length", which derives from the word "long", is now used as the term for such property. The above question of "How long is it" can also be uttered as "What is the length of it", but not "what is the shortness of it". Similarly, it is "shortness", rather than "length", that selected for the presupposition that the object is in the scale of being short, or

shorter than expectation. According to Lyons (1968), the fact of the neutralization is that people may feel one of the opposite pair is "positive" while the other "negative". So for the *long: short* pair, *long* is treated as a more-than-normal size, and short as less-than-normal size. In general, people prefer to neutralize the "more than" one as the 'unmarked' one.

Besides, it is natural to use one of the pair as Quantity Measure Adjective (Lehrer 1985). To the question of "How long is it", we usually answer: "It is 5 feet *long*." But not: "It is 5 feet *short*." Unless in: "It is 5 feet shorter than you want." It is the same situation for ratios: utterances like "A is twice/half as long as B" are preferred than "A is twice/half as short as B".

For a limited number of English opposite pairs, it is much easier to indicate which one is the unmarked. Take *happy: unhappy* for example. The later obviously has a morphological markedness of prefix "un-" in its form. And *happy* may be called as the "base-form" of the pair which is morphologically positive, but the other one, *unhappy,* morphologically negative[1] (Lyons 1977). This criterion may be a little tricky if applied to Chinese, since the definition of prefix, suffix and root in English morphology is very problematic in Chinese. For many lexicalized concepts, it is possible to add a negator 不 *bu4/not* to them, shifting from, such as, 快乐 *kuai4le4/happy* to 不快乐 *bu4/not kuai4lei4/happy*. But for some Chinese lexicographers (Liu and Zhou 1995), the character numbers of an opposite pairing are restricted to be the same, except the ones with syllabic suffix like 儿*er0*. So, words like 伤心 *shang1xin1/sad* can be an opposite pairing to 快乐 *kuai4le4/happy* but phrases like 不快乐 *bu4/not kuai4lei4/happy* cannot.

Lehrer (1985) lists three properties of the unmarked one. The first one is "the unmarked member is evaluatively positive; the marked is negative" (Lehrer 1985: 400). It might be questioned on how the positive or negative is defined. For pairs such as *good: bad*, it is easy. But for pairs like *big: small*, the answer may change with contexts. The second one is "the unmarked member denotes more of a quality"; and the third one is "the unmarked member is less likely to be 'biased' or 'committed'" in "asymmetrical entailments". We may find that, for some opposite pairs, neither of the two properties stays consistent in different contexts. Lehrer also admits he often changes his minds when making judgments for those opposite pairs (1985: 401), which of course places a question mark on the applicability of the criteria.

[1]The morphological relation also makes words like *happy* be paired in both gradable and ungradable opposite pairs, like *happy: angry* and *happy: unhappy*. (Lyons 1977: 275).

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