Chapter 4. Human Vision and Hierarchical Distribution

In the previous chapter we studied heart expressions and mind-as-body hypothesis. This chapter deals with human ‘vision’. Human eyes are sensitive and expressive. People usually depend on their sense of vision to learn about the world. People also use their eyes to express their feelings. Human, body, and mind are working synaesthetically. The visual synaesthetic expressions are commonly found in many languages. How does our sense of vision work with other senses as a metaphorical extension in an expression? Which part of speech is the most likely form of synaesthetic expressions? Are synaesthetic expressions just the attributive word-combination? Do the synaesthetic expressions of different languages have similar syntactic structural features? In this chapter, we are studying the synaesthetic metaphors of vision in Mandarin Chinese, Russian and English to see how these metaphors work in these languages.

4.1. Introduction

According to modern cognitive scientific paradigm, the major interest of research is a human being’s perception, cognition and feelings. Synesthesia (also spelled synaesthesia) from Greek syn (with or joined together) and aesthesis (sensation), means ‘the union of senses.’ Synesthesia, being the most mysterious and the least studied phenomenon of human sense perception, is now in the centre of scientific research.

Traditionally a synaesthetic metaphor is understood as the usage of words, connected with one sphere of sensation to express senses and feelings of another sphere of sensorium (e.g., a warm voice, soft light, velvet smile). Cognitive psychology suggests a broad definition of synesthesia as a phenomenon of harmonic intersensual perception, when one cognitive act combines associations of different types. Modern linguistics needs a new theory of synesthesia which takes into account recent data, obtained in cognitive psychology, philosophy, and neurosciences.

The published works on synesthesia are usually done on the basis of one language and investigate only one side of this phenomenon—the interaction of sensorial adjectives within different lexical-semantic groupings.

This study presents synaesthetic metaphors in Mandarin Chinese, Russian and English. We focus on visual synaesthetic metaphors, for example, yan3jian1 眼尖 ‘eye-sharp = sharp-eyed’ contains “vision” as synaesthetic sense and “touch” as a primary sense. We compare synaesthetic
linguists’ approaches, such as Ullmann’s (1959), Williams’s (1976), Classen’s (1993), and Day’s (1996), and take the traditional one—Ullmann’s hypothesis of “hierarchical distribution” (1959: 276-284) as the basis of the analysis.

As synesthesia is a complex many-sided language phenomenon, it is possible to classify it according to several principles. Cross-linguistic research gives an opportunity to investigate universal meaningful and structural features of synaesthetic metaphors, existing in all three compared languages. On the other hand, language peculiarities are revealed to update traditional approaches, explained by the language specificity and different cultural background of the language speakers.

The structure of this chapter is organized as follows: (1) introduction (2) a review of studies on synesthesia in sciences including arts, psychology, neuroscience, linguistics, (3) the presenting analysis of visual synaesthetic metaphors in Chinese, Russian, and English, (4) further discussion about language diversity and linguistic universality, and (5) a conclusion.

4.2. Literature Review

This chapter starts with a brief review of the rich studies of synesthesia in various fields, including those in arts, psychology, neuroscience, linguistics with special emphasis on a synaesthetic metaphor as a conceptual metaphor.

4.2.1. Studies of Synesthesia in Arts, Psychology, and Neuroscience

The problem of interaction of different organs of sense perception has a long history both in humanities and sciences. The fine arts dealt with synesthesia long before it became the object of scientific research. The term ‘synesthesia’ etymologically comes from Greek ‘aesthesis,’ thus being connected with aesthetics. Greek philosophers were the first who tried to explain the phenomenon of synesthesia. Thus, Plato wrote about correspondence of different types of perception (white is regarded as hot, and black as cold, etc.). Aristotle mentioned about physiological syncretism of sensations, relations of color and sound. The deliberate use of synesthesia in poetry and prose began in the epoch of Romanticism, characterized by the flourishing of arts, emotionality, and a deep interest to the inner world of a human. Literary studies of synesthesia can be traced at the end of the 19th century when a new literary trend of symbolism made a special impact on synesthesia in the works of art.

The end of the 19th – the beginning of the 20th centuries was marked by the first peak of interest to synesthesia. It was studied in aesthetics, theory of arts, psychology, physiology, medicine,
linguistics. During the next 100-year-period, synesthesia happened to be both in the center and in the margins of scientists’ interest. The beginning of the 21st century can be regarded as a period of the second peak of interest to synesthesia. It is connected both with the tendency of creating broad interdisciplinary approaches in sciences and humanities and the predominance of the cognitive scientific paradigm in linguistics.

Several popular psychological and neurophysiological theories are trying to explain the phenomenon of synesthesia. According to Pribram, a human brain uses the holographic coding system, which enables it to code all sensor signals through all organs of sense perception (Pribram 1991). The emotive theory of synesthesia explains interconnections of senses by the existence of a common emotional background (Yanshin 1996). According to Starcheus (2003), the closer are the emotional evaluation of different sensations, the brighter the associations and the composite intersensory image. Cytowic (1989, 2002b) backs the statement about the importance of emotions in the formation of synesthesias with the results of tomographic studies. This author writes that synesthesia should be studied not only in neuroscience, but also in medicine, genetics, linguistics, and artificial intelligence. Bardovskaya (2002) in the survey of modern works on synesthesia in sciences dwells on the broadening of the definition of synesthesia which is understood as the phenomenon of harmonic intermodal perception when one cognitive act combines several associations of different types.

4.2.2. Studies of Synesthesia in Linguistics

Both the term and the concept of ‘synesthesia’ were introduced into linguistics from psychology, where synesthesia was defined as a stimulation of one sense alongside another: evocation of one kind of sense impression when another is stimulated, for example the sensation of color when a sound is heard. The linguistic works on synesthesia, traditionally understood as the use of the words connected with one sphere for the nomination of feelings and emotions related to other spheres of sensorium, for example, loud color, sharp mind, soft voice, were published practically simultaneously with the first psychological studies of intermodality in the second half of the 19th century (Paul 1960, Bréal 1991, Potebnya 1976). A great number of monographs and articles on synesthesia have been published recently in linguistics. But up to now there is no generally accepted linguistic definition of synesthesia. According to Bretones-Callejas (2005) three contradicting one another concepts of synesthesia are discussed in linguistics: (1) the acoustic synesthesia (Slawson 1985); (2) synesthesia as a linguistic category, limited only to sensorial fields. This sphere can be widened to the associations between abstract notion and a sensorial impression (e.g., sweet desire, blue shyness); and (3) synesthesia of semantically incompatible components, belonging to the same sensorial field (e.g., blind light, dumb song) (Erzsébet 1974).
The concept of synaesthetic metaphor transformed from its understanding as a metaphor-freak (Binet 1969) and attempts to create a new language (Boduen-de-Kurtenet 1963) to its recognition as a linguistic universal (Kronasser 1998, Ullmann 1959, Whorf 1941), playing an important role in the development of a language. Modern researches of synesthesia regard it not only as a phenomenon of a language, but as a phenomenon, which gives the opportunity to observe some regularities of human cognition (Marks 1978, Petrenko 1988, Voronin 1983).

According to a cognitive theory of metaphor known as “the theory of conceptual metaphor,” metaphor is recognized not only a figure of speech, but also as “a figure of thought” (Lakoff 1986). It is primarily conceptual in nature, with surface manifestations in language. As a basic cognitive structure, metaphor allows us to understand a relatively abstract concept in terms of a more concrete or more structured concept. Structurally, metaphors are mappings across conceptual domains, involving projections from a source domain to a target domain. Such mappings are asymmetric in that they are uni-directional, that is, from the more concrete to the more abstract. According to Yu (2003b), they are partial in that only part of the structure of the source domain is projected to the target domain.

4.2.3. Studies of Synesthetic Metaphors

In this chapter we study a particular kind of metaphor, a synaesthetic metaphor, i.e., metaphor that maps across various sensory domains. Though traditionally, literary synesthesia is regarded as “the exploitation of verbal synesthesia for specific literary effects,” which “is typically concerned with verbal constructs and not with ‘dual perceptions’” (Tsur 1992: 245), the empirical studies demonstrate that even literary synesthesia is constrained as it does not map randomly from any sensory domain to any other one. Sensory domains, coinciding with human sense modalities, traditionally fall into five categories: touch, taste, smell, sound, and sight, hierarchically from the lowest to the highest. Therefore, there should be twenty theoretically possible kinds of cross-modal transfers.

The most frequently cited research on synaesthetic transfers is Ullmann’s classic work on synesthesia in the 19th century poetry (1959). We regard Ullmann’s theoretical framework of “hierarchical distribution” as the theoretical base of our research. Ullmann formulated three overall tendencies in synaesthetic transfers. The first tendency is that “transfers tend to mount from the lower to the higher reaches of the sensorium, from the less differentiated sensations to the more differentiated ones, and not vice versa” (1959: 280). Thus, according to the tendency of ‘hierarchical distribution’ synaesthetic transfers tend to go from the “lower” to the “higher” sensory modes, namely, touch → taste → smell → sound → sight (vision).

According to the second tendency, in keeping with the first one, touch, the lowest level of sensation, is the predominant source of transfers. The third tendency is that sound, rather than sight,
is the predominant destination for synaesthetic transfers, which is somewhat unexpected from the hierarchical point of view. Ullmann explains this phenomenon by the richness of visual terminology in comparison with auditory one. In Ullmann’s view, synesthesia is at the border line of synesthesia proper, i.e., the category of direct name-transfer based on synaesthetic similarity, and of pseudosynaesthesia, i.e., the association of a concrete sensation with an abstract notion, name-transfer based on simultaneous sense-contiguity.

Ullmann’s approach has been backed by other linguists. Major generalization of Williams’s diachronic study of synaesthetic adjectives in English, backed by comparing with their Indo-European and Japanese cognates, proves Ullmann’s (1959: 276-284) conclusions that synaesthetic transfers tend to move upward: if a lexeme metaphorically transfers from its earliest sensory meaning to another sensory modality, it will transfer from the physiologically least differentiating, most evolutionary primitive sensory modalities to the most differentiating, most advanced, but not vice versa. But post-first-order transfers do not obey this constraint with the same regularity. Vision, which we are particularly interested in, is divided by Williams into two sub-modalities: color and dimension. Color may shift only to sound, dimension lexemes transfer to color or sound.

According to cross-cultural ethnological study of Classen (1993), not vision, but hearing ranks highest in the system for synthetic transfers in English: touch → taste → smell → vision → hearing.

Day (1996) inserts temperature between smell and taste: touch → taste → temperature → smell → vision → hearing. He examines the occurrence of metaphorical transfers in both directions in various English texts and found out heavy weighting of the touch → hearing tendency among other types of transfers (42.6%). Transfers from vision have the following ranks in his data: Touch → hearing transfers come first, vision → hearing rank fifth, vision → smell—twelfth, vision → touch—eighteenth among 23 examined types of transfers. Day suggests that the next step in investigation should be the study of synthetic metaphors in other languages and cultures.

Yu (1992) emphasizes that Ullmann and Williams not only proposed universal principles in synthetic transfers, but also expressed the need of a wider investigation of more languages before these hypotheses can be established as universal principles. He found that Ullmann’s first two tendencies (hierarchical distribution and touch as the predominate source) have their parallel tendencies in Mandarin Chinese. His third tendency, sound as the predominant destination, is not so clear in Mandarin Chinese. Williams’s hypothesis about the routes for synthetic transfers was confirmed in Mandarin Chinese except that Mandarin Chinese dimension words transfer not only to color and sound, but also to taste and smell. Yu’s survey of empirical studies of synesthesia in various languages and literatures (2003a) revealed that synaesthetic metaphors are quite selective in terms of directionality. Yu stresses that cross-linguistic and cross-cultural studies may reflect general mechanisms in human language and cognition that are rooted in embodied expressions.
Shen (1997) states that poetic metaphors seem to be highly selective with respect to their directionality of mapping, that is, mapping tends to be one-directional rather than both ways. He analyzed synaesthetic metaphors drawn from Modern Hebrew poetry and found that the Hebrew corpus conforms to Ullmann’s conclusion that synaesthetic metaphors tend to map lower terms onto higher ones in the hierarchy. Moreover, he suggests that the “low to high” mapping follows from the general cognitive constraint which states that “a mapping from more ‘accessible’ or ‘basic’ concepts onto ‘less accessible’ or ‘less basic’ ones seems more natural, and is preferred over the opposite mapping” (Shen 1997: 51).

4.3. Visual Synesthetic Metaphors in Mandarin Chinese, Russian, and English

We investigate one particular type of synaesthetic metaphors—visual synaesthetic metaphors (VSMs). Traditionally works on synaesthetic metaphors are confined with synaesthetic transfers from the lower senses to the higher ones. The opposite type of mapping, i.e. from the highest sense—vision—to the lower ones has not been the object of particular linguistic interest yet. Besides, the results of empirical studies contradict theoretical constructs. Thus, even Ullmann’s data about sound, rather than sight as a predominant destination for synaesthetic transfers does not prove his conclusion about the universal upward tendency.

Traditional synaesthetic transfers correspond to basic sense modalities, such as touch, taste, smell, sound, and sight. Some scientists propose to distinguish between several subtypes within basic senses. The traditional subdivision of the sense of sight is that into color and light. Williams (1976) breaks sight into two subcategories: color and dimension. Gordon (1978) proposes to distinguish between several submodalities in the sense of sight: color, brightness, intensiveness, contour, and location. We will not differentiate senses in our research except the cases when different subcategories of one sense are manifested in one and the same composite synaesthetic metaphor. Emotion and sense are considered as one of the domains of synaesthetic transfers alongside with tactile, gustatory, olfactory, auditory, and visual synesthesias. Besides, we follow the traditional view on sight as color and light. It should also be noted that we look into the sememes of the words and semantic units in the metaphors and that polysemy is not of concern in this chapter.

We included into the examined types of synesthetic transfers emotion and sense modality. Traditionally, transfers from basic senses to emotive sphere are not regarded as synesthesia. Thus, Ullmann (1959) distinguished between synesthetic metaphors and the so called pseudo-synesthesia, based on the transfer sensation → emotion. Most of synesthesia researchers confine themselves to sensation → sensation transfers. But modern science gives the chance to dispute over emotive synesthesia. Psychologists and neurophysiologists proved that emotive factors play the basic role in
forming synesthesia (Velichkovsky, Zinchenko and Luria 1973, Cytowic 2002a, Shiffman 2003). Emotive theory of synesthesia explain the interaction of sensation by common emotional background (Yanshin 1996). Voronin (1983) introduced the term ‘phonosemantics’ to denote a psycho physiological universal, underlying a linguistic universal, explaining sensation-emotion interactions. Bardovskaya (2002), describing temperature-based synaesthetic nominations, introduces a broader category—associations with the sense of psychic modality. We back her viewpoint and study emotion synaesthetic transfers and transfers based on sense of psychic modality in one category emotion and sense modality. We rely on modern neurophysiological and psychological studies of emotions, which are the integral part of all senses.

Dictionaries and literary texts are our data sources, including Chinese Mandarin Online Dictionary (Committee of Official Language Promotion 1998), The Wild Fire (Walther 1985), English and American Literature (Lehmstedt 2002), and Russian Literature From Nestor to Mayakovsky (Litvina and Yermoshin 2003). We use both literary texts and ordinary language, as one of the central claims of the theory of conceptual metaphor is that metaphor in poetry is not an essentially different phenomenon from metaphor in ordinary language; poetic metaphor basically uses the same cognitive mechanisms as everyday metaphor; and what makes poetic metaphor look different, however, is its extension, elaboration, and combination of those mechanisms in ways that go beyond the ordinary (Lakoff and Turner 1989).

Data of three languages and their cross-linguistic study may reflect some general mechanisms in human language and cognition that are rooted in embodied experience.

As theoretical framework of our study is the cognitive theory of metaphor, developed in the broad context of cognitive sciences with the emphasis on cognitive psychology and neurosciences, we support the broad concept of linguistic synesthesia as backed by the newest findings about the great role of emotions in the sphere of human cognition. So we regard emotion as one of the domains of synaesthetic transfers and study the cases of emotional synesthesia.

Table 4.1. Three main domains of synaesthetic transfers of VSMs in our data

<table>
<thead>
<tr>
<th>Languages</th>
<th>sound</th>
<th>touch</th>
<th>emotion and sense</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandarin</td>
<td>7</td>
<td>92</td>
<td>40</td>
<td>173</td>
</tr>
<tr>
<td>Russian</td>
<td>34</td>
<td>13</td>
<td>77</td>
<td>124</td>
</tr>
<tr>
<td>English</td>
<td>24</td>
<td>16</td>
<td>75</td>
<td>115</td>
</tr>
</tbody>
</table>

As synesthesia is a complex many-sided language phenomenon it can be classified according to several principles. We began with a closer look at the directions of the synaesthetic transfers in
the obtained data. Three main domains of the distributions of synaesthetic transfers are given in Table 4.1.

The examples from (1) to (3) are VSMs in Mandarin, Russian and English, mapping from vision to sound. Transfers from vision to sound are abundant in Russian (27.4%) and English (20.9%), but rather rare in Mandarin (4%). We see loanwords in the Mandarin examples in (1), *hei1ren2yin1yue4 黑人音樂* ‘black-people-music = soul music,’ and also semantic comparisons, *shi4ting1 視聽* ‘see-hear = what is seen and smelled.’ That is to say, transfers from vision to sound are limited, and most of them are borrowings or simple comparisons. However, transfers from vision to sound are quite common in Russian (2) *bely perezvon белый перезвон* ‘white carillon’ and English (3) *bright music.* This shows that Russian and English rely heavily on the mapping from vision to sound. We have a further discussion in this regard later.

(1). (Mandarin Chinese) vision → sound:
*yan3guan1s4fang, 1er3ting1ba1fang1 眼觀四方, 聽八方* ‘eye-see-four-direction, ear-hear-eight-direction = to have sharp eyes and keen ears; to be observant and alert; to be all eyes and ears’
*kan4ren2zuei3lian3 看人嘴臉* ‘see-people-mouth-face = to live on another’s favor; to depend on another’
*hei1ren2yin1yue4 黑人音樂* ‘black-people-music = soul music’
*mian4hong2er3chi4 面紅耳赤* ‘face-red-ear-red = emotionally excited, face reddens to the ears’
*shi4ting1 視聽* ‘see-hear = seeing and smelling; what is seen and smelled’
*jian4wen2 見聞* ‘see-smell = what one sees and smells; knowledge; information; experience’

(2). (Russian) vision → sound:
*bely perezvon белый перезвон* ‘white carillon,’
*blestyashchy razgovor блестящий разговор* ‘lustrous talk,’
*zhelten’ky golos желтенький голос* ‘yellowish voice,’
*zelenaya tishina зеленая тишина* ‘green silence,’
*zolotaya pesn’ золотая песнь ‘gold song,’
*zolotoy golosok золотой голосок ‘gold voice,’
*krasny smekh красный смех ‘red laughter,’
*matovy rycь матовый рык ‘lusterless growling,’
*prozrachnye zvuki прозрачные звуки ‘fragrant sounds,’
*svely smekh светлый смех ‘light laughter,’
*chernoye slovo черное слово ‘black word’
(3).  (English) vision → sound:
bright sound,
colored musical things,
colorless voice,
dark noise,
dim tales,
dull music,
glaring loudness,
gloomy silence,
golden silence,
luminous conversation,
silvery silence,
darken tale,
white voice

Examples (4) to (6) below contain VSMs in three languages, mapping from vision to touch. The Mandarin examples in (4) recur with high frequency (53.2%); synaesthetic metaphors from vision to touch are the most frequent transfers in Mandarin (see Table 4.1). Quality in objects such as texture (soft, hard), temperature (hot, cold), and space (separating, through) are included in touch. All above submodalities of touch are presented in Mandarin examples. As for Russian (10.5%) and English (13.9%) data, they are constrained to temperature, space submodalities and movement. The total number of synaesthetic transfers from vision to touch in these two languages is noticeably less than in Mandarin.

Unlike emotion or sound, qualities of objects such as space dimensions (touch) are perceived with eyesight. The integration of vision in this cognitive construction occurs in an unconscious way that is activated in identifying objects and generating “mental visual images” (Kosslyn et al. 1995). Touch is regarded as a lower sense (Ullmann 1959, Williams 1976). Mapping from the “higher” to the “lower” sensory modes is particularly obvious in our Mandarin data.

(4).  (Mandarin Chinese) vision → touch:
mu4bu4xia2jie1 目不暇接 ‘eye-no-free-catch = so many things come into sight that the eyes are kept fully occupied’
mu4guang1xia2zhai3 目光狹窄 ‘eye-light-narrow-narrow = to have tunnel vision’
mu4ji2 目擊 ‘eye-beat = to witness; to see with one’s own eyes’
yan3ya1 眼壓 ‘eye-pressure = intraocular pressure’
kan4bu4shuen4yan3 看不順眼 ‘see-no-along-eye = (things) are disgusting (to look at)’
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kan1shou3 看守 ‘see-guard = watch (prisoner, house)’
kan4chuan1 看穿 ‘see-wear = see through (life, trick)’
kan4zhong4le 看中了 ‘see-middle-already = have a liking for (an object)’
kan4puo4 看破 ‘see-broke = to see through a thing 2. to be resigned to what is inevitable’
hei1bai2bu4fen1 黑白不分 ‘black-white-no-separate = do not distinguish between right and wrong’
hei1shi4jiao1yi4 黑市交易 ‘black-market-join-easy = black market’

(5). (Russian) vision → touch:
  belye dvizheniya белые движения ‘white movements,’
  beszvetno dni tekli бесцветно дни текли ‘days flew colorless,’
  goluboy pokoy голубой покой ‘light-blue calm,’
  matov znoy матов зной ‘lusterless hot,’
  svetloye dvizheniye светлое движение ‘light movement,’
  svetlye sny светлые сны ‘light dreams,’
  sinyaya prokhlada синяя прохлада ‘dark-blue coolness,’
  son goluboy сон голубой ‘light-blue dream,’
  teplotoy zoloitsya теплотой золотится ‘gold with warmth,’
  kholod siny холод синий ‘dark-blue cold’

(6). (English) vision → touch:
  breathed black,
  bright calm,
  bright movement,
  dim stillness,
  red-hot,
  red of heat,
  white fire,
  white-hot,
  white of heat

The examples (7) to (9) below contain synaesthetic transfers from vision to emotion and sense. Mapping from vision to emotion and sense modality is characteristic to all three analyzed languages, being the major type of transfer in Russian and English and the second one after transfer
from vision to touch in Mandarin Chinese. The examples in (8) show that both positive and negative emotions *svetlaya radost* ‘light joy,’ *cherny gnev* черный гнев ‘black anger’ are presented in target domain in Russian. Emotions are revealed both by color words *rozovye mechty* розовые мечты ‘pink dreams,’ *belaya zhut* белая жуть ‘white horror’ and by light words *svetlaya taina* светодая тайна ‘light mystery,’ *tuskloye zhitiyo* тусклое житье ‘dull life.’ The examples in (9) mostly comprise light words *dim apprehension, lustrous passion.* Ward (2004) indicates that words having emotional connotations, such as *love,* have a tendency to bring out a synaesthetic response. The examples (7) to (9) prove that visual-emotive synesthesia is the fact of language use and the most common type of synaesthetic transfers in Russian and English.

(7). (Mandarin Chinese) vision $\rightarrow$ emotion and sense:
- *hong2se4kong3bu4* 紅色恐怖 ‘red-terror = red terror’
- *hong2bai2xi3shi4* 紅白喜事 ‘red-white-happy-thing = weddings and funerals’
- *ming2mu4zhang1dan3* 明目張膽 ‘clear-eye-open-gall = to do evil things openly and unscrupulously; to have the impudence to do something; to throw all scruples to the air’
- *guang1guai4lu4li2* 光怪陸離 ‘light-strange-land-leave = grotesque in shape and gaudy in color; strange looking’
- *shi4wei2wei4tu2* 視為畏途 ‘see-for-fear-way = to be afraid to undertake something’
- *an4xiao4* 暗笑 ‘dark-smile = to snigger; to have a chuckle’
- *an4shang1* 暗傷 ‘dark-hurt = internal injury of human body; invisible injury of human body’

(8). (Russian) vision $\rightarrow$ emotion and sense:
- *belaya zhut* белая жуть ‘white horror,’
- *garmoniki zheltya grust’* гармоники желтая грусть ‘light sadness of harmonica,’
- *prozrachnaya dusha* прозрачная душа ‘fragrant soul,’
- *rozovye mechty* розовые мечты ‘pink dreams,’
- *svetlaya radost’* светодая радость ‘light joy,’
- *svetlaya taina* светодая тайна ‘light mystery,’
- *svetloye serdtse* светлое сердце ‘light heart’
- *tuskloye zhitiyo* тусклое житье ‘dull life,’
- *cherny gnev* черный гнев ‘black anger,’
- *cherny styd* черный стыд ‘black shame,’
- *chernaya skuka* черная скуча ‘black boredom,’
- *yarkaya slava* яркая слава ‘bright glory,’
- *yarkiye mechty* яркие мечты ‘bright dreams’
(9). (English) vision $\rightarrow$ emotion and sense:
colorless depression,
dim apprehension,
fiery-colored prose,
glaring fraud,
glaring joy,
gloomy grief,
hope grew pale and dim,
luminous personality,
lustrous passion,
pale grief,
radiant happiness,
radiant with glory,
sparkling fury,
white glory

Our Mandarin data give some VSMs with target domain taste. It is not shown in our Russian and English data. Some examples are given in (10).

(10). (Mandarin Chinese) vision $\rightarrow$ taste:
\begin{itemize}
  \item wang4mei2zhi3ke3 望梅止渴 ‘see-plum-stop-thirst = tell the army there are prunes ahead so as to stop their thirst; wishful thinking’
  \item mei3wei4 美味 ‘beauty-taste = delicious food; delicacies; dainties; relish’
  \item qing1-se4 青澀 ‘blue-astringent = unexperienced’
  \item huo3la4la4 火辣辣 ‘fire-spicy-spicy = burning; scorching; searing’
  \item cheng1mu4jie2she2 瞅目結舌 ‘stare-eye-tie-tongue = to stare dumb-founded’
  \item yan3chan2 眼饞 ‘eye-greedy = to cast a covetous eye (on something); to be envious’
  \item bai2chi1 白吃 ‘white-eat = eat without pay’
  \item heilchi1heil 黑吃黑 ‘black-eat-black = double cross’
  \item an4chi1yi1jing1 暗吃一驚 ‘dark-eat-one-startle = startled secretly’
\end{itemize}

The fact that the Chinese emphasize eating and are famous for their tasty cuisine is probably an explanation for this linguistic phenomenon. That is, eating culture is reflected in Mandarin Chinese. Taste has already been in the focus of some linguistic studies. Strauss (2005) investigates the linguistic aestheticization of food in the comparison of food commercials in Japan, Korea, and the United States. Probing into linguistic and conceptual factors, Ward and Simner (2003) study
how speech sounds induce an involuntary sensation of taste, subjectively located in the mouth, in the synaesthesia.

The results of our study show that, despite those features peculiar to Mandarin Chinese, synaesthetic metaphor in Mandarin Chinese does conform to the general tendencies observed by Ullmann (1959) and Williams (1976) in English and some other languages.

4.4. Discussion: Language Diversity vs. Linguistic Universality

The analysis of the synaesthetic metaphors in Mandarin Chinese, Russian, and English show noticeable language diversity in the types of synaesthetic transfers from vision to other types of sense modalities. While in Mandarin the predominate target domain is touch, in Russian and English the major destination is emotion and sense modality. Transfer from vision to taste is typical only for Mandarin data. While Russian and English rely heavily on the mapping from vision to sound, Mandarin Chinese does not. Yu (2003a) explains the poor presentation of such sound transfer in Mandarin. According to his Mandarin data, Yu elucidates that sound is more abstract than sight in the sense because sound gives no obvious spatial existence. So, “its understanding and description are expected to undergo metaphorical mapping in terms of entities and substances that do have spatial existence” (Yu 2003a: 30). Space and sound synaesthetic metaphors in Mandarin is an interesting subject for further research.

The diversity between Mandarin Chinese, on the one side, and Russian and English, which have much in common in our data, can partially be explained by different morphological structure of the languages. Thus, according to morphological classification of languages, Mandarin Chinese is an isolating language, while both Russian and English are inflecting languages. Different metaphorical mapping of the Mandarin Chinese and the Indo-Europeans (the Russians and the English) can be clarified by hemispherical differences of the above nations. The Chinese are traditionally thought to have the dominant right hemisphere, while the Europeans—the left one (Sergeyev 1983). Different hemispheres are responsible for different types of perceptions. Thus, the right hemisphere is closely connected with space representations, which are characteristic of touch. We suppose that the predominance of right hemisphere explains the mapping from vision to touch in Mandarin data.

In addition, our data also show language universality. Mandarin, English and Russian VSMs share three target domains of synaesthetic transfer, namely sound, touch, and emotion. We could predict that sound would be the destination of VSMs, as manifestations of visual-auditory synesthesia are studied both in psychology and literary analysis. This type of transfer supports Ullmann’s hypothesis about sound as a predominate destination of synaesthetic transfers, but
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contradict his statement about the downward route of transfer from the “lower” to the “higher” sensory modes. Still, sight is the highest sensory mode, and sound ranks the second. So, this type of transfer combines two highest sensory modes.

To get touch as one of the major target domains happened to be unexpected, as touch is the lowest sensory mode. Therefore, our data contradict Ullmann’s postulate about the routes of synaesthetic transfers. This type of mapping needs further theoretical and practical research.

Ullmann wrote about universality of transfers from lower to upper, but his practice showed, that not the upper level—sight happened to be the major target domain, but sound (in that is his contradiction). Most researchers consider transfers from high to low untypical, not a universal tendency (e.g., Yu 2003a). But we show that it is a universal tendency.

Mapping from sound to emotion is the most common both for Russian and English. Thus, our research confirms modern neurological and psychological theories about the major role of emotions in intermodal associations and processes of cognition in general.

Analyzing VSMs, we found out that this type of metaphor is frequently a part of a composite synaesthetic metaphor, combining different types of transfer. The examples (11) to (20) below contain various combinations of synaesthetic transfers.

(11). sladostnye mucheniya, svetlo opalyushchiye dushu сладостные мучения, светло опаляющие душу ‘sweet torments, brightly burning the soul’

(12). luchezarnaya radost' prozvenela v samykh dal'nykh koridorakh yego serdtsa лучезарная радость прозвенела в самых дальних коридорах его сердца ‘radiant joy rang in the remote corridors of his heart’

(13). dushe khochetsya smeyatsya: yeyo pyanit svetly smekh душе хочется смеяться: ее пьянит светлый смех ‘the soul wants to laugh: it is drunken with light laughter’

(14). with the wine of her bright and liquid song

(15). sang of Zion, bright and free

(16). ardours of fiery-coloured love

(17). majestic prose of his, so fervid and so fiery-coloured

(18). colorless and manifold diluted repetition

(19). yong4 you1yu4 de yan3jing1 he4 wo3 dui4yin3 用幽鬱的眼睛和我對飲
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‘use-dim-gloomy-of-eye-with-I-pair-drink = drinking with me with gloomy eyes’

(20). *chen4zhe hei1ye4, zai4 nu4hao2 de bao4feng1yu3 zhong1 fei1 lai2* 趁著黑夜, 在怒號的暴風雨中飛來 ‘by-black-night, in-angry-cry-of-strong-wind-rain-middle-fly-come = flying to me in howling storm at night’

The example in (11) is a composite synaesthetic metaphor, combining taste, emotion and touch. In (23) emotion is the target domain of vision and sound. In (13) the composite metaphor combines vision, sound, taste and emotion. In (14) vision and touch map to sound. In (15) vision and emotion move to touch in (16). Touch together with a combination of color and emotion map to emotion in (17). In (18) vision and taste map to emotion. In Mandarin examples, (19) gives emotion, vision, and taste, while (20) combines vision, emotion, and touch. So, in Mandarin, Russian and English data composite synaesthetic metaphors combine two, three or more synaesthetic transfers.

Yu (2003a), describing various composite synaesthetic metaphors in the literary works of a Chinese contemporary novelist, Mo Yan, draws to a conclusion that simultaneous appeal to multiple sensations is a peculiar feature of this author, making him a master of style. Our analysis demonstrates that the description of multiple sensations is a very common literary technique, used by authors of different genres and styles. But we agree with Yu (2003a) that composite synaesthetic metaphors are extended, elaborated and compressed. Moreover, composite synaesthetic metaphors with visual component are characterized by additional imagery and brightness.

Composite synaesthetic metaphors are embodied in sentences (phrases) or super phrase unities (abstracts, microcontexts). It is not reasonable and sometimes even impossible to divide such abstracts into components, as synaesthetic transfers are interconnected. In (21) the abstract is an example of the manifestation of synesthesia in a microcontext.

A звезды! На черном небе так и кипит от света, дрожит, мерцает. А какие звезды!.. Усатые, живые, бьются, колют глаз. В воздухе-то мерзлота, через нее-то звезды большие, разными огнями блещут – голубой хрусталь, и синий, и зеленый, – в стрелках. И звон усляшшишь. И будто это звезды – звон-то!
Морозный, гулкий – прямо серебро. Такого не усляшшишь, нет. В Кремле ударят – древний звон, степенный, с глухотцой. А то – тугое серебро, как бархат звонный. И все запело, тысяча церквей играет. Такого не усляшшишь, нет. Не Пасха, перезвону нет, а степлет звоном, кроет серебром, как пенье, без конца-начала... – гул и гул’ [Лето Господне И.С. Шмелева].
Translation: ‘And the stars! It is boiling from the light in the black sky, trembling, shivering. And the stars! Bearded, alive, they beat, hurt the eyes. Coolness in the air, and because of it the stars seem to be larger, they twinkle with different flames – light-blue crystal, and dark-blue, and green in arrows. And the chime is heard. As if the stars are the chime. Frosty, resonant – like silver. You can’t hear such one. When they strike the bell in the Kremlin – the chime is ancient, dignified, and husky. And here – tough silver, like resolute velvet. And everything has sung, a thousand of churches strike the bell. You can’t hear it. It is not the Easter; there is no peal of the bells, but it covers with the chime, lays silver as a song without beginning and end – the boom and boom.’ (The God Summer by I.S. Shmelev).

In the first part of the abstract, describing stars in the dark night sky, visual images, dominate. The second part describes the auditory sensations of bells chime. To combine them the author uses synesthesia, comparing visual objects and sounds: As if the stars are the chime. But this visual-auditory synesthesia, being the core one, is not the single synaesthetic metaphor in the abstract. It is backed by additional synaesthetic characteristics, in which different types of touch sensations prevail: the light of the stars makes the sky boil and shiver (vibration-tactile synesthesia); the stars beat, hurt the eyes (pain-tactile synesthesia); the chime is frosty (temperature-auditory synesthesia), like tough silver, resolute velvet (tactile-visual images). Combinations of interrelated synesthesias in this abstract, which can be regarded as a sustained metaphor, create an exquisite artistic image and a powerful emotional effect.

According to a formal aspect, all the components of a VSM are combined on the basis of subordinate (krasny smekh красный смех ‘red laughter,’ golden silence) and predicative conjunction (komu zh tvoyi klyuchi ty zolotil poyushchim slovom кому ж твои ключи ты золотил поющими словом ‘whom did you gild your key with a singing word,’ the word darkened). Coordinate conjunction is used when a VSM is accompanied with other types of synaesthetic metaphors (golos byl sladky i kholodny голос был сладкий и холодный ‘the voice was sweet and bright,’ grey clouds were fuming up, fuming up as if breathed black and icily).
Our data contradict to the generally accepted assertion that the only one or the most typical type of grammatical pattern of a synaesthetic metaphor is an attributive word combination, giving the unique possibility to reveal the direction of synaesthetic transfer (Gak 1988, Yelina 2002).

<table>
<thead>
<tr>
<th>Languages</th>
<th>words</th>
<th>word-combinations</th>
<th>sentences</th>
<th>microcontexts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russian</td>
<td>6%</td>
<td>65%</td>
<td>25%</td>
<td>4%</td>
</tr>
<tr>
<td>English</td>
<td>8%</td>
<td>73%</td>
<td>15%</td>
<td>3%</td>
</tr>
</tbody>
</table>

However, Mandarin Chinese is different for its syntactic structure. One sensitive issue regarding the Mandarin data is that the so-called part-of-speech (e.g., adjectives, verbs) is context dependent.

Though attributive word-combinations are the most common structure in our Russian and English data see the, other types of word-combinations also can be found (see the examples from (1) to (9), which are mainly attributive word-combinations). When a visual synethetic metaphor is combined with other types of synethetic metaphors, comparative word combinations are often used: **huei2mou2yi1xiao4 bai3mei4sheng1** 回眸一笑百媚生 ‘back-eye-one-smile = look back with a smile and all charms appear’ (touch ⇔ vision ⇔ emotion ⇔ vision), **ta1 yao4 kan4 ren2 de zui3-lian3 guo4-zi** 他要看人的嘴臉過日子 ‘he has to see-people-mouth-face spend-days = he has to live on another’s favor; he has to depend on another.’ (vision ⇔ sound ⇔ emotion ⇔ touch), **slova, skazannye im, byli yarki kak nebesny ogon** ‘words said by him were as bright as the heaven’s light’ (sound ⇔ vision), **yest’ slova – ikh dykhanye, chto zvet, tak zhe nezno i belo-trevожно** ‘there are words, whose breath is as tender and white-anxious as a flower’ (sound ⇔ touch ⇔ vision); **clouds were fuming up as if breathed black and icyly** (touch ⇔ vision ⇔ touch).

A Mandarin syntactic characteristic enables many four-word idioms being nouns and sentences depends on the contexts, for examples, the following four-word idioms (they are visual synaesthetic metaphors) can all be either nouns or sentences because subjects are not bound to Mandarin sentences: **Jian4xian2si1qi2** 見賢思齊 ‘see-virtuous-think-together = seeing another better than oneself, one tries to equal him,’ **an4jian4shang1ren2** 暗箭傷人 ‘dark-sword-hurt-people = make sniping attacks, slander others behind their backs,’ and **wang4mei2zhi3ke3** 望梅止渴 ‘hope-plum-stop-thirsty = tell the army there are prunes ahead so as to stop their thirst; wishful thinking.’
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Besides word-combinations, words, sentences and microcontexts embody visual synaesthetic metaphors. A word-metaphor is usually a compound word, formed according to the syntactical pattern Adv. plus Adj. *morozno-matovy nalyot* морозно-матовый налет ‘cold-lustreless coating,’ *trevozhno-krasny rot* тревожно-красный рот ‘agitatingly-red mouth.’ In our English data there are many temperature adjectives with the meaning of high intensity of the temperature, which is suppressed by the first color component: *red-hot, blue-hot, blue-cold.*

We propose to include sentences and microtexts as syntactical patterns of representations of VSMs, as sometimes it is impossible to pick out the VSM from the composite intersensory metaphor.

### 4.5. Conclusion

The research described here shows both universal tendencies and language diversity in the directionality of metaphorical mapping. Target domains for VSMs in our Mandarin, Russian and English material falls into three domains: emotion, sound and touch. But the ranks of these domains are different for Mandarin, on the one hand, and Russian and English, on the other hand. Emotion ranks the second in our Mandarin data and the first in Russian and English. The dominance of emotion and sense domain as the final point of visual synaesthetic transfers is backed by the recognition of the paramount role of emotions in the processes of human cognition. Touch is the major destination of synaesthetic transfers in Mandarin and the third target domain in Russian and English. Sound ranks the second in Russian and English and the third in Mandarin. The similar results for Russian and English, which differ considerably from Mandarin ones, can be explained by similar inflecting morphological structure of the above Indo-European languages and isolating character of Mandarin Chinese. Touch, being lowest sensory mode, happened to be the first target domain for Mandarin. We suppose that the dominance of the right hemisphere of the Chinese, responsible for touch perception, can account for our results. Still our data need further study and cognitive explanation.

Mapping from vision to sound and touch contradicts Ullmann’s hypothesis of ‘hierarchical distribution’ of synaesthetic transfers from the “lower” to the “higher” sensory modes. But our results can be backed up by the cognitive theory of metaphor. It allows us to understand a relatively abstract concept in terms of a more concrete or more structured one. Traditionally, mapping from lower sensory domains to higher ones, was regarded as corresponding to the cognitive theory of metaphor. We think that modern researches on the problem of sense perception in cognitive science lead to the review of the division of sensory modes into lower and higher, as lower modes happened to have a very complicated structure and are interconnected with other senses.

We propose to discuss the role of touch in terms of conceptual domain of space, occupying a special place in cognitive linguistics. There are two cases in special conceptualization of abstract
concepts: the location-dual, and object-dual (Lakoff 1993). According to Yu (2003a: 33), spatialization of abstract concepts is a general cognitive principle: to view abstract concepts as three-dimensional locations, entities or substances that exist in space. This is what the conceptual metaphor theory calls metaphorical mapping from the more concrete to the more abstract, or from the more structured to the less structured. But location and form, together with of the submodalities, are included into the sense of touch, regarded as a lower sense. Thus, cognitive theory of metaphor supports our empirical results of touch as a target domain of synaesthetic transfers from the so-called higher sensory domains, which is particularly obvious in our Mandarin data.

The claim of cognitive psychology, being the core element of cognitive sciences, lies in the coordination of organs of sense perception and dominance of emotions in the processes of human perception and cognition. Cognitive linguistics, backed by cognitive psychology and theoretical and practical studies of intermodality in such sciences as philosophy, psychology, psycholinguistics, aesthetics, and the theory of arts, applies to regularities and specifics of formation of synaesthetic language expressions. The integrity of human perception and the interconnection of feelings with the dominance of emotions can explain the interplay and sometimes inseparability of several different synaesthetic meanings within one verbal representation.
Chapter 7. Animal Vehicles and Semantic Functions

What do different animals mean to people? What features of an animal strongly influences human beings and then makes it stand for a certain way of human life? How is this animal image formed in human culture? Does the human-animal relation have an influence on animal names and embodiment in our language? In this chapter, we study the animal expressions in Mandarin Chinese and German to see how these animal names work as vehicles in both languages. This chapter gives an overview of the related study on domestic animal, wild animal as well as mythical animal vehicles. The following chapters will provide more detail for the embodiment of the respective animal vehicles in languages.

7.1. Introduction

Over the years there has been continuing interest in the research of idioms, metaphors, and, in recent years, cognitive endeavors. In comparison, studies on animal expressions are relatively few. Craddick and Miller (1970) examine the animal names used to represent the outer and inner selves. They identify the concept of self in terms of animal names. Fraser (1981) examines insulting terms that involve animal names. Those in English are: stupid-donkey, coward-chicken, sneaky-snake, mean-dog, nasty-rat and dirty-pig. One of Fraser’s results shows that stupid-donkey and dirty-pig are more widespread than nasty-rat is. Davies and Bentahila (1989) examine animal terms in British English and Moroccan Arabic. Their informants are instructed to indicate, for each term, which meaning they would most likely understand if they were to hear it being applied to someone. Similarity, salience and relevance are applied to categorize animal metaphors. Nesi (1995) discusses single-word conventional animal metaphors in different cultures.

This chapter deals with important vehicles in Mandarin Chinese and German to give an overview for the following chapters concerning animal expressions.

Language change and language development are observed, such as the reason for the disappearing of an animal expression and the newly generated metaphorical tenors. Also the

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* The original version of the present chapter was published with Jan Jucker in 2003 in the *Proceedings of the Corpus Linguistics 2003 main conference*, England: Lancaster University, pp. 332-341.
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concepts of the animal names are investigated. Because human beings have lived close to animals since the beginning of their existence, studies based on the animal corpus about how people observe and describe animals and use animal names in their languages may help us to understand or reveal, or both, cultural backgrounds and differences.

This chapter is organized as follows: (1) introduction, (2) theoretical framework, (3) semantic functions of animal vehicles in Mandarin Chinese and German, and (4) conclusion.

7.2. Theoretical Framework

This chapter reports mainly the field of the semantic feature and its interaction with other fields. The semantic features are abstracted in the way shown below:

1. compound A: e.g., shu3she2yao1 水蛇腰 ‘water-snake-waist = a slender waist,’ here “snake” carries the semantic features [+slender, +curvaceous] and Hasenherz ‘hare’s heard = coward’: here “hare” stands for [+cowardly, +anxious]. The features are heavily bound with other elements in the animal expression.

2. compound B: in many cases, the sole metaphoric sense of the vehicle is the intensifier of a word, as, e.g., in Affenhitze ‘monkey-heat = scorching and sizzling heat’ the monkey stands for [+intensifier].

3. phrase: An example for this category is null Bock ‘nil-ram = it does not really grab me to it’ here the “ram” contains the semantic features [+mood, +desire, +lust].

4. sentence: shan1zhong1wu2lao3hu3, hou2zicheng1da4wang2 山中無老虎，猴子稱大王 ‘mountain-center-no-tiger monkey-call-big-king = the weak can king and dominate without the existence of the strong’; here the tiger conveys the sense of the whole sentence [+head, +powerful, +significant]. Auf der Bärenhaut liegen ‘on-the-bearskin-lay = laze around, have a lazy time of it’; here the “bear” conveys the sense of the whole sentence [+lazy, +inactive].

Lakoff and Johnson (1980) indicate that the Americans very often integrate concepts such as “love is madness” and “time is money” into their daily language and actions. Such conceptual metaphors are a use of imagery based on concepts that are heavily culture-related. The present animal expression corpora also shows that our adopting animal names as metaphorical vehicles in our languages is closely related to situations or to culture. Low (1988: 133) points out that animal expressions refer to undesirable traits, reflecting human views of animals as lower forms of life. The present corpora give a different view. Though animal metaphors are often abusive, some of them are positive (e.g., terms of endearment, benediction, praise, jest…) and others are neutral (e.g., objects, euphemisms, exclamatory expressions…).
7.3. Semantic Functions of Animal Vehicles in Languages

Only the most productive Vehicles will be briefly discussed in this section to present a clear overview of the semantic functions of animal names in languages.

7.3.1. In Mandarin Chinese

The following paragraphs discuss only the most productive metaphorical vehicles: domestic animals (35.2%), wild animals (20.7%), and mythical animals (9.5%) in the collected corpus of Mandarin Chinese.

7.3.1.1. Names of Domestic Animals

Table 7.1 lists the semantic functions of the most productive vehicles, and the percentages indicate the more salient features. The horse was an important means of transportation and important in war. It continues to perform these functions in languages, though not in the real world. Bing1ma3 兵馬 ‘troop-horse’ first stood for military forces; now it also means workforce or personnel. Qian1jun1wan4ma3 千軍萬馬 ‘thousand-soldier-ten thousand-horse’ means not only a huge army, but also an imposing scene. The metaphorical vehicle ma3 馬 ‘horse’ represents a variety of meanings in Chinese history = a means of transportation, war, social activities, an old utensil, clothing, and philosophy (Table 7.1).

<table>
<thead>
<tr>
<th>Vehicles</th>
<th>Semantic Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>cat</td>
<td>Weakness 27.3%, shrillness, falseness, lechery, gluttony</td>
</tr>
<tr>
<td>cattle</td>
<td>big size 11.1%, strength 11.1%, stupidity 9.3%, sluggishness 5.6%, stubbornness 5.6%, intensifier 5.6%, slowness, profit</td>
</tr>
<tr>
<td>chicken</td>
<td>inferiority 23.4%, announce the daybreak 10.6%, talkative</td>
</tr>
<tr>
<td>dog</td>
<td>inferiority 23.7%, serf 10.5%, cheat 6.6%, stupidity 5.3%</td>
</tr>
<tr>
<td>Horse</td>
<td>strength 14.9%, war 12.3%, means of transportation 9.6%, power 7.9%, good people 3.5%, woman 2.6%, toil, agile, stupidity, labor, diligence, wild</td>
</tr>
<tr>
<td>mandarin duck</td>
<td>wedded bliss 66.7%</td>
</tr>
<tr>
<td>pig</td>
<td>stupidity 29.4%, laziness 17.6%, dirt 17.6%</td>
</tr>
<tr>
<td>sheep</td>
<td>profit, event</td>
</tr>
</tbody>
</table>
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In modern usage, as languages contact extensively, when translating the phonetic combination /ma/, the morphological representation ma3 马 is adopted, such as in ma3sai4ke4 马赛克 ‘mask; censorship,’ ma3la1song1 马拉松 ‘marathon,’ etc. The reasons for this are that ma3 马 is one of the 5000 most frequent Chinese morphological representations, it also has a neutral or positive connotation as shown in Table 7.1 (strength, means of transportation, power, good people, diligence, agile), and it is a common phonetic combination in alphabetical languages. Ma3 马 is here a semantically arbitrary application.

Ji1 雞 ‘chicken’ has a similar development. Ji1po2 雞婆 ‘chicken-aunt’ is a phonetic translation from the Taiwanese gebe⁸ (someone who likes to take care of something which is not his business), a frequent animal expression in newspapers. Linguists believe that ji1po2 雞婆 should be written as jia1po2 家婆,” but the mass media persist in using ji1po2 雞婆”. The Chinese character ji1 雞 is probably used because the semantic feature [+talkative] of the chicken-expression does fit the sense “smart-alecky, saucy, brassy.” Long2 龍 ‘dragon’ has a similar and even stronger usage than ma3 马 ‘horse’ and ji1 雞 ‘chicken’ that will be further discussed later.

Rawson (2006) indicates that the word “rooster” is an Americanism. He notes that the appearance of a rooster in the written record toward the end of the eighteenth century signals a major cultural and linguistic change. At that time, people began to be much more fastidious when speaking of death, sex, and their bodies. That was also the time when donkey, limb, and bosom replaced ass, leg, and breast, when trousers and breeches became inexpressible and unmentionable.

Yang2 羊 ‘sheep’ is not productive in Mandarin Chinese. One of its salient features is [+profit], which is also one for niu2 牛 ‘cattle.’ Niu2 is similar to ma3 马 ‘horse’; both introduce the old and new society, such as lao3niu2che1 老牛車 ‘old-cow-car = a very slow car’ and niu2rou4chang2 牛肉場 ‘cattle-meat-field = striptease.’

7.3.1.2. Names of Wild Animals

The semantic features of the animal names (animal vehicles) are highlighted through the blend of other lexical items in animal expressions; for example, tiger in Mandarin Chinese can combine with wolf, and its [+greed, +hunger, +cruelty] are stressed, as in lang2tun1hu3yan4 狼吞虎嚥 ‘wolf-swallow-tiger-gobble –wolf down; gobble up; devour ravenously’ and ru2lang2si4hu3 如狼似虎 ‘like-wolf-like-tiger = as ferocious as wolves and tigers; like cruel beasts of prey.’ When sheep and tiger come together, tiger’s [+cruelty, +violence, +danger] is emphasized, as in yang2ru4hu3kou3 羊入虎口 ‘sheep-in-tiger-mouth = in a perilous position.’ Of the animal expressions in the collected Mandarin Chinese corpus, 11.8% have two or more vehicles, but only

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⁸ According to Huang (1993: 21), 73.3% of speakers in Taiwan speak Taiwanese.
1.9% in the collected German corpus do. This reveals the syntactic and semantic nature of Mandarin Chinese.

Mandarin Chinese hu3 虎 ‘tiger’ occupies the domain ‘big, strong’; other features such as [+courageous, +vital, +proud, +significant, +energetic] are included in this domain; big and strong can be ‘powerful’ or conversely ‘dangerous’ depending on the need. This makes tiger a “wonderful” semantic contributor for the subject ‘man.’ We therefore have a large number of tiger-expressions in Mandarin Chinese denoting ‘man,’ for example, biao1xing2da4han4 彪形大漢 ‘young tiger-form-big-man = husky fellow’ and hu3jiang4 虎將 ‘tiger-general = brave general,’ etc. This domain is bordered by gender. It is kept for males in Mandarin Chinese and cannot be applied to females. When it is, the sense is shifted to ‘a terrible woman,’ as in mu3lao3hu3 母老虎 ‘female tiger = tigress; fractious women,’ hu3gu1po2 虎姑婆 ‘tiger-aunt = evil woman’9 and bai2hu3xing1 白虎星 ‘white-tiger-star = jinx; women who bring hard luck,’ showing only negative tiger semantic features. Cultural background is required for understanding such expressions.

Animal expressions demonstrate the sense extension involved with metonymy, for example, e2mei2 蛾眉 ‘moth-eyebrow = delicate eyebrows; beautiful woman.’ A part-for-whole coding strategy (synecdoche) amply exploited in language.

Although some domestic animals are also food products, yu2 魚 ‘fish’ and niao3 鳥 ‘bird’ are semantically representative for [+profit, +gain], such as in fang4chang2xian4diao4da4yu2 放長線釣大魚 ‘cast-long-line-catch-big-fish = to wait patiently for one’s chance; good bait catches good fish’ and yi4shi2liang2niao3 一石兩鳥 ‘one-stone-two-bird = to kill two birds with one stone’ and so on.

The animal pairs yuan1yang1 鴛鴦 ‘Mandarin ducks,’ hu2die2 蝴蝶 ‘butterflies,’ feng4huang2 鳳凰 ‘Phoenixes,’ long2feng4 龍鳳 ‘dragon-Phoenix,’ and jian1die2 鶴鯤 ‘the legendary bird-flatfish’ are also in pairs in Mandarin Chinese no matter whether they exist in nature or only in fantasy.

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9 Hu3gu1po2 虎姑婆 ‘tiger-aunt = evil woman’ is originally a fairy tale figure who transformed into a loving old grandma, but actually wanted only to devour children.
Part II. Animals and Embodiment

Table 7.2. Semantic functions of some wild-animal vehicles in Mandarin Chinese

<table>
<thead>
<tr>
<th>Vehicles</th>
<th>Semantic Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>bird</td>
<td>gain 10.3%</td>
</tr>
<tr>
<td>crane</td>
<td>isolation 30%, freedom 30%</td>
</tr>
<tr>
<td>deer</td>
<td>profit 28%</td>
</tr>
<tr>
<td>fish</td>
<td>profit 17.1%</td>
</tr>
<tr>
<td>fox</td>
<td>malevolence 41.7%</td>
</tr>
<tr>
<td>snake</td>
<td>malevolence 46.7%, dread 33.3%</td>
</tr>
<tr>
<td>tiger</td>
<td>power 24.4%, danger 22.1%, malevolence 15.1%, cruelty 9.3%, courage 4.7%, greed 3.5%, big, great, swallowing, jumping, vitality, proud, significant, valuable, energetic, robust, awfully, auspicious, superstitious</td>
</tr>
<tr>
<td>wolf</td>
<td>malevolence 26.9%, cruelty 15.4%</td>
</tr>
<tr>
<td>worm</td>
<td>damage 64%, laziness 28%, inferiority 24%</td>
</tr>
</tbody>
</table>

7.3.1.3. Names of Mythical Animals

The above discussion supports Lakoff and Turner’s (1989: 170) proposal: “animals form the second highest level, and are seen in terms of ‘instinctual attributes and behavior.’” However, another kind of animal expression, formed using the names of mythical animals, is used with over 10% in the collected Mandarin corpus of animal expressions (only 0.67% in the German corpus) and should be taken into consideration. Mythical animal expressions in Mandarin Chinese convey [best people, strong man, power]. They can even be [holy, auspicious] (Table 7.3).

From the viewpoint of derivation, dragon lexemes, unlike other animal lexemes that favorably describe the appearance, for example, ying1gou1bi2 鷹鉤鼻 ‘hawk-hook-nose = aquiline nose’ and yu2du4bai2 魚肚白 ‘fish-belly-white = the whitish color of a fish’s belly; gray dawn,’ etc. or the character of the referents, e.g., gou3ji2tiao4qiang2 狗急跳牆 ‘dog-rush-jump-wall = a cornered beast will do something desperate’ and ji2ru2re4guo1shang4de ma3yi3 急如熱鍋上的螞蟻 ‘hot-pot-on-of-ant = as restless as ants on a hot pan.’ Dragon lexemes only mention the body parts but have no description (long2yan3 龍眼 ‘dragon-eye = longan’) or only draw attention to the dragon’s movement but still leave the space and imagination to the language users, as in long2xing2hu3bu4 龍行虎步 ‘dragon-walk-tiger-pace = a great warrior’s firm strides are like the dragon’s and the tiger’s’ and long2fei1feng4wu3 龍飛鳳舞 ‘dragon-fly-phoenix-dance = like dragons flying and phoenixes dancing; lively and vigorous
flourishes in calligraphy.’ A mythical creature has no determined appearance to be described; thus, also it offers the speaker and listener a space for imagination and a blank to fill in on their own accord.

The same as the modern usage of ji1 雞 ‘chicken’ and ma3 馬 ‘horse’ (as mentioned above), long2 龍 ‘dragon’ has even become a morphological root in transliteration, e.g., meaning textile goods: 奧龍 ‘Orlon,’ 帝人帝龍 ‘Teijen Tetoron,’ 特多龍 ‘Tetoron,’ 愛絲龍 ‘Exlan,’ and毛麗龍 ‘Vonnel’ (Yao 1992: 343). Homonyms play a key role because the words are borrowed. Long2 not only is a semantic marker denoting [+positive, +super], but it also serves as a popular phonetic representation for the phonological unit [+liquids] + [-front vowels] + [+nasal C]. This is a robust tendency for many Chinese characters when borrowing words from other languages: semantic marker > phonetic element.

There are many meteorological and astronomical terms that include long2, because long2 carries the semantic concept of nature – sky, earth, water, and fire. As a bound morpheme used to describe the head of the lexeme, dragon represents this group of adjectives: “remarkable, valuable, important, strong, powerful, super,” all positive, e.g., long2zi3 龍子 ‘dragon-son = descendents of emperors in ancient times’ and long2zhong3 龍種 ‘dragon-race = Chinese people.’ It reaches all dimensions: big, deep, wide, high, and far. The female counterpart of long2 ‘dragon’ is feng4 凤 ‘phoenix,’ which also carries the same positive sense, e.g., long2feng4pei4 龍鳳配 ‘dragon-phoenix-match = union of a dragon and a phoenix.’ Feng4 凤 is male in compounds with huang2 鳳, or luan2 鵰 such as in feng4qiu2huang2 凰求凰 ‘male phoenix-ask-female phoenix = the male chasing after the female’ and luan2feng4he2ming2 鵰鳳和鳴 ‘female phoenix-male phoenix-harmony-sound = be blessed with conjugal felicity; be a happy couple.’

<table>
<thead>
<tr>
<th>Vehicles</th>
<th>Semantic Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>dragon</td>
<td>best people 32.8%, auspiciousness 32.8%, strong man 16.4%, holiness 9.8%, power 9.8%</td>
</tr>
<tr>
<td>phoenix</td>
<td>auspiciousness 60%, beauty 30%</td>
</tr>
<tr>
<td>qilin</td>
<td>auspiciousness 66.7%</td>
</tr>
</tbody>
</table>

### 7.3.2. In German

The following will discuss only the most productive metaphorical vehicles in the German corpus: domestic animals comprise 37% and wild animals 10.1% of the collected animal expressions.
7.3.2.1. Names of Domestic Animals

Null Bock haben ‘nil-ram-have = it does not really grab me to it’ and auf etwas Bock haben ‘to-something-ram-have = feel like doing something’ may have originated in the late 1970s and become popular among teenagers (Röhrich 1991: 227). The adjective ‘stier’ is a homonym of Stier ‘bull.’ Drozdowski (1997: 713) says that this is a conversion of the Low German and of the Dutch word stur being influenced by the animal name Stier. Even around 1600, the Dutch stuur ‘stern, gruff’ was used in sense of ‘staring like a bull in a wild and threatening way.’

The distinct functions of semantic domains are shown by animal expressions. Take the vehicle Katze ‘cat’ as an example; it evokes the concepts [weak, false, small, unimportant, flattering, quick, shrill] in a German-speaker’s mind, and a large number of Katze expressions connote these semantic features. Therefore Katze is a “perfect” semantic contributor for the subject ‘woman.’ Many German Katze expressions denote this meaning, such as Kätzchen ‘little cat = an endearment for a woman,’ falsch wie eine Katze ‘a woman who is as false as a cat’ and Schmusekatze ‘flattering cat = an endearment for a woman.’ This domain is occupied by Katze, and should not be invaded. It is bordered by gender, i.e., the semantic features of Katze [+small, weak, false, moody] do not function for males; rather, when used for men, the meaning shifts to [+intoxicate, loaded, hangover], the behavior when a man is drunk, as in Katzenjammer ‘cat’s complaint = the complaint after a hangover.’

Some semantic features of the metaphorical vehicles seem awkward and have puzzled linguists, driving them to trace folk-etymology for answers (Riegler 1907, Storfer 1935, Büchmann 1972, Röhrich 1991: 818). However, they can be understood after using semantic interconnection and interaction; e.g., one of the semantic features of German cat is [+nothing], as in Das ist für die Katz ‘this is for the cat = This is worth nothing, I don’t know why I bothered’ or Dann gehört er der Katz ‘this belongs to the cat = This is in vain, I don’t know why I bothered.’ The Germans nevertheless can understand the meaning of Das ist für die Katz ‘this is for the cat = this is worth nothing’ from the other semantic features of Katze: [+small] (as in Katzenschwanz 11 and Katzentisch 12) and [+unknown matter] (as in die Katze im Sack kaufen 13 and die Katze aus dem Sack lassen 14). The interconnection and interaction of semantic features explains. The senses of the vehicles in question are intimately related because they are developed from the same animal and

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10 Katze (cat) can also be used for children, but not for men.
11 Meaning: A cat tail = a triviality.
12 Meaning: A cat’s table = a little table for dining.
13 Meaning: To buy a cat in a sack = to buy something without knowing what it is.
14 Meaning: To let cat go out of the sack = to tell the covered truth; let the cat out of the bag.
denote the same cultural background. Salient elements will surface and occupy syntactic positions available with understood elements in the background.

According to Braun et al (1993: 495) the meaning of Hahnrei ‘cuckold = a deceived husband’ may have been originally Kapaun ‘capon,’ as being used as late as 16/17th century. This may provide an explanation for the origin of the saying jemandem Hörner aufsetzen ‘someone-horn-put on = to cuckold someone.’ It used to be a custom to cut the spurs of the capon and to implant them into its crest, where they continued growing like horns. We give a more complete list of semantic functions of domestic animal vehicles in German below (Table 7.4).

**Table 7.4. Semantic functions of domestic-vehicle names in German**

<table>
<thead>
<tr>
<th>Vehicles</th>
<th>Semantic Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>horse</td>
<td>strength 12.2%, stupidity 12.2%, arrogant 10.2%, means of transportation 8.2%, values 8.2%, robustness 6.1%, heavy workload 6.1%, common people</td>
</tr>
<tr>
<td>cow</td>
<td>stupidity 27.8%</td>
</tr>
<tr>
<td>calf</td>
<td>silly behavior 53.8%, stupidity 30.8%, money 23%</td>
</tr>
<tr>
<td>ox</td>
<td>stupidity 41.2%, heavy labor 23.5%</td>
</tr>
<tr>
<td>bull</td>
<td>stupidity 17.6%, aggressiveness 17.6%, intensifier 17.6%</td>
</tr>
<tr>
<td>sow</td>
<td>intensifier 26.3%, dirt 15.8%, obscenity 15.8%, happiness 13.2%, mess 10.5%, insidious 7.9%</td>
</tr>
<tr>
<td>chicken</td>
<td>stupidity 16.7%, woman 10%, craziness 10%, mess 10%, talkative, proud</td>
</tr>
<tr>
<td>rooster</td>
<td>man 18.2%, weather vane 18.2%</td>
</tr>
<tr>
<td>cat</td>
<td>Insignificance 14%, superficiality 8%, flattering behaviour 8%, small amount 6%, falseness, quickness, shrillness, ill-temper, pursuance, cleanliness, misfortune, cowardice, absurdity, intolerableness</td>
</tr>
<tr>
<td>tomcat</td>
<td>hangover 55.6%, depression, craziness, misfortune</td>
</tr>
<tr>
<td>dog</td>
<td>poverty 13%, wickedness 9.8%, intensifier 7.6%, worthlessness 6.5%, baseness 5.4%, insignificance 5.4%, malevolence 4.3%, someone 3.3%, labor</td>
</tr>
<tr>
<td>pig</td>
<td>dirt 37.5%, mess 25%</td>
</tr>
</tbody>
</table>
Part II. Animals and Embodiment

7.3.2.2. Names of Wild Animals

The notable semantic functions of *Tiger* ‘tiger’ [+quickness, +jealousy], *Vogel* ‘bird’ [+symbol of freedom],\(^\text{15}\) *Wurm* ‘worm’ [+wriggling forward] and *Fisch* ‘fish’ [+no intelligence, +uncertainty, +unreliability] as discussed in Riegler (1907) are fading; some were lost during the last century.

There are many animal-name endearments in German. They reveal the traditional gender roles in German society. The endearments applied to women are derived either from a domestic animal (*lamb: Lamm, Lämmchen*), pets (*cat: Schmusekatze, Kätzchen, rabbit: Hase, Hasi, Häsen*), a culture follower\(^\text{16}\) (*mouse: Mäuschen, Mausi*), or small and light birds (*swallow: Spatz, Spätzchen, dove: Täubchen*), whereas, those for men are derived from a wild animal, the bear: *Bärchen, Knuddelbär, Brummbär*. This linguistic fact first shows that men are generally physically stronger than women. Secondly, traditionally, women were responsible for the household while men were considered to be the breadwinners in society. As this notion fades in modern society, language continues to file it.

The original meaning of *Elefantenhaut* ‘elephant skin’ was merely “the skin of an elephant.” By sense extension, the expression gained an additional meaning. The semantic feature [+thick/fat] was decisive. The outer physical size transformed into a behavior feature. The extension of the meaning of *Elefantenhaut* ‘to have a thick skin; to be insensitive, inured, indifferent, apathetic’ goes from the skin of the elephant to insensitive people. This tendency of changing from a concrete to an abstract concept echoes Aitchison’s (2001: 130) universal laws: Humans “using everyday external bodily behavior to describe internal events.”

Sometimes both the Chinese and the German people share the same point of view about some animals. But differences in interpretation and in opinion have led to different animal expressions. Both peoples produce animal expressions based on their observations that a snail carries a shell. They are *wu2ke2gua1niu2* 無殼蝸牛 ‘no-shell-snail = people who are not capable of purchasing houses’ and *gua1niu2zu2* 蝸牛族 ‘snail-tribe = people who do not possess real estate’ in Mandarin Chinese, where the basic need of housing is the focus, and *sich in sein Schneckenhaus zurückziehen* ‘self-in-one’s-snail shell-withdraw = to go into one’s shell’ und *jemanden zur Schnecke machen* ‘someone-to-snail-make = to come down on someone like a ton of bricks’ in German, it concentrates more on behavior and emotion. The underlying conceits vary in these snail-expressions, and the idiom schemas are recognizable. We give a more complete list of semantic functions of wild animal vehicles in German below (Table 7.5).

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\(^\text{15}\) The *Vogel* ‘bird’ is still the symbol of freedom in German society, but not shown in modern German. *Vogelfrei* ‘bird-free = outlawed’ is a closed one.

\(^\text{16}\) Culture followers are animals that live close to humans.
Chapter 7. Animal Vehicles and Semantic Functions

Table 7.5. Semantic functions of wild-animal vehicles in German

<table>
<thead>
<tr>
<th>Vehicles</th>
<th>Semantic Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>bird</td>
<td>comic 11.1%, symbol of freedom</td>
</tr>
<tr>
<td>fish</td>
<td>fish-fishing 26.4%, fish-water 14.7%, profit 11.8%, event 11.8%, fish-swimming 11.8%, no intelligence, uncertainty, unreliability</td>
</tr>
<tr>
<td>fox</td>
<td>cleverness 28.6%, shrewdness 19%, anger 19%</td>
</tr>
<tr>
<td>rabbit</td>
<td>fear 26.7%, woman 20.7%, event 17.2%</td>
</tr>
<tr>
<td>snake</td>
<td>poison 15.8%, cunning 15.8%</td>
</tr>
<tr>
<td>tiger</td>
<td>power 66.7%, courage, hunt, jealousy, protector, quickness, gasoline</td>
</tr>
<tr>
<td>wolf</td>
<td>cruelty 27.8%, destruction 22.2%, hunger 16.7%, greed 16.7%, malevolence 16.7%</td>
</tr>
<tr>
<td>worm</td>
<td>parasite 25%, small size 20%, defenselessness 20%, defect 15%, danger 15%, wriggling forward</td>
</tr>
</tbody>
</table>

7.4. Conclusion

7.4.1. The Concepts of Animal Names

Fixed expressions are culturally marked lexical items and “established as pithy ways of expressing and referring to concepts” (Moon 1998: 43). So are animal expressions. The vehicles of animal expressions can be domestic animals, wild animals, or mythical creatures. There are more animal expressions generated from domestic animals than from wild ones. Because human beings and domestic animals live closely together and are in daily contact, the concepts of these expressions relate to [normal, insignificant]. Because those animals depend on human beings, these animal expressions also convey the concepts of the [good-hearted, weak]. On the other hand, the concepts of wild-animal expressions tend toward [big, crude] or [great, dangerous], because wild animals are difficult to tame. The semantic functions that generated more than 2.6% of the expressions of the respective vehicles are listed in Table 7.6. Some vehicles produce only a limited number of animal expressions; nevertheless, concepts are found among them. This goes back to specific ideas and concepts that people associate with these vehicles, for example, Ameise ‘ant’: busty, Esel ‘donkey’: stupidity, yuan1yang1 鴛鴦 ‘mandarin ducks’: wedded bliss, and lu4 麋 ‘deer’: profit.

While there are many newly invented animal expressions, such as those related to computers (Maus ‘mouse = the computer equipment mouse,’ qian1xi1chong2 千禧蟲 ‘thousand-year-worm = millennium bug’), the tendency of fading animal expressions is also invasive. The reasons for the
disappearance or replacement of a semantic function can be traced from the development of technology and society, for example, people now wear a yan⁴wei³fu² ‘swallow-tail = swallow-tailed coat’ instead of a chang²pao²ma³gua⁴ ‘long-robe horse-gown = a ceremonial wide-sleeved jacket of a mandarin’ on ceremonial occasions. When electronic mail became popular, the retronym snail mail was created. Neither zwei Finger Adler-System ‘two-finger-eagle-system = the beginner’s method of typing using two fingers’ nor Elchtest ‘elk-test = dynamic test of automobile stability’ were needed some decades ago. Language contact changes the structure of a language, such as the enlargement of roots (long² ‘dragon’ stands for textile) and the development of semantic markers (such as ma³ ‘horse’) to phonetic representations.

Table 7.6. Concepts of the animal expressions in Mandarin Chinese and German

<table>
<thead>
<tr>
<th>Vehicles</th>
<th>Mandarin Chinese</th>
<th>German</th>
</tr>
</thead>
<tbody>
<tr>
<td>ant</td>
<td>tiny</td>
<td>bustle</td>
</tr>
<tr>
<td>bear</td>
<td>rudeness, power, men, intensifier</td>
<td></td>
</tr>
<tr>
<td>beast</td>
<td>cruelty, fright</td>
<td>malice</td>
</tr>
<tr>
<td>bee</td>
<td>diligence, attractiveness, women</td>
<td></td>
</tr>
<tr>
<td>bird</td>
<td>profit, gain</td>
<td>comic effect</td>
</tr>
<tr>
<td>bird</td>
<td></td>
<td>cuckoo: devil</td>
</tr>
<tr>
<td>bird</td>
<td></td>
<td>goose: stupidity</td>
</tr>
<tr>
<td>bird</td>
<td></td>
<td>nightingale: beautiful singing</td>
</tr>
<tr>
<td>bird</td>
<td></td>
<td>peacock: vanity</td>
</tr>
<tr>
<td>bird</td>
<td></td>
<td>raven: blackness</td>
</tr>
<tr>
<td>bird</td>
<td></td>
<td>sparrow: tiny</td>
</tr>
<tr>
<td>bird</td>
<td></td>
<td>stork: delivering kids</td>
</tr>
<tr>
<td>bird</td>
<td></td>
<td>swan: presentiment</td>
</tr>
<tr>
<td>bird</td>
<td></td>
<td>vulture: greed, devil</td>
</tr>
<tr>
<td>crane</td>
<td>calmness, isolation</td>
<td></td>
</tr>
<tr>
<td>Mandarin duck</td>
<td>wedded bliss</td>
<td></td>
</tr>
<tr>
<td>sheep</td>
<td>profit, event</td>
<td>stupidity, profit, gain, need of protection, property</td>
</tr>
<tr>
<td>sheep</td>
<td></td>
<td>lamb: Patience, innocence, love, gentleness, defenselessness</td>
</tr>
<tr>
<td>sheep</td>
<td></td>
<td>buck: stubbornness, lust, men</td>
</tr>
<tr>
<td>cat</td>
<td>weakness</td>
<td>something small, insignificance, superficial, flattering behavior</td>
</tr>
<tr>
<td>cat</td>
<td></td>
<td>tomcat: results of alcohol consumption, hangover</td>
</tr>
<tr>
<td>Animal</td>
<td>Semantic Functions</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>--------------------</td>
<td></td>
</tr>
<tr>
<td>cattle</td>
<td>big size, height, strength, stupidity, laziness, stubbornness, intensifier, big size, sluggishness, intensifier</td>
<td>worthlessness, immoral person, bull: stupidity, aggressiveness, intensifier, calf: stupidity, silly behavior, money, foolishness, cow: stupidity, ox: stupidity, heavy labor</td>
</tr>
<tr>
<td>chicken</td>
<td>inferiority, announce the daybreak</td>
<td>women, craze, stupidity, mess, rooster: men, weather vane</td>
</tr>
<tr>
<td>cricket</td>
<td></td>
<td>curiousness, mood</td>
</tr>
<tr>
<td>deer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dog</td>
<td>inferiority, deceit, stupidity, serf, cheat</td>
<td>misery, poverty, wickedness, meanness, insignificance, worthlessness, malice, anybody, intensifier, in connection with weather, baseness, malevolence, poodle: intensifier</td>
</tr>
<tr>
<td>donkey</td>
<td>stupidity</td>
<td>stupidity, stubbornness</td>
</tr>
<tr>
<td>dragon</td>
<td>holiness, power, best people, strong, auspiciousness</td>
<td>wickedness</td>
</tr>
<tr>
<td>fish</td>
<td>profit, gain, goal</td>
<td>profit, gain, event, things, fishfishing, fish-water, fish-swimming, pike: nimbleness</td>
</tr>
<tr>
<td>flea</td>
<td></td>
<td>tiny, restlessness, intensifier</td>
</tr>
<tr>
<td>fly</td>
<td></td>
<td>tiny, insignificance</td>
</tr>
<tr>
<td>fox</td>
<td>wickedness</td>
<td>red, clever, crafty, troubles</td>
</tr>
<tr>
<td>hare</td>
<td></td>
<td>fear, women, event</td>
</tr>
<tr>
<td>hedgehog</td>
<td></td>
<td>protective posture</td>
</tr>
<tr>
<td>horse</td>
<td>means of transport, war, forces, strength, women, good people, power</td>
<td>means of transport, values strength, robustness, hard work, miner standards, stupidity, arrogance, common people</td>
</tr>
<tr>
<td>lion</td>
<td></td>
<td>strength, king, power, center, malice, danger</td>
</tr>
<tr>
<td>louse</td>
<td></td>
<td>annoyance, brazenness</td>
</tr>
<tr>
<td>monkey</td>
<td></td>
<td>foolishness, intensifier</td>
</tr>
<tr>
<td>mouse</td>
<td>villain</td>
<td>something small, cute appearance money, rat: enthusiasm</td>
</tr>
<tr>
<td>phoenix</td>
<td>beauty, propitiation, auspiciousness</td>
<td></td>
</tr>
<tr>
<td>pig</td>
<td>stupidity, laze, dirt, filth</td>
<td>dirt, filth, luck, mess</td>
</tr>
</tbody>
</table>
**7.4.2. Other Possible Applications of the Corpora**

Other possible applications of the corpora are as follows: From the field of “underlying conceit” we can observe how Germans and Chinese observe, perceive animals and produce animal expressions. It seems that Chinese tend to generate more expressions from animal’s appearances, whereas the Germans more from animal’s habitats, such as the above mentioned snail-expressions. When examining in particular those animal expressions of the same metaphorical meanings but different vehicles, cultural difference can be exposed.

As many vehicles serve solely as intensifier in German animal expressions, while there are a good number of animal expressions with two or more vehicles in Mandarin Chinese (11.78%). To reveal syntactic and semantic nature of the languages in question could be a topic for further study.

Many animal expressions are proper names (e.g. *Maus* ‘mouse = the computer equipment mouse’) or technical terms (e.g. *Elchtest* ‘elk-test = dynamic test of the car stability’) but they are common for language users. We can analyze their syntactic structure or metaphoricality to see the principles of analogy (see Aitchison 1992: 40-).

Based on the field of “metaphorical tenor,” we can analyze the philosophies of life, aesthetic values, and modes of thinking of other peoples. Moon (1998: 163) points out that fixed expressions
usually include a connoted evaluation. In the course of the present study, it became clear that animal expressions are a vocabulary of peoples’ values, because about 80% of them are used to scorn or warn people, i.e., they convey values from different societies; for example, [stupid], [worthless], [fast], [pretty] are the most salient animal concepts in those expressions, a *dai1tou2e2* 呆頭鵝 ‘stupid-head-goose = a man who is not aware of a woman’s flirt’ is considered “stupid” in a Mandarin speaking society, while *albernes Huhn* ‘silly-chicken = a giggly woman’ stands for “stupid woman” in Germany. *Ren2sheng1bu4du2shu1, huo2zhebu4ru2zhu1* 人生不讀書, 活著不如豬 ‘people-life-not-read-book, live-not-as-pig = people living in the world would be ignorant if they do not study’ is thought to be “worthless” in a Mandarin-speaking society. Furthermore, together with the field “frequency,” we can compare newly generated animal expressions and old-society animal expressions to observe the change of social structures.
Chapter 12. Melon, Tea, Apple and Linguistic Frame

Plant names are used in embodiment in languages too. In different cultures, different plants seem to have different significance to people. Therefore, as the names of plants become the vehicles of metaphors, they might stand for different meanings in different languages. On the other hand, some plants seem to have the same core meaning in different languages. How do people compose the meaning of these plant names? How do we understand fixed expressions with plants? In this chapter, we compare three plant names, melon, tree and apple, in Mandarin Chinese and English. We will examine their underlying conceits to see how these plants generate their meanings in fixed expressions.

12.1. Introduction

This chapter presents plant fixed expressions in Mandarin Chinese and in English. We present the compositionality of core meanings of tea, melon, and apple and propose that to understand plant expressions needs the understanding of a linguistic plant frame. We will support the assumption of cognitive grammar (Langacker 1987, 1991) through the analysis of plant fixed expressions, and resumes Pustejovsky’s (1993, 1995) mechanism of type coercion from a syntactic coercion to a broader package-semantic operation.

The main bulk of this chapter is organized in the following way: (1) introduction, (2) research framework, (3) the linguistic frames of tea, melon, and apple, (4) the association, underlying conceit, between plant vehicles and human sense and human knowledge, and at the end (5) a conclusion.

12.2. Research Framework

In the essence of compositionality, Pustejovsky (1993, 1995) suggested a semantic operation that “converts an argument to the type which is expected by a predicate.” The operation is applied to a syntactic unit to complete a semantic function of the utterance with four semantic roles in a qualia

* The original version of the present chapter was published with Elena Kolodkina in 2007 in Odisea: Journal of English Studies 7:59-76, Spain: University of Almería.
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structure (Lien 2000: 125): (1) a constitutive role, (2) a formal role, (3) a telic role, and (4) an agentive role, where the constitutive role designates part-whole relation, the formal role concerns what identifies the object in its pertained domain, the telic role indicates the function of the object, and the agentive role points out factors involved in the creation of the object.

As a matter of fact, Pustejovky’s mechanism gives a more profound linguistic exposition than he has proposed. Lien (2000: 126) tickled out an application of type coercion in the hidden verb of koan2(sia2)po3ko3 趕(寫)報告 in Taiwanese. Koan2sia2po3ko3 means ‘to hurry with one’s term paper’ often with the verb sia2 ‘write’ missed. The missing verb coerces the noun (term paper) into its qualia structure in which that (1) the constitutive role has its subparts such as an introduction, the main body, a conclusion, and so on, (2) the formal role lies in being an integral part of fulfilling a semester course requirement, (3) the telic role (the purpose) of this term paper is to earn a credit, and (4) the agentive role is the student who is writing this term paper, but in another case, the coerced verb could be gai2 改 ‘to score’ instead of sia2 寫 ‘to write,’ i.e., koan2sia2po3ko3 ‘hurry with scoring term paper,’ then the agentive role would be ‘the professor.’

In terms of plant expressions, Pustejovky’s mechanism of type coercion is also in operation. If we take the constitutive role as an example, we will see that each plant vehicle, either parts of plant like root and flower, or the plant itself such as grass, is selected from nature. They are chosen ones in nature, a part-whole relation, to present fleeting thoughts of human minds (part) which in turn is a part-whole relation, viz. the constitutive role, in order to express human cognition and culture (whole). For instance, the wood expression babes in the wood ‘inexperienced people in a difficulty’ is expressed with wood, a natural botanic part and a constitutive role in nature. It points out this part of language speaker’s fleeting thought, i.e. ‘calling for experience in a difficult situation.’ This study will delve into plant fixed expressions to reveal the purpose of the plant fixed expressions in human languages and to give a proposal for resuming Pustejovky’s (1993, 1995) mechanism of type coercion.

The analysis of our data in this chapter is based on Fillmore and Aktins’ (1992) frame semantics. Frame semantics links to people’s comprehension process, that is, how we understand meanings in context. Lexical meaning and grammatical characteristics “both with information about related words and with our general cultural knowledge about the world” (Goddard 1998: 69) work together in our comprehension process. The meaning of a word can be understood only against a background frame of experience, beliefs, or practices that “motivate the concept that the word encodes” (Fillmore and Aktins 1992). They give this set of verbs as an example: buy, sell, charge, pay, cost, and spend. To understand any of these verbs, we used to understand a complete ‘commercial transaction frame’:

in which one person acquires control or possession of something from a
second person, by agreement, as a result of surrendering to that person a sum of money. The needed background requires an understanding of property ownership, a money economy, implicit contract, and a great deal more. (Fillmore and Atkins 1992: 78)

In other words, this frame is a complex yet compact linguistic base for words such as *buy*, *sell*, and *charge* in the given society. People who do not have this linguistic frame in mind will not understand the meaning of *buying* and *selling*. Tarzan, for example, would have such difficulty. Stated otherwise, by means of the compositionality of the concepts in the related words and the background knowledge of the society, we comprehend the words and expressions that we use in our daily life.

Likewise, to understand the vehicle of *apple*, *tea*, etc. in Mandarin Chinese and English requires a complete ‘linguistic frame’ in speakers’ minds.

### 12.3. The Linguistic Frames of Apple, Melon and Tea

Some plant vehicles are popular in both English and Mandarin Chinese, but some are popular only in one language. *Tea* is one of the both favored one; there are many *tea* fixed expressions in both languages. *Apple* and *melon* belong to the latter case. *Apple* ranks 17 (out of 171 plant vehicles) in our English corpus, whereas *melon* ranks 18 (out of 259 plant vehicles) in our Mandarin corpus. However, they are rarely applied/found in the other corpus. This section presents the linguistic frames of *tea* in Mandarin and English, *melon* in Mandarin, and *apple* in English in order to show the compositionality of the concepts in plant vehicles.

#### 12.3.1. Tea

An array of core meanings forms a semantic frame of each vehicle. We first propose the frame and then give examples. The linguistic frames of Mandarin Chinese *cha2* 茶 ‘tea’ and English *tea* are given below:

Mandarin Chinese *cha2* 茶 is living essentials, a snack, a foodstuff and a tip. It represents a betrothal and denotes a casual time. *Cha* is also a measurement unit.

English *tea* is a light meal and a social gathering. *Tea* is very expensive and valuable but also stands for things of little value. *Tea* is the major
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interest, a chosen or a preferred task, a company. Tea is a caring attitude, especially to somebody in trouble. Tea is an old maid. Tea is also a measurement unit.

The linguistic frames of cha ‘tea’ in Mandarin and tea in English are formed through the compositionality of the respective core meanings. The frames express speaker’s multiplex concepts of cha and tea. They are rooted in the native speakers’ minds, and are expressed in various cha ‘tea) and tea fixed expressions. We give one example for each concept in these two frames below:

Mandarin Chinese cha2 茶 is living essentials (chai2mi3you2yan2jiang4cu4cha2 柴米油鹽醬醋茶 ‘firewood-rice-oil-salt-sauce-vinegar-tea = the seven necessities of daily life’), a snack ‘zao3cha2 早茶 ‘early-tea = morning tea and dessert’), a foodstuff (cu1cha2dan4fan4 粗茶淡飯 ‘coarse-tea-thin-rice = bad tea and rice; simple food and drink’), and a tip (cha2shuei3qian2 茶水錢 ‘tea-water-money = tip for the hotel page’). It represents gifts for a betrothal (guo4cha2 過茶 ‘pass-tea = give the gifts for betroth,’ he1cha2 喝茶 ‘drink-tea = to be betrothed to’) and denotes a casual time (cha2si1fan4xiang3 茶思飯想 ‘tea-long for-meal-think = think while drinking tea and having meal; think of someone or something all the time,’ chi1hua1cha2 吃花茶 ‘flower-tea = to get tea served by prostitutes; to wench’). Cha is also a measurement unit (cha2chi2 茶匙 ‘tea spoon’).

Figure 12.1. The semantic development of Mandarin cha ‘tea’

Tea is a light meal, usually eaten in mid-afternoon (afternoon tea, high tea). It can also denote a substantial meal with tea (meet tea). It is also a hot drink made with a beef extract (beef tea). Tea is a social gathering held by people (tea-party, tea-dance, tea ceremony, tea fight ‘a humorous name for a tea-party’). Tea is very expensive and valuable (to go out for one’s tea ‘to go on military operations which might result in the death’; would not do for all the tea in China ‘nothing could persuade you to do something’). It can have quite the opposite connotations, standing for things of little value, bought on a regular basis (given away with a pound of tea ‘given free with a non-expensive purchase’). Tea is the major interest (one’s tea), chosen or preferred task (one’s cup of tea), company (one’s cup of tea). Tea is a caring attitude, especially to somebody in trouble (tea
and sympathy). *Tea* is an old maid (*tea-bottle*) and marijuana (*tea grouter, tea head ‘habitual user of marijuana’*). *Tea* is also a measurement unit (*tea spoon*).

![Diagram](image)

**Figure 12.2. The semantic development of English tea**

In the above examples, both Mandarin *cha* and English *tea* play a role as a part in a whole and represent the whole setting, such as being the drink in the morning, it is chosen to as the diction of *zao3cha2* 早茶 ‘early-tea = morning tea and dessert’; being a drink in an engagement party or one of the betrothal gifts, the betrothal gift is named as *guo4cha2* 過茶 ‘pass-tea = give gifts for betrothal’; so is the English *tea-party, tea and sympathy*, etc. The part-whole relation is an essential generating point of the vehicle *tea* in both languages.

English has more diverse meanings to form the linguistic frame of *tea* than Mandarin Chinese where *tea* has for the most part to do with a foodstuff. Nevertheless, when we look into these core meanings carefully, we will see that they are almost all derived from the meaning ‘drink.’ The plant *tea* provides people a much-loved drink that is for long necessary at either casual social activities or at formal celebrations, such as in an engagement party. In other words, *teas* in both Mandarin Chinese and English are associated with the edibility/usage of this plant. Sitting together and drinking tea also gives people time to talk and care each other, hence showing a caring attitude (in English).

*Tea spoon* is a further extension of the usage of this plant. Exactly because it is a very popular drink, the spoon that is used to measure the quality of tea was later used as a standard measuring unit for other foodstuff. *Teas* in Mandarin and English possess the following concepts:

<table>
<thead>
<tr>
<th>Mandarin tea</th>
<th>English tea</th>
</tr>
</thead>
<tbody>
<tr>
<td>taste (drink)</td>
<td>taste (drink)</td>
</tr>
<tr>
<td>isa (drink)</td>
<td>isa (drink)</td>
</tr>
<tr>
<td>usability (gifts)</td>
<td></td>
</tr>
</tbody>
</table>

In Mandarin Chinese the plant vehicle *tear* resulted from the taste of a plant item *tea*, it is employed as a drink and as a gift. So is the vehicle *tea* in an English native speaker’s mind, but tea as a gift is not expressed. Such associations between plants themselves, the plant vehicles and
language speakers’ background knowledge of the world determine the meaning of the expression. This will be discussed in detail in the next section.

### 12.3.2. Melon

The frame of Mandarin Chinese *gua1* 瓜 ‘melon’ is given below:

Mandarin Chinese *gua1* 瓜 is a common crop and a common thing. It means a head or a woman. *Gua1* denotes a mature period, a specific period of time as well as a cause and a result.

Mandarin Chinese *gua1* 瓜 is a common crop (*lao3wang2mai4gua1, zi4mai4zi4kua1* 老王賣瓜, 自賣自誇 ‘old-Wang-sell-melon self-sell-self-boast = old Mr. Wang over-boasting about the melons he’s selling; someone who exaggerates benefits or his own virtues’) and a common thing (*guen3gua1lan4shou2* 滾瓜爛熟 ‘roll-melon-soft through-ripe = having something at one’s fingertips’). It means a head (*nao3dai4gua1* 腦袋瓜 ‘brain-melon = head,’ *sha3gua1* 傻瓜 ‘stupid-melon = a stupid fellow’) or a woman (*gua1zi4chu1fen1* 瓜字初分 ‘melon-word-at beginning-divide = a sixteen year old girl’). *Gua* denotes a mature period, a specific period of time (*ji2gua1* 及瓜 ‘attain-melon = season of ripe melons, harvest; girls reaching the age of sixteen, reaching adulthood’) as well as a cause and a result (*zhong4gua1de2gua1, zhong4dou4de2dou4* 種瓜得瓜, 種豆得豆 ‘plant-melon-obtain-melon, plant-bean-obtain-bean = you plant melons, you get melons, sow beans and you get beans; As you sow, so will you reap’).

The concepts that a speaker of Mandarin Chinese has in mind for *gua1* is hence:

<table>
<thead>
<tr>
<th>Mandarin melon</th>
<th>English melon</th>
</tr>
</thead>
<tbody>
<tr>
<td>shape (ball-like)</td>
<td>size (large)</td>
</tr>
<tr>
<td>isa (common crop)</td>
<td></td>
</tr>
<tr>
<td>agriculture (time of mature)</td>
<td></td>
</tr>
<tr>
<td>taste: sweet</td>
<td></td>
</tr>
<tr>
<td>quality easy to be cut when ripened</td>
<td></td>
</tr>
</tbody>
</table>

We see that melon, the plant item, is adopted into Mandarin as the plant vehicle *melon* whose concept in a Mandarin speaker’s mind is first its shape of being like a ball. Besides, its essence of being a common crop for a Chinese farmer, the time of its agriculture, its taste and quality are marked and documented in Mandarin Chinese.
Plant expressions with melon are not typical for English. Melon dome is a hemispherical dome having a circular plan and a ribbed vault. To cut the melon means ‘to divide a surplus of profits available for distribution by stockholders.’ Melon can also denote ‘large breasts.’ The concepts that an English speaker have in mind for melon are as shown above.

For the speakers of Mandarin Chinese the shape, the taste of melon, and its being a common crop made melon a salient Mandarin plant vehicle. For English speakers only the shape and the size of English melon are sufficient. Most melons are tropical or subtropical fruits; the geographical distribution gives a better chance for plant expressions in Mandarin Chinese.

### 12.3.3. Apple

The frame of English apple is given below:

English apple is any fruit or vegetable of a round shape. It is an object of a round shape. It is a healthy food. It is very precious or dear, but it incites conflicts. Apple is a typical American food. It denotes a person, a pupil, an offspring.
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_Apple_ is the typical name for fruit of a round shape (apple of love ‘tomato,’ apple of Peru ‘intensively poisonous tall tropical weed’). It denotes anything in the form of an apple (Adam’s apple ‘the front part of the neck that sticks out, especially in a man,’ valley apple, road apple ‘dung’). English apple is something very good or dear (to be apples ‘to be in good order and not worried,’ apple of one’s eye). It is anything that incites quarrelling or a conflict (apple of discord). Apple is a healthy food (an apple a day keeps a doctor away). It is a typical American food. Apple-pie is regarded as characteristic of U.S. values (to be as American as an apple pie). Apple is a person (the rotten apple injures its neighbors ‘a bad individual among many good ones spoils the group,’ apples and oranges ‘people or things that do not go together’). It is an offspring (the apple never falls far from the tree). It is a pupil (apple of my eye). Apple is an informal name of New York (Big Apple).

The concepts that an English speaker has in mind for apple is hence:

| melon → English apple: shape (ball-like) | value (precious) | snack (healthy, American) | person (dear) |

Figure 12.3 shows the semantic development of English apple. Apple fixed expressions are rare in Mandarin. There is ping2guo3lian3 蘋果臉 ‘apple face’ to describe a woman with a face of rosy cheeks’ that associates with the outer appearance of an apple. Qing1ping2guo3 青蘋果 ‘green apple = one of first awakening of love; inexperienced person’ where the taste of an unripe apple is connected.

Contrary to melon, English apple is much more productive than Mandarin apple. Again, the geographical distribution determines this linguistic variation. English apple renders its shape, taste, and value to various plant expressions. Each core meaning actually relies on the function or purpose of the plant or plant parts, and this function is associated, cast or matched to human society. This is a realization of mechanism of type coercion. Language is likened to a biological organism and is used to express our thoughts. We will elaborate this assumption in the last section of this chapter.
12.4. The Underlying Conceit

As we see from the above discussion, certain associations between the plant expressions, the plants and the human mind made certain plant expressions come into being and express certain meanings, such as tea being the beloved drink and made *he1cha2* 喝茶 ‘drink-tea = to be betrothed to’ and *high tea* ‘(usually) a light meal in the late afternoon.’ The association is the underlying conceits that link the real world and the expressions. They are a mixture of human culture and cognition. Lakoff and Turner (1989: 205-6) explain a proverb: *Ants on a millstone whichever way they walk, they go around with it* ‘describes humans and their destinies’ and assert that “the choice of ants and a millstone is by no means arbitrary.” There is a certain correspondence or relation between an ant and a millstone to make this proverb meaningful: The virtual sizes of the huge millstone and the small ant, the motions of ants on the shape of the millstone, etc., all call out the meaning of the proverb. In other words, humans are like ants walking on a millstone: they can never escape destiny. The underlying conceit that joins the real world and the proverb is the size and the shape of the vehicles, viz. ants and millstone.

A range of plant expressions in both Mandarin and English envelops the underlying conceits of (a) the edibility of the plants and (b) customs or historical events. Plants are important suppliers of nourishment for people. The Chinese value comestibles in reality and often portrays this value in the language, for instance, *cu1cha2dan4fan4* 粗茶淡飯 ‘coarse-tea-insipid-rice = bad tea and rice; simple food and drink’ means metaphorically ‘having a simple life or bearing hardships,’ because rice and tea are basic food and drink for the Chinese. One can be contented with bad tea and insipid rice, i.e., he or she is having a simple life. Or when the speaker cannot afford better food, he or she...
is bearing a hardship. *Chidou4fu3* 吃豆腐 ‘eat-bean curd’ infers ‘to harass a girl’ because *dou4fu3* is soft which implies the soft skin of a girl or her quality of easily being troubled.

The English plant expression *plum-in-the-mouth* means ‘to have a (British) rich-sounding voice or affected accent’ for the reason that people speak in a special way when having a plum in the mouth. It is a colloquial expression especially associated with the manner in which the British upper classes speak. The *apple-pie bed* is a bed which, as a practical joke, has been made with a sheet folded (like pie) so that the legs cannot stretch out.

As for those associated with peculiar customs or historical events, *san1zi3* 桑梓 ‘mulberry-catalpa’ alludes to ‘childhood hometown’ as mulberry and catalpa were planted beside houses in the old days. The leaves of mulberry were used for raising silkworm and the wood of the catalpa was for making family utensils. Later on, *san1zi3* was used to refer to one’s native village where one was born and brought up, even though mulberry and catalpa are not seen beside modern houses. Also in the old days, the cane was used as an implement of punishment at school. Although it is not used for this purpose any more, *teng2tiao2* 藤條 ‘cane’ is still used as an implication of punishment in Mandarin Chinese. It is linked with school history. The English plant expression *heart of oak* means ‘this wonderful year.’ It was a topical song written by Garrick in 1759 for a pantomime entailing the victories of Minden, Quiberon Bay, and Quebec. *Flower power* was the activity promoted by hippies in the 1960s and 1970s. They opposed war and encouraged people to love each other. The ideas were to change the world by means of peace and love and the vehicle *flower* was adopted.

Additionally, in Mandarin Chinese, the underlying conceits that associate most vehicles and the meanings of expressions are the growth characteristics and cultivation of the plants, the smell and the taste, and outer features of plants:

First, growth characteristics and cultivation of the plants are encapsulated into many Mandarin plant expressions, as the examples in (1) show. Example (1a) portrays the tough vitality of grasses; if the roots of the grass are not all rid of, it grows again next spring. This is used to mean that one should resolve problems by starting from the fundamentals and to solve the problem effectively and truly. Example (1b) is used for the reason that melons grow on the ground, and when one bends down in a melon-patch, one may touch the ripened melons. Because plums grow on a tree, if someone lifts up his arms when he is under a plum tree, he will reach a luscious plum. Therefore, this expression is used to warn people not to be found in a suspicious position. The underlying conceit implies the growing characteristics of melons and plums.

(1). growth characteristics and cultivation of the plants

a. *zhan3cao3bu4chu2gen1, chun1feng1chui1you4sheng1* 斬草不除根, 春風吹又生 ‘chop-grass-no-eradicate-root spring-wind-blow-again-grow = one should resolve problems starting from the fundamentals to effectively and truly solve the problem’
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b. *gua1tian2li3xia4* 瓜田李下 ‘melon-patch-plum-under = to do up the shoes in a melon-patch and to put on a hat under a plum tree = do not bend down in a melonpatch, do not lift up your hands under the plum trees; to avoid anything that may bring aspersions’

(2). the smell and the taste of the plants
a. *ru4zhi1lan2zhi1shi4, jiu3er2bu4wen2qi2xiang1* 入芝蘭之室，久而不聞其香 ‘enter-iris-orchid-zhi-room, long-and-no-smell-the-aroma = enter the room long that has irises and orchids will not smell the fragrance; pervading uplifting character of a moral gentleman’

b. *zhong4gua1deshuo1gua1tian2* 種瓜的說瓜甜 ‘sell-melon-say-melon-sweet = to brag about one’s own goodness’

c. *jiang1shi4lao3de4la4* 薑是老的辣 ‘ginger-is-old-de-the spiciest = the more elderly with more experience do handle matters much better after all’

(3). outer features of plants
a. *nao3dai4gua1* 腦袋瓜 ‘brain-bag-melon = a brain’

b. *guo3zipu4* 菓子鋪 ‘fruit-shop = the appearance of someone who just got beaten up, and is red and swollen’

c. *pan2gen1cuo4jie2* 盤根錯節 ‘coil-roots-wrong-(tree)knots = complicated matters intertwined amidst each other’

Second, the smell of plants and the taste of them have brought about many plant expressions too, such as (2). The fragrance of irises and orchids and the tastes of a melon and a ginger are associated in the examples.

Third, outer features of plants draw people’s attention. For instance, since the human brain has a round shape just like a melon, we therefore use (3a) *nao3dai4gua1* in Mandarin to mean a brain. Example (3b) *guo3zipu4* describes the appearance of someone who just got beaten up and is red and swollen. The association is due to the various colors of the fruits that resemble the colors of the skin after being beaten up. The expression in (3c) *pan2gen1cuo4jie2* portrays a tree with twisting roots and intercrossing branches.

In English, most underlying conceits stem from the divisions of the plants, the usability of plants, or from Scripture or the classics. The divisions of the plants enjoy high productivity in English plant expressions. For example, (4a) and (4b) use *stem* and *root*, and (4c) takes *leaf*. This category of underlying conceits reveals a specific perception of English speakers and will be elaborated later.
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(4). divisions of plants
a. from stem to stern ‘from the front to the back, especially of a ship’
b. put down roots ‘begin to lead a settled life in a particular place’
c. turn down a leaf ‘to cease for a time’

(5). the usability of plants
a. dead wood ‘useless and unproductive person’
b. seed-thought ‘fruitful or suggestive thought’
c. hit the hay ‘go to bed’
d. cork something up ‘not allow oneself to express one’s anger, anxiety or sadness’

(6). Scripture and the classics
a. manna from heaven ‘help that you get when you need it but are not expecting it’
b. a grain of mustard seed is ‘a small thing capable of vast development’
c. offering an olive branch ‘doing or saying something in order to show that you want to end a disagreement with someone.’
d. sour grapes ‘the attitude shows that the speaker is angry because he has not got or achieved something that he wanted’
e. pulling someone’s chestnuts out of the fire ‘succeeding in a hazardous undertaking on behalf of or through the agency of another’

Secondly, the usability of plants plays an important role, for instance, wood is useful for construction or burning, therefore plant expression (5a) dead wood is used. A piece of dead wood is as useless as an unproductive person. When thoughts are compared to seeds, the usability of a seed is highlighted – a seed gives life and produces crops, thus plant expression (5b) seed-thought. The expression (5c) hit the hay means ‘go to bed,’ because mattresses used to be stuffed with hay or straw, where a metonymic process is involved. To cork something up (5d) suggests “not allow oneself to express one’s negative emotion” for a cork is a short cylindrical piece of stopper that is put into the top of a bottle to close it which is metaphorically broadened to not to let off one’s emotion.

Thirdly, Scripture and the classics give many plant expressions, e.g., (6a) to (6c) are from Bible. Manna is written in Exodus 16:31 meaning the food that God granted to the Israelites when they wandered in the desert. A grain of mustard seed alludes to Matthew 13:31-2 “mustard seed … indeed is the least of all seeds, but when it is grown, it is the greatest among herbs.” In Genesis 8:11, a dove brought an olive branch to Noah that shows that God’s anger was assuaged and that the flood had abated, thus offering an olive branch means “doing or saying something in order to show that you want to end a disagreement with someone.” Expression like sour grapes (6d) is cited from
a famous Aesop’s fable. The fox said it when he could not reach the high hanging grapes. *Pulling someone’s chestnuts out of the fire* (6e) is quoted from the fable of a monkey that utilizes a cat’s paw (or in some versions a dog’s paw) to rake out roasting chestnuts from a fire.

We have sorted out the most important conceits in Mandarin and in English, respectively. This is not to say that no English plant expressions are linked with the growth characteristics or the odor of a plant, and no Mandarin plant expressions are associated with the usability of a plant. For example, the underlying conceit ‘the smell and the taste of plants’ is discussed under Mandarin category, but there are also English plant expressions associated with this conceit, such as _sour grapes_. However, the data we have collected so far demonstrate a much higher percentage of this conceit in Mandarin than in English, i.e., ‘the smell and the taste of plants’ is a salient underlying conceit in Mandarin and it is therefore classified in Mandarin.

Moreover, as language contacts are more and more frequent and intensive, innovative expressions play an essential role in plant expressions. They may interrupt the distribution of the conceits when the borrowing goes on. Many expressions in our corpora are either loan translation or phonetic translation from other languages, for example, bingo came to Mandarin as a phonetic borrowing _bin1guo3_ 賓果 ‘guest-fruit = bingo (transliteration).’ The American Dowling paper is translated as _dao4ling2zhi3_ 道林紙 ‘path-forest-paper = a paper made from timber of the Dowling Company.’ _Dao4lin2_ sounds similar to the English Dowling. As for the borrowed plant expressions in English, the bound feet of Chinese women, in allusion to their Mandarin alias _san1cun4jin1lian2_ 三寸金蓮 ‘one decimeter golden water-lilies,’ is known in English as _lily-footed_. The Yoga position, now introduced into English as _lotus seat_, has its origin in India.

Likewise, religion brought in many innovations. _Jin4guo3_ 禁果 ‘the forbidden fruit’ is from Christianity. Plant expressions of this kind are increasing in number. Yet there are still a lot more Buddhistic terms in Mandarin than those from other religions at the present time, for example, _hua1he2shang4_ 花和尚 ‘flower-monk = a monk who does not obey the Buddhistic regulations,’ _liu4gen1bu2jing4_ 六根不淨 ‘six-roots-not-clean = the six roots of sensations (Buddhism) are still in control, have not been rid of entirely,’ and _zi4shi2er4guo3_ 自食惡果 ‘self-eat-bad-fruits = you deserve what you got.’

A lot of Mandarin plant expressions are coined with a group—two or more vehicles in an expression. Specific core meanings of the vehicles are highlighted through such collaboration of vehicles in an expression. At the same time, such collaboration yield specific culture implications, such as cultural customs and life philosophy. Let us take _cao3_ ‘grass’ as an example.

When _cao3_ ‘grass’ collocates with _hua1_ ‘flower,’ the _cao3_ represents ‘man’ to contrast the feminine property of a flower and the connotation of the collocation render to romance or more often to pornography, for example, _xian2hua1ye3cao3_ 閒花野草 ‘idle-flower-wild-grass = prostitutes or females with inappropriate behavior,’ _hua1hua1cao3cao3_ 花花草草 ‘flower-flower-grass-grass = being dissolute and living easy,’ and _nian3hua1re3cao3_ 拈花惹草 ‘pick up-flower-
induce-grass = have many love affair; to be promiscuous in sex relations.’ When cao3 ‘grass’ and gen ‘root’ come together, the toughness of grass being growing everywhere and not being easy to get away is highlighted, as in zhan3 cao3 chu2 gen1 斬草除根 ‘chop-grass-eradicate-root = to rid of the source of the trouble.’ Furthermore, the quality of ‘grass’ being-as-life-form is prominent when cao3 is juxtaposed with mu4 ‘wood,’ for example, yu4 zai4 shan1 er2 cao3 mu4 run4 玉在山而草木潤 ‘jade-at-mountain-and-grass-wood-moist = the jade stored within the mountains makes the plants rich and splendid; if one gentleman has good virtues, it will help to bring morality for the world.’ Yet, a seeming feature of vegetation—emotionless, is imposed on the collocation like ren2 fei1 cao3 mu4, shei2 neng2 wu2 qing2 人非草木，誰能無情 ‘people-are not-grass-wood, who-can be-without-sentiments = everyone has feelings and emotions’ in which the emotions of human beings are paid tribute to.

We can put forward the following proposal that to understand plant expressions requires the understanding of a linguistic plant frame:

Speakers associate the appearances, growing characteristics, cultivation, smell, divisions of the plants, edibility, usability of the plants, or customs, historical events, and allusions of religious classics to express specific thoughts, cognition, and culture. Borrowings may introduce arbitrary expressions. Each plant vehicle has its core meaning. When two plant vehicles are collocated, specific salient features of the vehicles are highlighted.

12.5. Conclusion

This study examines the plant expressions of the plant vehicles tea in Mandarin and English, melon in Mandarin, and apple in English for the purpose of revealing their meanings and frames in their respective languages. It then goes on to present the underlying conceits that link the plant vehicles and human languages. We hope to have shown that plants are vivid and memorable and thus offer concrete image banks for languages to generate fixed expressions able to capture and compose mankind’s fleeting moments into words.

As a matter of fact, the discussion about underlying conceits and core meanings of the favorite plant vehicles also suggests a linguistic feature—the holistic perspective in Chinese and individual mode of thinking in English. English vehicles provide more divisions of a plant such as a leaf, a root, a stem, etc. while division of a plant is not a crucial underlying conceit of Mandarin. In terms of expressions with two plant vehicles, Mandarin have a great number of such proverbs and sayings to express a meaning in cooperation, whereas there are only limited numbers of such
expressions in our English corpus. The issue of the Chinese holistic mode of thinking and the English individual perspective has been concluded in detail in Hsieh and Chiu (2004). Though there certainly are other distinctions between Mandarin and English plant expressions, this chapter will bring to a closing from the viewpoint—the process and the purpose of using plant expressions.

Each plant vehicle has its specific semantic frame that varies from language to language, yet the single linguistic plant frame proposed in the last section is the base of every plant vehicle frame. A linguistic plant frame is composed of speakers’ background knowledge of the world, human cognition and culture. We produce and comprehend plant expressions in our daily life through this primary/basic linguistic plant frame. On the other hand, language contacts and culture contacts bring in innovations (examples like *bin1guo3* ‘guest-fruit,’ which is a transliteration of the game ‘bingo’). Phonetic borrowings and homonymic extensions are trendy nowadays in the globalization era and introduce more and more innovations into both Mandarin and English.

Let us now recall the mechanism of type coercion proposed by Pustejovky (1993, 1995) to complete cognitive grammar in a specific aspect. As mentioned above, Pustejovky’s qualia structure requires four semantic roles: a constitutive role, a formal role, a telic role, and an agentive role. The constitutive role designates part-whole relation, the formal role concerns what identifies the object in its pertained domain, the telic role indicates the function of the object, and the agentive role points out factors involved in the creation of the object.

Every individual plant vehicle is a chosen one from nature, a part-whole relation, to present fleeting thoughts of human minds (part) which in turn is a part-whole relation, viz. the constitutive role, in order to express human cognition and culture (whole). For example, *melon* is a chosen plant vehicle from the whole Chinese botanical setting/surrounding, a natural botanic part and a constitutive role in nature. *Guen3gua1lan4shou2* ‘roll-melon-soft through-ripe’ is produced to express this part of Mandarin speaker’s ‘having something at one’s fingertips’ and play a part in speaker’s whole scenario of human cognition.

We have identified core meanings for plant vehicles (the formal role). Each core meaning actually relies on the function or purpose of the plant or plant parts and this function is associated, cast or matched to human society (the telic role). For example, the core meaning ‘favorite’ of the English vehicle *apple* formal role, is identified. This core meaning ‘favorite’ is associated with ‘apple’ being an important fruit and a foodstuff. The telic role of the *apple* expression, say, *apple of the eye*, refers to a very important role in someone’s life, usually the person who someone loves the most and is very important; a similar role as apples among other plants and fruits for the given people.

All of the constitutive role, formal role and telic role are activated by language speakers—human beings (the agentive role). In a word, language speakers utilize suitable vehicles from the natural world to express their cognition and culture acquired in the human world. The
Chapter 16. Animal and Plant Expressions:
Language and Nature*

At the end, we ask ourselves, is there a reason why plant expressions are used to give mild advice whereas most animal expressions are harsh insults? In other words, what cognitive base is behind this semantic autonomy? Can we reveal the cognitive base in light of linguists' approaches? We will compare these two different life-form expressions and see how human experience of interacting with the environment influences the derivation of the live-form expressions. This chapter will close the presentation of my research on embodiment in language, and also open a new topic for further research. Two unrelated languages, Mandarin Chinese and German, are chosen to demonstrate the psychobiological base and the conceptions work in language.

16.1. Introduction

Lakoff (1987: 221) argues that metaphors become conventionalized through repeated use. They become central to cognition through framing the abstract in terms of the concrete. In Lakoff’s view, metaphor exists at a deeper generating level than other linguistic expressions. Can this level be located more precisely? On the other hand, Kövecses (2000: 27) contends that metaphors which express emotion are stable through time. Kövecses, however, does not provide a rationale to explain why these metaphors are resistant to diachronic change. This chapter aims to investigate the cognitive level of animal and plant metaphors in human minds, and the reasons for stability of these metaphors. We will answer these two research questions by reviewing the approaches of Lakoff (1987: 221) and Kövecses (2000: 27) based on the present research.

Two historically unrelated languages, Mandarin Chinese and German, were selected to demonstrate that the psychobiological basis and the conceptions of these metaphors work in languages by processes of analogy.

Important treatises showed the interesting cognitive level of plant concepts in human cognition. Lévi-Strauss (1963: 2) noticed that animal and plant names are consistently used as cultural symbols. In Lakoff and Turner’s (1989) ‘Great Chain of Being’ metaphor, human beings are ranked at the highest order, followed by other animals, and finally, plants. Animal and plant

* The original version of the present chapter was published in Languages across Cultures, pp. 131-149. Taipei: Bookman.
metaphors play important role in languages. Atran (1990: 219) shows that plant names are convenient choices for describing human society. We will compare plant and animal expressions, two different life-form expressions, and see how human experience of interacting with the environment influences the derivation of the life-form expressions with which I close the presentation of my research on embodiment in language in this monograph.

Linguists have also examined the cognitive foundation of animal metaphors in languages just as we have reviewed in part II of the monograph. Some of the related works should be briefly introduced again for the research purpose of this chapter. Nesi (1995) discusses conventional animal metaphors in different cultures and highlights the problems that second language users may have when using English animal metaphors. Ahrens and Say (1999) examine animal metaphors in English and Mandarin, and propose that animals’ appearance and behavior are usually anthropomorphized. Hsieh (2003a) examines animal expressions in Mandarin and German and suggests that animal expressions tend to reflect cultural values. Much research has focused on the negative connotations of animal expressions. For example, Fraser (1981) has investigated insulting terms that encode animal names. Low (1988) and Newmark (1988) show that animal metaphors are largely used to describe inferior or undesirable human habits and attributes. Fontecha and Jiménez Catalán (2003) look into cow and fox expressions in English and Spanish dictionaries. They found that the main metaphorical meanings of the female terms have more negative connotations than those of the male terms.

Little research, however, has been conducted about the intrinsic property and the cognitive level of the negative usage of animal metaphors as well as the use of plant metaphors.

The organization of this chapter is as follows: (1) introduction, (2) research framework, then (3) I examine how animal and plant metaphors are generated; from laypersons’ views rather than being based on scientific knowledge. (4) The characteristics of animal and plant metaphors are discussed to show how lay views overlap with nature. (5) A section answers the research questions raised in this chapter and reviews cognitive scientists’ assumptions.

### 16.2. Research Framework

Significant related theories about human cognition should first be mentioned. Kövecses (2000: 18) proposed that lay views can influence and determine scientific theories, and vice versa. This assumption can be illustrated and further developed in terms of animal and plant metaphors, as will be shown below.

Further, human conceptualization is fundamentally structured by metaphors consisting of mappings from our bodily experiences (Lakoff 1987, Johnson 1987, Gibbs 1994, Lakoff and Johnson 1980, 1999), such as visual perception, smelling, or feeling. In other words, the overall image and the metaphorical reasoning is shaped by the human body. For example, Yu (2004: 680)
pointed out that the English idiom *with one's eyes shut* means ‘without full awareness’ where a bodily experience “shutting one’s eyes” has developed into a cognitive reasoning. Mandarin has a parallel development.

In Halliday’s (1985: 101-, 1994: 106-) model of verbal processes, the semantic attribute of the verbs or nouns in expressions is identified to distinguish different lexical process that an expression aims to achieve. For example, the verb “pleased” in *the gift pleased Mary* shows that this expression goes under a mental process, while the verbs ‘caught’ in *the lion caught the tourist* indicates an action that shows this expression is going through a material process, and the ‘knit’ in *knit one’s brow* describes the behavioral process of this expression. I believe that animal and plant metaphors perform specific semantic roles by their different verbal processes and will delve into this issue shortly.

The data that we will be used for the study of this chapter are listed in Table 16.1.

Table 16.1. The sum of the metaphors in Mandarin and in German corpora

<table>
<thead>
<tr>
<th>Vehicles</th>
<th>Mandarin Chinese</th>
<th>German</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant</td>
<td>3558</td>
<td>3232</td>
</tr>
<tr>
<td>Animal</td>
<td>2890</td>
<td>2548</td>
</tr>
</tbody>
</table>

16.3. Semantic Autonomy versus Scientific Knowledge

Lakoff and Turner (1989) wrote *More Than Cool Reason: A Field Guide to Poetic Metaphor* “in service of helping the study of poetry function to promote ethical, social, and personal awareness” (p.214), because “it is vital that we understand our own worldviews and the processes that guide both our everyday understanding and our imagination” (Lakoff and Turner 1989: 214). This idea and the issue from which it arises finds inspiring support from animal and plant metaphors. Animal and plant metaphors that speakers use every day is for the most part generated from creative speakers, such as poets, novelists, and laypeople, such as farmers. For example, some metaphors, as those shown in (1a) and (1b) appear in classical literature. Those in (2) were created by farmers. Speakers now use all of them in daily life.

(1). From classical literature
a. *wang4mei2zhi3ke3* 望梅止渴 ‘watch-plum-quench-thirst = to slake thirst by thinking of plums; wishful thinking, imagined satisfaction’ (*Shishuoxinyu* 新Account of Tales of the World)  
b. *Nicht alle Blütenträume reifen* not-all-blossom-dreams-ripen = not all hopes will be fulfilled’ (*Prometheus*, by Goethe)
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(2). From farmers
   a. *yang2 mao2 chu1 zai4 yang2 hen1 shang4* ‘sheep-hair-produce-on-sheep-body-aspect = after all, the wool still comes from the sheep’s back; in the long run, whatever you are given, you pay for it’
   b. *seine Schäfchen scheren bringen* ‘his-lambs-shear-bring = to bring one’s sheep to sheepshearing; to feather one’s nest’

Animal and plant metaphors typically reflect laypeople’s understanding, which may be at variance with scientific knowledge. No scientific evidence can indicate that pigs are lewd. No biological research proves that the root of a mandrake can bring luck. However, the grunts of a pig and its seemingly nasty sight for some people, together with the character *zhu1 bai1 jie4* (as in 3a) in the Chinese novel *Journey to the West*, make it “natural” for Mandarin speakers to use the animal metaphor *zhu1 ge1* (as in 3b) to refer to someone who is lewd. Germans say *Der hat eine Alraune* ‘he-has-a-mandrake’ to mean “one who became rich within a short time.” The root of a mandrake has a shape like a human and is supposed to be a magic plant that can bring luck and wealth for the Germans. A linguistic manifestation, or more precisely, semantic autonomy is operating here, as will be discussed below.

(3). Two pig metaphors in Mandarin
   a. *zhu1 bai1 jie4* ‘pig-eight-precept = one of the chief characters in pilgrimage to the west, who was supposedly incarnated through the spirit of a pig, a symbol of man’s cupidity and lust’
   b. *zhu1 ge1* ‘pig-brother = lewdster’

These examples reflect semantic autonomy, that is, there is no scientific reason to explain their meanings. Semantic autonomy is based on a specific person’s experience and not necessarily on every speaker’s experience. The use of animals and plants in expression of human thought comes from human beings’ biological and habitational intimacy with them. Farmers develop notions about nature when they cultivate plants and raise animals. What plants are like and how animals behave are from farmers’ personal experience, knowledge, and associations. Poets express their emotions through the natural world and frequently express their sentiments based on their experiences with plants and animals. Metaphoric understanding of a given emotion will therefore be articulated through plants and animals. If they are widely circulated, these expressions then became part of everyday use.

Table 16.2 lists the associations between the animals/plants and their meanings in both languages. The corpora indicate that a great number of metaphors are generated from the “appearance” of animals and plants. For example, beans are small and apples have round shapes.

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These appearance-based metaphors account for 25.6% (Mandarin) and 20.0% (German) animal corpus; 42.3% (Mandarin) and 30.6% (German) plant corpus. Not to be overshadowed this, even more plant metaphors are generated from their “function” used by men: 41.6% in German, and 24.9% in Mandarin, for example, wood is construction material, thus Holzbau ‘wood-construction = wood-frame construction’ and liang2mu4 梁木 ‘beam’ are used metaphorically in German and Mandarin respectively.

**Table 16.2. The associations of animal and plant metaphors in Mandarin Chinese and German corpora**

<table>
<thead>
<tr>
<th>Associations</th>
<th>Mandarin</th>
<th>German</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANIMAL METAPHOR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>appearance</td>
<td>25.6%</td>
<td>20.0%</td>
</tr>
<tr>
<td>human-animal relation</td>
<td>21.1%</td>
<td>18.8%</td>
</tr>
<tr>
<td>cultural association</td>
<td>27.9%</td>
<td>20.7%</td>
</tr>
<tr>
<td><strong>PLANT METAPHOR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>appearance</td>
<td>42.3%</td>
<td>30.6%</td>
</tr>
<tr>
<td>function</td>
<td>24.9%</td>
<td>41.6%</td>
</tr>
<tr>
<td>cultural philosophy</td>
<td>10.0%</td>
<td>24.9%</td>
</tr>
</tbody>
</table>

Hsieh, Lien and Meier (2005: 115-16) suggest that Mandarin speakers produce more plant metaphors based on what they see; the appearance of plants. The Germans, on the other hand, tend to have a more functional standpoint and use more fruits and vegetables (usability and edibility) to mark their metaphors. It is noted that “appearance” and “function” can be connected to different cultural ideologies of the peoples. Trees, for instance, can be observed and interpreted from different standpoints in these two cultures. The German plant metaphor der ganze Christbaumschmuck ‘the-whole-Christmas-tree-decoration = all of one’s medals of honour’ observed the function of a tree that serves as a Christmas tree, then a connection between the multi-colored Christmas decorations and the multi-colored badges and medals a general wears. But

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68 As mentioned, a metaphor can be categorized into more than one type when we analyze its associations, e.g., qian1xi1chong2 千禧蟲 ‘millennium-bug = y2p; year 2000 computer problem’ can be associated with the small size of the bug – appearance, and the harm that it brings – behavior. Therefore, the total percentage of the associations of, for example, animal metaphors in Mandarin is 110%, in German is 105%.

69 Associations such as “behavior” and “habit” etc. are not listed in this Table so to present the necessary data more clearly.
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Mandarin shu4yu4jing4er2feng1bu4zhi3, zi3yu4yang3er2qin1bu2dai4 樹欲靜而風不止，子欲養 而親不待 ‘tree-desire-stillness-yet-wind-not-stop, son-desires-raise-yet-parents-not-remain = a son’s regret at not being able to serve parents in their old age’ sees the move of tree and leaves when the wind blows. The associations have to do with the respective cultures. The Germans celebrate Christmas while the Chinese value filial piety. Metaphors are rooted in culture; many metaphors that are categorized under ‘appearance’ etc. are also associated with “culture” and their association with “appearance” is arbitrary to people of other cultures.

We see that the cultural association enjoys 27.9% in Mandarin and 20.7% in German animal metaphors, and 10% in Mandarin and 24.9% in German plant metaphors. They are the associations with legends, religions, customs, life philosophy, or simply for comparison (e.g., xiao3shu4 yao4kan3, xiao3hai2yao4guan3 小樹要砍，小孩要管 ‘small-tree-should-hack, small-child-should-discipline = one should educate and discipline children starting from a young age’). They are arbitrary inventions that has no intrinsic relationship between the chosen vehicles and the meaning of the metaphors. The association “human-animal relation” in animal corpora takes 21.1% in Mandarin and 18.8% in German. This has to do with watchdogs, cow trailers, horse riding, etc. Examples are like der Fisch hat angebissen ‘the fish took the bait = a person took the bait,’ and niu2che1 牛車 ‘cow-car = a very slow car.’

Whether “appearance,” “human-animal relation” or “function,” all are generated from human experience, either from visual perception, eating habits, or other aspects of animal and plants. Historically, Lay people’s knowledge became a source of language and common sense; later on it became general linguistic cognition. Language users readily accept usage of familiar words like animal and plant names that do not convey their normal meanings, i.e., plant names do not refer to plants, animal names do not stand for animals. Animal and plant metaphors are often used in funny, imaginative, or memorable ways, and, therefore, popular.

Human experience, in particular those of farmers, poets and novelists, is the base of animal and plant metaphors. However, the experience is different from the impressions that people have toward the respective animals or plants. Although language and culture are inseparably intertwined, they are not identical;70 i.e. although Germans speak about cats as false, flattering, gluttonous etc., they might consider the animal cat rather as cuddly, soft and intelligent. How people perceive an animal/plant and how people use that specific animal/plant name metaphorically in their linguistic code lie on different levels in speakers’ minds. Our daily-life language has semantic autonomy.

However, there is interaction between language and conceptions backed up by science which is summarized in Table 16.3:

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70 Strictly speaking, if they were identical, they could not be intertwined: nothing can be intertwined with itself.
Table 16.3. Lay people’s view and scientific view in languages

<table>
<thead>
<tr>
<th>Possibilities / Interaction of the views</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. farmer’s knowledge and understanding, poet’s imagination and rhetoric determine people’s language usage, views, and conceptions</td>
</tr>
</tbody>
</table>
| II. a. scientific discoveries influence people’s views  
  b. scientific discoveries determine people’s language usage and conceptions  
  c. scientific discoveries change people’s views and conceptions |
| III. coexistence: farmer’s knowledge and understanding, poet’s imagination and rhetoric, and scientific discoveries coexist in people’s language use |

Table 16.3 (I) shows that animal and plant metaphors typically reflect laypeople’s understanding that may be at variance with scientific knowledge. However, when scientific discoveries contradict what metaphors say a language user’s views and concepts can be influenced (IIa). Take metaphors in (4) for examples. Germans have a metaphor to describe people who cannot get along well with each other, (4a) ‘living like dogs and cats,’ and Mandarin speakers mock at a dirty place as a ‘pigpen’ (4c), although zoological research found that dogs can get along well with cats and that pigs are clean (e.g., Grzimek 1988: 20). Language users’ knowledge may change accordingly, but their language use need not be. For this reason, we have not found metaphors relating that pigs are clean or that dogs can get along well with cats.

(4). Laypeople’s view and animal metaphors
a. wie Hund und Katze leben ‘as-dog-and-cat-live = they cannot get along with each other’
b. chong2ya2 蟲牙 ‘worm-tooth = a carious tooth’
c. zhu1juan4 猪圈 ‘pig-pen = pigpen; hog pen’
d. Schweinestall ‘pigpen = pigsty; a mess’

On the other hand, scientific discovery may offer new metaphors and thereby determine folk-language usage and conception (Table 16.3, IIb); for example, (5a) qian1xi3chong2 千禧蟲 was coined and used in Mandarin. It is the millennium bug translated from English. It was feared that in the year 2000, many computers would develop problems because most computer programs were designed to store only the last two digits of the year on all dates. Many people said that when the year 2000 came, these programs would be unable to distinguish the 00 for the year 2000 from the 00 for the year 1900. This discrepancy was believed to be going to cause widespread technical
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problems in worldwide legal and financial domains. Although these fears were not realized, they entered speakers’ minds via this term. When such a new metaphor spreads, people’s conceptions can change (Table 16.3, IIc). They gain a new concept and the new science-based metaphors coexist with other metaphors (Table 16.3, III).

(5). Scientific knowledge and animal metaphors
   a. qian1xi3chong2 千禧蟲 ‘millennium-worm = [computer] y2k millennium bug’
   b. Kleeblatt ‘cloverleaf [intersection] = a special intersection shaped like a cloverleaf’

16.4. Metaphors and Nature

Animal and plant metaphors have different generic levels from that of science; however, the macro essence of language and nature seems to overlap. That is to say, the linguistic manifestation of animal metaphors coincides with an animal’s ability to move from place to place, and plant metaphors correspond with a plant’s lack of this ability. Most animal names are used to denote active motions and activities, such as (6a) quan3ma3zhi1lao2 犬馬之勞 meaning ‘work like a dog or a horse.’ Most plant names imply motionless states, such as (6b) yi2ye4zhi1qiu1 一葉知秋 meaning ‘one falling leaf is indicative of the coming of autumn; everything is part of a whole.’ This section discusses the observation that animal metaphors are active expressions whereas plant metaphors are static for the purpose of revealing the overlap between nature and these expressions.

(6). Active motions and activities
   a. quan3ma3zhi1lao2 犬馬之勞 ‘dog-horse-[modifier marker]-labor = work like a dog or a horse’
   b. yi2ye4zhi1qiu1 一葉知秋 ‘one-leaf-know-autumn = one falling leaf is indicative of the coming of autumn; everything is part of a whole.’

The word “animal” is coined as dong4wu4 動物 (moving object) in Mandarin. Middle High German Tier (animal) meant wild beasts. We see animals jump, run, swim, and fly. Both Mandarin and German like to associate fish with swimming and birds with flying, as the metaphors in (7) show. Animal metaphors express rich motions, more than human beings are capable of. Plants are seen as motionless; they do not move about, and though they grow, blossom, and bear fruit, their motions are not as obvious as those of humans and other animals (Tompkins and Bird 1973). This trait of seeming motionlessness is coined in languages to show the steady and staid, such as in (8). In (8a), for example, gang1yi4mu4na4 剛毅木訥 describes someone as resolute and steadfast,
honest but perhaps slow-witted. It is used especially for a man who does not talk much but is reliable.

(7). Fish swimming and birds flying
a. *fu3di3you2yu2* 釜底游魚 ‘caldron-bottom-swim-fish = a fish swimming in the bottom of a cauldron; a person whose fate is sealed’
b. *schwimmt wie ein Fisch* ‘swims like a fish = an excellent swimmer’
c. *lao2yan4fen1fei1* 勞燕分飛 ‘bird-swallow-separate-fly = be like birds flying in different directions; separation’
d. *der Vogel ist ausgeflogen* ‘the bird has flown out = the criminal ran away and cannot be caught’

(8). Steady and staid
a. *ganglyi4mu4na4* 剛毅木訥 ‘sturdy-resolute-wood-honest = a tough, steadfast, determined, simple and honest person’
b. *Song1bo2zh1mao4* 松柏之茂 ‘pine-cypress-[modifier marker]-exuberant = the ong lasting; dateless’
c. *ein Köhrchen Wahrheit* ‘a-grain-truth = a bit of truth’
d. *ein Gemüt wie ein Veilchen haben* ‘a-mind-like-a-violet-have = to have the mind of a violet; to be rough and emotionless’

Our corpora give evidence of the activity of animal metaphors and the stasis of plant metaphors from many aspects. Halliday’s (1985) model of verbal processes can be the basis for the description of predicates in metaphors. Observing the verbal process of the metaphors in our corpora, animal metaphors are involved more in behavioral processes, but the plant corpus has more perception words that are associated with mental processes (see Table 16.4). For the behavioral processes, verbs like laugh, dance, spring, etc. are used, while perception words such as eyes and ears are used for the mental processes.

**Table 16.4. Verbal processes of animal metaphors and plant metaphors in German**

<table>
<thead>
<tr>
<th>verbal processes</th>
<th>Metaphors</th>
</tr>
</thead>
<tbody>
<tr>
<td>behavioral process</td>
<td>- da lächen ja die Hühner (This makes the chicken laugh = Don’t make me laugh);</td>
</tr>
<tr>
<td></td>
<td>- tanzen wie ein Hirsch (dance like a stag = dance very well [of a man]);</td>
</tr>
<tr>
<td></td>
<td>- Hechtsprung (pike-jump = flying dive);</td>
</tr>
<tr>
<td></td>
<td>- das hat der Fuchs gemessen, und den Schwanz dazugegeben (the fox</td>
</tr>
</tbody>
</table>
measured this, including his tail = the distance is larger than expected);  
- wie ein Pinguin laufen (walk like a penguin = to waddle)

mental process  
- danken mit einer Träne im Knopfloch und einer Nelke im Auge (thank with a tear in one’s buttonhole and a carnation in one’s eye = thank someone ironically moved to tears);
- einem ein Dorn im Auge sein (one a thorn be in the eye = to be a thorn in one’s flesh);
- Tomaten auf den Augen haben (to have tomatoes on the eyes = to overlook something);
- Bohnen in den Ohren haben (to have beans in one’s ears = not to be hearing very well);
- Da bleiben soviel Äpfel als Birnen (there remain so many apples as pears = this question is not decidable);
- Er ist keine faule Birne wert (he is not even worth a rotten pear = he’s a good-for-nothing)

Subsequently, observing meanings of these metaphors, aspects of experience like “harm,” “intensity,” and “desire” appear more in the corpus of animal metaphors, whereas “existence,” “control,” and “difficulty” emerge more in the corpus of plant metaphors. Furthermore, not only are the meanings of the metaphors that have motions, such as diligence (example 9), expressed in terms of animal names, but those meaning modesty or patience (example 10) that describe less physical motion, are full of actions in their verbal processes. The metaphors are therefore mainly based on the main mappings in which animal metaphorical vehicles relate to active expressions, while plant metaphorical vehicles relate to static expressions.

(9). Diligence:
   a. *wen-ji-qi-wu* 鬧雞起舞 ‘hear-chicken-get up-dance = to wake with the rooster; diligent and full of enthusiasm’
   b. *emsige Biene* ‘busy bee = a busy person’

(10). Modesty or patience:
   a. *man-zhi-tu-ya* 滿紙塗鴉 ‘full-paper-draw-crow = very poor writing; to scrawl’
   b. *jemandem zu reden wie einem lahmen Esel* ‘to persuade someone like a lame donkey = to keep on persuading with high patience’

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Noticeably, however, almost all animal metaphors are active, i.e., their idiomatic meanings have to do with action and motion. But a large number of animal names have no referential meaning; they serve merely as intensifiers in their metaphors. “Intensifier” is a universal semantic primitive (Wierzbicka 1995). In examples (11a) and (11c), the word Affen ‘monkeys’ works as an intensifier in each case. Such animal names now have abstract meaning and serve to increase the tone or mood. They gradually undergo grammaticalization, i.e., they lose or mitigate their semantic functions and work more as grammatical units.

(11). Intensifiers:
   a. *hou-ji* 猴急 ‘monkey-rush = very impatient’
   b. *niu-yin* 牛飲 ‘oxen-drink = booze’
   c. *Affenhitze* ‘monkey-heat = sizzling heat’
   d. *saubillig* ‘sow-cheap = very cheap’

The vocabulary offers clues about how speakers conceptualize the world, how they organize their knowledge, and how deep their knowledge goes in specific areas (Johnson 1996). When examining plant metaphors, Hellsten (2000: 217) says that they “had many features in common from which to select … the use of metaphors may have been, in this case, purposeful rather than unconscious.” Whether consciously or unconsciously, the sharing features speak for the agreement of this level of metaphors and nature. As Talmy (2000a: 414) points out, language marks a two-way distinction: “the tendency is either toward motion or toward rest—or, more generally, toward action or toward inaction.” This statement wins support in the contrast of animal metaphors and plant metaphors.

16.5. Conclusion

I have shown that linguistic cognition works on a different plane than scientific knowledge, and that there is an overlap between nature and linguistic cognition, which relies much on laymen’s perceptions.

At this point, we may review cognitive scientists’ approaches as follows:

i. Lakoff (1987: 221) declares that metaphor exists at a deeper level than linguistic expression. This chapter demonstrates that animal and plant metaphors have different generic levels from that of science and are mostly created by laymen. The generating point of such metaphor and the impression that speakers have toward that specific animal or plant is often in different generic levels. Questions like “why is cat (or dog …)

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71 See Lakoff and Turner (1989: 89) for a different point of view.
chosen” are often posed by language learners, scientists as well as linguists. For example, the Germans have hangover expressions that encode different animal names, such as *einen Affen sitzen haben* (a-monkey-sit-have = they have a monkey [sitting in one’s head]; they are drunk) and *einen Kater haben* (a-tomcat-have = they have a tomcat; they have a hangover). But why are monkey and tomcat chosen here? Linguists have different explanations or speculations. A popular German student joke says that when someone is drunk, *einen Affen sitzen haben* (a-monkey-sit-have = to be drunk). When he is sober, *einen Kater haben* (have-a-tomcat = to have a hangover). These students mock that turning from a monkey to a tomcat overnight is a zoological miracle.

ii. Kövecses studies metaphors that express emotions and suggests that most of these metaphors are stable through time (2000: 27). What is the rationale that makes metaphors stable? I venture the claim that the reason is because these metaphors are associated with nature in essence; i.e., in both Mandarin and German, animal metaphors are used as active expressions whereas plant metaphors are used as static ones. For example, animals tend to be adopted for attributes like diligence (see examples in 9) and intensity (see examples in 11), and plants are more for static mental process (see Table 16.4).

iii. Moreover, Atran (1990: 219) assumes that plant names are convenient choices for describing human or human society. Based on the above study, we add that both animal and plant names are commonly used to encode humans and human society. They work in different domains, just as they do in nature, and function complementarily in language as a whole.

Animals and plant species have biological features similar to those of humans. They jointly play important roles in our languages. While animal metaphors are active expressions, plant metaphors are static ones. Language has the quality of nature. It is changing in its speed and in its way; allows minimum human control. Languages make good use of material from nature based on human bodily experiences to influence human cognition.

72 See linguists’ different explanations for why is Kater ‘tomcat’ used in many expressions to express sobriety, e.g., Röhrich (1991), and Hsieh (2001).