

How do Chinese Antonymous Cognate Words Emerge? A Study From the Perspective of Metonymy and Metaphor*

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Abstract—“Dialectics” and “contradiction theory” from philosophy are almost the only theoretical resource that can be cited to explain the reason for the formation of Chinese antonymous cognate words. However, this paradigm does not come from the law of thinking, and therefore cannot display the dynamic process of the formation of the phenomenon fundamentally. Metonymy and metaphor could be applied as thinking mechanisms to reveal the rules of the generation of Chinese antonymous cognate words. Briefly, the mechanism of metonymy activates the fission of etymology; while the metaphorical mechanism makes the basic image schemas mapping between different conceptual domains to help this particular type of cognate words to multiply in quantity. Furthermore, the reasons for the formation of metonymic and metaphorical mechanisms are explored under the theoretical framework of “Embodied- cognitive” linguistics while emphasizing the influence of “cognitive-cultural” factors in forming this unique linguistic phenomenon.

Index Terms—Chinese antonymous cognate words, metonymy, metaphor, “Embodied-cognitive” linguistics

I. INTRODUCTION

Chinese antonymous cognate words are an integral part of the Chinese lexical system, therefore, the study of the mechanism of its generation is an investigation of the formative rules of the lexical system. In previous studies, Chinese etymology has always been subordinated to the category of historical linguistics, two problems are haunting the research in this field: 1) the mechanisms of formation of Chinese antonymous cognate words are not elucidated until now, and 2) the shortage of means of research has restricted the development of discipline. The previous paradigm was mainly based on the frame of contradiction and dialectics in Chinese philosophy, for instance, Lu (1981), Zhang (1984), and Wu (1986) cited that to explain the rationality of enantiosem (反训), antisense-homology, and auto-antonyms in Chinese linguistics, however, there was hardly any specialized study on the thinking mechanism of formation of Chinese antonymous cognates.

Chinese antonymous cognate words, namely a group of cognates with a pair of opposite semantics derives from one etymology, after the fission of etymology, the pair of opposite semantics are attached to two individual monosyllabic words, and there is a relationship of regular phonetic correspondence between them in the archaic phonology. For instance, “root/end”(本/末), “start/end”(始/终), “kindness/resentment”(恩/怨), etc., based on the criterion of judgment mentioned above, all of which are Chinese antonymous cognate words.

Lakoff and Johnson (2008) regard metonymy and metaphor as the cognitive mechanism, it also plays a significant role in the generation of Chinese antonymous cognate words. The metonymic mechanism activates and promotes etymological fission, allowing the phenomenon to occur; and the metaphor mechanism enlarges the number of members through the continuous mapping of basic-level image schemas between different conceptual domains. To prove that, this study extracts enough cases from “Chinese Dictionary” (《汉语大字典》), “Chinese Antonym Dictionary” (《汉语反义词辞典》), and “Chinese Cognates Dictionary” (《汉语同源词大典》), and all cases have passed through the examination of semantics and phonetics under the criteria of the judgment of Chinese antonymous cognate words.

II. METONYM: THE MECHANISM OF ETYMOLOGICAL FISSION

The fundamental reason for the formation of this linguistic phenomenon is that a pair of opposite semantics resides on one etymology at the same time. N. Wang (1996) proposed that any two opposite semantics that can coexist in a word must be “mutually caused” by each other, we could use another word “activation” instead.

Language is the product of human cognition, so the etymological structure is a kind of cognitive structure projection. The function of metonymy in Chinese antonymous cognate words can be mainly concluded into two aspects: 1) activates the opposite semantics, 2) produces the antonymous cognate words through construal.

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A. Activation of the Opposite Semantics

The function of metonymy is divided into two opinions: “substitution”, namely substituting one thing for another, which aims to highlight and let us pay more attention to the referent certain aspects of things (Lakoff & Johnson 2008); “reference point”, using the concept of one entity as a cognitive reference point to access a psychological connection with another entity (Langacker, 1993; Littlemore, 2015). Radden and Kövecses (1999) emphasized that metonymy provides mental access from one conceptual entity to another one. All of them point out that the mechanism of metonymy functions psychologically. Panther and Thornburg (2008) proposed that metonymy provides a natural inferential schema that is unconscious, and it could be regarded as a “spread of activation”, they (2012) argued that it is intuitively plausible and has been supported by experimental evidence that words spontaneously evoke their opposites, they propose that conceptual frameworks or conceptual domains can be used to explain such arousal. Barcelona (2019) replaces “mentally accessible” with “activation” and expands the conceptual entity into a conceptual whole, he regarded the activation from one subdomain to another as a basic property of metonymy (Antonio Barcelona, 2011; Antonio Barcelona, 2019). Langacker (1987) proposes that recurring events solidify and form routines, and that routine execution is activation. That is, the fission of etymology comes from the activation of opposite concepts in mental space but not in reality.

The pair of opposite semantics that reside in the same etymology is not a “substitute” with each other, but a “reference point” to the opposite. The pair of opposite semantics are contradictory or contrary, the establishment of the meaning of one relies on the other as a reference point. Vosshagen (1999) proposed that opposition could be regarded as a metonymic principle, and a conceptual entity could be used to provide mental access to its opposite, semantic opposition is not only lexical but also conceptual, and the relation between the opposite is one of close mental contiguity. The etymological fission could be described as language users taking one of the opposite semantics as a reference point to activate the other based on an equal distance evocation in the same category.

For example, in “sweet/bitter” (甘/苦), the original meaning of “甘” is “delicious”, the original meaning of “苦” is “bitter vegetable” and then is extended to taste sense. “Sweet” and “bitter” are a pair of contrary concepts of taste, only when one of which has existed, then the other can be established. Therefore, when we define one sense of taste, it is inevitable to arouse another sense of taste that is the opposite.

Cognitive linguists have a consensus that the source and target domains of metonymy are contiguous. Wu (2010) proposed that the antonymous relationship in auto-antonyms has the representation of “conceptual contiguity” and “identical category”. The etymology is similar to “auto-antonym” morphologically, and the “conceptual contiguity” comes from the contiguity of thinking, reverse association is a kind of reasoning behavior alongside contiguity. A contrariety relation is such that two terms generally stand an equal distance from a neutral reference point (Lehrer & Lehrer, 1982; Murphy & Andrew, 1993). Taking the neutral reference point as the center, the pair of opposite semantics residing on one etymology that formed through the type of “part-part” metonymy should be symmetric in parameters such as nature, degree, distance, etc.

Wang (2007) suggested that metonymy is a cognitive phenomenon that construes the “part-whole relationship” within the same ICM, that is, one part can be used to recognize another part or the whole, or the part can be recognized through the whole, and the relation of the two is contact or contiguity. This study adopts “ICM” to describe the etymological model, for the availability of interpretation of ICM in the display of the formation of antonymous cognate words, “We have ICMs of everything that is conceptualized, which includes the conceptualization of things and events, word forms and their meanings, and things and events in the real world” (Radden & Kövecses, 1999). Taking the etymological model as an idealized cognitive model can show the process of thinking through the vivid model that can help explain it better. The etymological model can be summarized as “container schema” and “link schema” (George Lakoff, 1987), by which the etymology can be imagined as a “container”, the opposite semantics which reside in the same etymology are related but independent of each other simultaneously, they refer to and activate each other to form a “container” together. The “container schema” ensures “identical category” while the “link schema” guarantees “conceptual contiguity”.

For example “audible/deaf” (聪/聋), are two extreme concepts in the auditory category. If hearing could be regarded as an ICM (hearing container), “audible” and “deaf” are two subdomains, which are linked with each other by the condition of hearing. When one of the subdomains is established, the other must be used as a reference.

Lehrer and Lehrer (1982) and Cruse (1986) divided opposite semantics of antonyms into four types: 1) complementary, which divides the conceptual domain into two mutually exclusive compartments; 2) contraries, which denote degrees of some properties; 3) reverses, which denotes the change in the opposite direction in two states; 4) converses, which denotes two opposed perspectives on a relationship or transfer. Karaman (2008) used the term “contronymy” to refer to sense-opposition at micro-level, he divided it into five types: 1) complementary with the feature of binarity, 2) antonymy with the feature of gradability, 3) conversivity with the feature of directional opposition, 4) reversivity with the feature of the beginning and end stage of events, apart from the four types above, the left could be concluded into the type of “incompatibility”.

Synthesizing the above classification, the opposite semantics residing on one etymology could be classified into 4 types as follows:

“Complementarity”: “eat / omit” (茹/吐), “quiet / noisy” (静/躁), “alive / dead” (生/死), “fluent / obstructed” (通/塞), “morning / evening” (旦/夕), “kindness / resentment” (恩/怨), “bright / extinguished” (明/灭), “head / hoof” (题/蹄), etc.

“Antonymy”: “old/young” (老/少), “full/empty” (盈/虚), “sharp/blunt” (利/钝), “sweet/bitter” (甘/苦), “audible/deaf” (聪/聋), “fine/coarse” (精/粗), “new/old” (新/陈), etc.

“Conversivity”: “buy/sell” (买/卖), “teach/learn” (教/学), “get/give” (取/舍), etc.

“Reversivity”: “exit / enter” (出/入), “advance / retreat” (进/退), “go / come” (往/还), “far / near” (远/近), “knob / unravel” (结/解), “cover / diffuse” (掩/扬), “ascend / descend” (陟/坠), etc.

B. The Analysis of the Formation of Chinese Antonymous Cognate Words From the Perspective of Construal Operation

There are three main frameworks from Langacker, Talmy, and Croft for the schemes of construal operation. Langacker's (2007, 2008) construal operation could be concluded into “specificity”, “focusing”, “prominence”, “perspective”, and “dynamic”; Talmy's (2000) construal operation includes “configuration structure”, “perspective”, “distribution of attention” and “force dynamics”, the classification of construal from Croft and Cruse (2004) includes “attention/salience”, “judgment/comparison”, “perspective/situatedness”, “constitution/gestalt”. Among these, the overlapping parts include “perspective”, “salience”, “attention”, etc., and it is indicated that most metonymy can be interpreted by them.

Based on Langacker, Talmy, and Croft, Wang (2007) proposed to use the “ECM” (Event-domain Cognitive Model) to explain the phenomenon of metonymy, for the advantage of indicating the linear and hierarchy of action and being, that is, a behavior can be composed of many specific sub-behaviors or sub-actions, and the composition of a thing can include entities such as people, things, tools, etc. The following research will combine the “event domain” cognitive model with the construal operational framework.

(a). Subject & Object

“Buying” (买) and “selling” (卖) are two sides to a transaction, when the speaker is the “buyer”, the “seller” is the object in the transaction and vice versa. The speaker is present, while the absent party is presented through the type of “part-part” metonymy. When the identity of the speaker is transferred, the exchange of identity of the subject and object occur simultaneously, however, the speaker is always highlighted under this frame, and so do “teach/learn”.

(b). Different Perspectives

Verhagen (2010) proposed a highly uniform construal operation, that is, perspective, “Different lexicalizations reflect different construal of the ‘viewpoint’ recognizable by the conceptualizer”, Langacker (2008) proposed the concept of vantage point, arguing that the observation and description of the same objective situation from multiple different viewpoints can create different ways of construal and bring about differences in form.

“Exit/enter” (出/入), “advance/retreat” (进/退), and “far/near” (远/近), these three groups of cognates reflect the different orientations of observation. Here is a hidden observer, he/she is the leader of the discourse, the actions facing the observer are “进”, “入”, “近”, and those departing from this observer are “出”, “退”, “远”; the establishment of the direction depends on the reference object while the position of the observer is the origin of the direction.

III. METAPHORS: THE MECHANISM OF THE PROLIFERATION OF ANTONYM COGNATES

Just as metonymy produces particular etymological structures, so metaphor continuously promotes the proliferation of the number of antonymous cognates. The proliferation of these relies on mapping basic image schemas across different conceptual domains. After “etymological semantemes” and “conceptual semantemes” are extracted, we find that the etymological semantemes share identical features and are structurally analogous to the image schema owing to the properties and function of the schema. For example, for “root/end” (本/末), the etymological semanteme is “up/down” and the conceptual semanteme is “plant”. For “exit/enter” (出/入), the etymological semanteme is “front/back” and the conceptual semanteme is “action state”. For “morning/evening” (旦/夕), the etymological semanteme is “up/down” and the conceptual semanteme is “time”. For “clear/turbid” (清/浊), the etymological semanteme is “sense-based scalarity”, and the conceptual semanteme is “liquid”.

Johnson (1987) argued that a schema consists of a small number of parts and relations, by which it can structure indefinitely many perceptions, images, and events. He believed that schemas are dynamic patterns rather than fixed and static images, by which people can construct or form order in the way they comprehend the world. Schemas are seen as highly abstract, well-adapted underlying structures based on general human knowledge: the considerable homogeneity of image schemas across languages arises from the universal overlaps between the general knowledge of human beings and our embodied experience. A schema could be defined as a fixed template for ordering specific information, whereas an image had been defined as a representation of specific patterns capable of being rendered schematically (Oakley, 2007). In other words, people are accustomed to using some fixed templates as modes or windows to construe the world they live in, by which they achieve to plan the order of the world. The existence of a fixed template has brought about

the highly homogenous intrinsic schematic structure between different concepts.

Hampe (2005) summarizes image schemas into six characteristics, among which, experiential attribute affirms the psychological characteristics and source of the reality of image schemas, whereas the internal structure is consistent with the invisible structure of image schema proposed by Lakoff and Johnson. Multiple image schemas can be superimposed to form a specific schema, and the underlying basic image schema could be deemed as a Cognitive Model (CM), there are such image schemas in every language that originates from the structure of the world and represent mental structures.

Notably, one of the most interesting things about image schemas is that they motivate important aspects of how we think, reason, and imagine. The same image schema can be instantiated in many different kinds of domains because the internal structure of a single schema can be metaphorically understood (Gibbs & Colston, 1995). It is universal that marks time from the perspective of space, and so does Chinese, therefore, spatial schema is taken as a mold to shape the concept of time. There is no logical inferential evidence that could prove the similarity between the spatial domain and temporal domain, what has connected the two individual domains is imagination. People who took themselves as the reference point had experienced time, to locate themselves who had merged into time, they utilized the spatial schema as a tool to mark time, by which the directionality of time had formed. This entire process was dependent on spatial schemas, which played a significant role in allowing people to imagine time. It is thus appropriate to describe metaphors as imaginative capacities based on embodied experience. In this sense, image schema is “psychologically real” (Gibbs & Colston, 1995).

Mandler and Cnovas (2014) proposed that there are three different kinds of cognitive structure: spatial primitive, image schema, and schematic integration, among which, Spatial primitives are the first conceptual building blocks and image schemas are simple spatial stories built from them. In Chinese antonymous cognate words, spatial schema has constituted most of the number of cognates, even temporal cognates are also included, undoubtedly, spatial schema is the most fundamental but important image schema type. Henblom et al. (2019) argued that Image schemas, on the other hand, are spatiotemporal relationships used in cognitive science as building blocks to conceptualize objects and events on a high level of abstraction. The spatial relationship is the cornerstone of image schema of Chinese antonymous cognate words, through metaphoric mapping, spatial schema was applied to temporal construal and thus had generated a huge number of cognates about spatiotemporal relationship, next to that is an emotional and moral category. Szvedek (2019) proposes that the fundamental property of image schema is density experienceable by touch, according to his opinion, touch is the most fundamental sense experience and density is one of the measurement units of scalarity, what he implied is a schema of scalarity based on sense. For instance, “fine/coarse” (精/粗), “pure/miscellaneous” (纯/杂), “精” and “粗” originally refer to polished rice and coarse rice, “纯” and “杂” refer to undyed and variegated silks respectively, the difference between them could be distinguished by touch, thus sense-based scalarity could be deemed as a kind of image schema in Chinese antonymous cognate words.

Here are some main image schemas in Chinese antonymous cognates.

“Up/ Down”: “root/end” (本/末), “morning tide/evening tide” (潮/汐), “Qian /Kun” (乾/坤),

“morning/evening” (旦/夕), “cover/diffuse” (掩/扬), “head/hoof” (题/蹄),

“ascend/descend” (陟/坠), “head/foot” (首/足), “heaven/earth” (天/地), etc.

“Front / Back”: “exit/enter” (进/出), “far/near” (远/近), “go/return” (往/还),

“belly/back” (腹/背), “receive/payout” (出/纳), etc.

“Start / Stop”: “start/end” (始/终), “alive/dead” (生/死), “move/stop” (动/止),

“plant/reap” (种/收), etc.

“Polarized mental state”: “kindness/resentment” (恩/怨), “favor/humiliation” (宠/辱), etc.

“Polarization of moral quality”: “integrity/greed” (廉/贪), “diligence/ease” (勤/逸),

“courage/fear” (勇/惧), etc.

A. Primitive Image Schema Types

(a). The Schema of “Up / Down” Maps From Human Domain to Non-Human Domain

“Head/Foot” (首/足), the original meaning of “首” is head, and the original meaning of “足” is legs and feet. “Head/Foot” is the concept of the orientation of human body in space.

“Heaven / Earth”(天/地), the original meaning of “天” is the top of the human head, and the meaning of the word is expanded as sky; the original meaning of “地” is earth, sky and earth are located at the upper and lower ends of the human body.

“Top / Bottom”(顶/底), the original meaning of “顶” is the top of the head, which is first extended as the meaning of upper part of the head, and then expanded to the meaning of “the upper part of the object”; “底”, the original meaning is the lower part of the object.

“Head / Hoof” (题/蹄), the original meaning of “题” is “forehead”, and then the semantics is mapped from the human domain to the non-human domain through metaphor, so “题” also has the meaning of “animal’s head”; the original meaning of “蹄” refers to horses, cattle, sheep, pigs, and other animals are born on the horny end of the toes.

The concept of “up / down” is mapped from the human domain to the plant domain, and then is expanded to the beginning and the end of things respectively, from which a larger category is formed.

(b). The Concept of “Up / Down” Is Mapped From the Concrete Domain to the Abstract Domain

The groups of examples below map the spatial concept of “up / down” from a concrete domain to an abstract domain.

“Cover/Diffuse” (掩/扬), the original meaning of “掩” is to cover up whereas the original meaning of “扬” is to diffuse. “Ascend/Descend” (陟/垫), the original meaning of “陟” is “climbing”, and the original meaning of “垫” is “sinking”; “Repress/Raise” (抑/举), the original meaning of “抑” is “pressing”, which highlights a downward movement trend; the original meaning of “举” is that both hands hold objects with an upward movement trend, so do another two groups “inhibit / diffuse” (抑/扬), “hid / diffuse” (隐/扬).

(c). The Concept of “Up / Down” Is Mapped From the Spatial Domain to the Temporal Domain

“Up / down” is the primitive image schema that we construe the world—but compared with the visualization of the spatial structure, time is abstract, intangible, and infinitely cyclic. The basic function of metaphor is to project concrete concepts to abstract concepts, thereby helping to mark and define the world.

“Morning/evening” (旦/夕), the original meaning of “旦” is dawn whereas the original meaning of “夕” is evening. Time is originally cyclical, but people project image schema of “up/ down” from spatial domain to temporal domain, taking themselves as a reference point to observe the rise and fall of the sun, the concept of morning and evening is formed, and so do “morning tide/evening tide” (潮/汐). In this sense, the concept of time is constructive.

(d). “Front / Rear” Image Schema

“Belly / back” (腹/背), the original meaning of “腹” is “thickness”, the typical features are extracted and then mapped to the human body domain to refer to the abdomen of a person; the original meaning of “背” is the back, “belly / back” is located at the “front/back” of a person respectively. The “front/back” of space, like “up / down”, is one of the most basic image schemas in our thinking. Thus, the image schema of “front/back” is mapped onto the domain of action, and the spatial concept of “go/return” is formed from the observer’s point of reference, as facing him/herself (“return”) or departing from him/herself (“go”).

For example, “exit/enter” (出/入), and “advance/retreat” (进/退) are both the projections of the schema of “front / back” from human body domain to the action domain. The two groups of examples, “far/near” (远/近) and “go/return” (往/还) represent the concept of spatial distance, “go” entails moving away from the observer, and “return” means moving toward the observer.

(e). “Start / Stop” Image Schema

The “start/stop” image schema is formed on human beings’ embodied experience. Ordinary physics has demonstrated that motion cannot be perpetual but must pass through two phases: start and stop (始/终). In “prosperous/withered” (荣/枯), the original meaning of “荣” is “Tung wood”, owing to this tree species grows prosperously, the meaning is extended to “prosperous”; the original meaning of “枯” is to fade away. Thus “prosperous” and “withered” are parts of the same process from start to end. In “alive/dead” (生/死), the original meaning of “生” is “growth”, and that of “死” is “the end of life”. “Alive” and “dead” are human’s most basic but profound embodied experiences.

B. The “Cognitive-Cultural” Mechanism in Metaphor

Humboldt (1997) believed that the internal web of language reflected national linguistic consciousness. Language can be regarded as a repository of meanings stored in the form of linguistic signs shared by members of a culture. This lends language a historical role in stabilizing and preserving a culture (Zolt & Kövecses, 2010a). We live in a world of conceptualization, human beings fabricate the information they perceived through embodied experience into various words to name the world. As humans are meaning-making subjects, processing and output are closely related to our cognitive structures and background knowledge. The encyclopedic view of semantic production maintains that the precultural background is an important component of people’s encyclopedic knowledge, determining which meanings are produced and forming the basis of alternative construal.

Kövecses (2010b) suggested that meaning-making is a cooperative enterprise (linguistic or otherwise) that always takes place in a large set of contexts (ranging from immediate to background) and that occurs with varying degrees of success. People who can successfully participate in this kind of meaning-making can be said to belong to the same culture.

If the proliferation of Chinese antonymous cognates reflects the universality of metaphor from the perspective of basic image schema, then the role of culture in generating metaphorical variants must be considered. Kövecses (2008) suggested that the natural occurrence of metaphorical conceptualization could be attributed to two simultaneous pressures: the pressure of embodiment and the pressure of context. The latter is determined by a local culture that produces culturally specific metaphors. He (Kövecses, 2005) proposed two causes of variation in metaphor: differential experience and differential cognitive inference, the first one relate to sociocultural context, social and personal history,

and what we might call differences in social and personal concerns or interests. Variation in metaphor is produced by differences in social categories such as race, religion, style, subculture, etc., indicating the existence of a “cognitive-cultural” factor in the formation of metaphors.

For instance, within the ancient Chinese cultural system, the antonymous cognates of “husband/ wife” (夫/妇), “Qian/Kun” (乾/坤), “heaven/earth” (天/地), “clear/turbid” (清/浊), and “Yin/Yang” (阴/阳) can be divided into two categories: (1) “阳” (Yang), consisting of “夫” (husband), “乾” (Qian), “天” (heaven), “清” (clear), and “妇” (woman), and (2) “阴” (Yin), containing “坤” (Kun), “地” (earth), and “浊” (turbid). The distinction between “阴” and “阳” enacts a discourse of power in which “阳” enjoys a status superior to that of “阴”. The classification of “阴” and “阳” represents a unique material and world view of the Chinese cultural system: all matter can be categorized as “阴” or “阳”, according to its nature. Lexical concepts reflect human thinking about external things from the perspective of linguistic psychology, which is attached to language symbols to represent the attributes of its referent object (Y. Zhang, 2009).

The original meaning of “阳” is “the south of the mountain or the north of the water”, and the original meaning of “阴” is “the north of the mountain or the south of the water”, the function of “阴” and “阳” were originally positional nouns. Obviously, the etymologies of “阴” and “阳” are “moon” (月) and “sun” (日), respectively. From simple positional nouns to cultural keywords, metaphors allow meanings to proliferate and categories to expand. The differential status of “yin-yang” might come from its etymologies: “日”(sun) and “月”(moon), as physical phenomena, were endowed with psychological meaning reflected (in ancient China as well as many other early cultures) in the worship of the sun. Human embodied experience is critical to the process of metaphorical mapping from the physical to the psychological domains. Compared to the moon, the relative importance of the sun to human existence has established its greater salience and psychological status: thus, “阳” is valued more highly than “阴”, generating greater potential psychological energy. Thus, as a kernel category of the Chinese cultural system, the meanings of the prototype of “阴/阳” have been established via metaphor and continue to expand into new concepts via similar metaphorical constructions, like Kövecses (2005) said, With the help of basic experiences alone and without such conceptual metaphors it is difficult to see how abstract concepts can emerge and, in emerging, how they can acquire the detailed content and structure that they have.

But how have metaphors mapped across different conceptual domains to constitute the larger cultural category of “yin/yang”? The answer lies in the diffusion of Confucian classical books, whose authoritarian discourses shaped the cognitive models of intellectuals as key opinion leaders in society, and that is the pressure of context. For instance, Liji • Jiaotesheng (礼记•郊特牲) states: “Music is constituted by Yang while politeness is constituted by Yin, the success of everything relies on the harmonious relationship of Yin Yang.” An ancient Chinese intellectual named Sun Xidan interpreted that above in this way: “The reason why the attribute of music belongs to Yang is that it is nurtured by heaven; the reason for etiquette belongs to Yin is because that is nurtured by earth.” This demonstrates that the attributes of heaven and earth are Yang and Yin, respectively. Similarly, Yijing • the Interpretation of Gua (易•说卦) states: “Qian is derived from heaven meanwhile Kun is derived from earth.” In the ancient Chinese cultural system, the status of “husband” was exalted to heaven as “阳”, while that of “wife” was deprecated to earth as “阴”; this bestowed legitimacy and rationality on the power inequalities of marital and family relationships in ancient China.

The two opposing substances and properties that belong to “yin-yang” could be traced from the same origin. In Yi (易) it is recorded that Taiji (太极) that evolved through Yi (易) could differentiate into “yin” and “yang”, in the ancient Chinese creation myth, Pangu (盘古) created heaven and earth from chaos: the clear air rose to become sky whereas the turbid air sank to become earth. Therefore, “clear” (清) belongs to the category of “yang” and “turbid” (浊) was assigned to the category of “yin”. Owing to the dominance of Confucian ideology in ancient Chinese society, Confucian discourses were taken as incontrovertible social dogma, upholding authoritarian ideology and rule. Thus, the binary oppositional category “yin-yang” passed from generation to generation and shaped the cognitive models of the Chinese people.

The cultural system consists of conceptual and situational contexts, ideology is one of the subtypes of cultural-conceptual context, and the cultural factors that affect metaphorical conceptualization include the dominant values and characteristics of members of a group (Zoltán Kövecses, 2017). As the dominant social value, Confucian ideology is responsible for the specificity of metaphor. Whereas metaphor is a universal thinking mechanism, culture is the imaginary space in which ethnic communities are formed. Metaphor is formed both from embodied recognition of the objective world and the regulatory force exerted by the dominant ethnic culture. This kind of “cognitive-cultural” mechanism strongly influences our construal and construction of the world and makes the birth of the nationality of metaphors.

IV. THE FORMATION OF ANTONYMUS COGNATE WORDS FROM THE PERSPECTIVE OF “EMBODIMENT-COGNITIVE” LINGUISTICS

Lakoff and Johnson (2008) took human embodied experience as the empirical basis for metaphor and metonymy, for

instance, the structure of spatial concepts emerges from our constant spatial experience, and now it is already been accepted as a wide consensus by cognitive linguists. The embodied philosophy proposes that human senses and perceptual systems play an important role in shaping specific conceptual systems such as colors, basic-level concepts, spatial relationships, aspectual concepts, etc., the formation of our embodied concept relies on our sensorimotor system (Lakoff & Johnson, 1999).

Conceptual structures are isomorphic with our neural architecture, all our reasoning and imagination doesn't rely on human reason, but on our sensorimotor nerves. The semantic relationship of Chinese antonymous cognate words includes opposition of original meaning and extended meaning, which is brought about by mankind's embodied mechanism. For example, "uncommunicative/talkative" (寒/喧), the original meaning of "寒" is "cold". Through synaesthesia, people can highlight the characteristics of the experience obtained from the sensory domain and then map it into the psychological domain, extending the meaning to "sound desolate". The original meaning of "喧" is "exclamation", and its auditory characteristics are highlighted through metonymy and then extended to the meaning of "extremely noisy". Another example is the "mental state" type, such as "favor/humiliation" (宠/辱), "kindness/resentment" (恩/怨), "courage/fear" (勇/惧), "good/evil" (好/恶), these bipolar psychological experiences are completely given rise to from the embodiment experience, Lakoff(2016) claimed there is brain circuitry that releases hormones in certain brain regions that we experience as 'affect', either positive or negative, this neural system determines when we feel good or bad.

From the perspective of embodied cognition, the way of proliferation of words is that the body acts as the subject to experience or feel to form basic image schemas, and then through continuous cross-domain mapping, a larger conceptual category is constituted eventually. Humans transfer the simpler concept to different cognitive domains, and use conceptual structures that are proven adaptive to develop higher-level concepts can enrich the scope of information processing while expanding the breadth of thinking (Ye, 2017).

Wang (2015) summarized the production of language into two steps: "embodiment" is an interactive experience while "recognition" is the cognitive processing, and the latter admits that language is subjective and divergent to a large extent. Although people's perceptions and experiences are basically the same, people can choose different "perception channels" or "experience methods", that is construal. The theoretical core of Embodied-Cognitive Linguistics is "reality-cognition-language" with the salience of the "human nature" of language. Compared with the view of cognitive linguistics, Embodied-Cognitive Linguistics emphasizes the subjectivity of human beings in the cognitive processing. That two points reflect the overall impact of the method and thinking of "recognition" in Chinese antonymous cognate words, one is the vertical spatial perspective of Chinese temporal concept, and the other is the formation of moral categories. Wang's (2019) "The Temporality of English and the Spatiality of Chinese: A Contrastive Analysis" discussed the grammatical differences between English verbs and Chinese nouns, negative representations in English and Chinese, word structure, text structure, characteristics of Chinese run-on sentences, and the grammatical differences between English and Chinese progressive markers, etc., to prove English is a temporal language while Chinese is a spatial language. English temporal words are more horizontal, while Chinese temporal words are more vertical. Two experiments by Liu and Zhang (2009), "The influence of launch of spatial relationship on time processing" and "The Influence of vertical and horizontal spatial relationships on time processing of Chinese native speakers under different language conditions", have proved that different languages have different regulations on time when establishing the way of time expression. Therefore, people inherit the habits of expression of their predecessors and match the different dimensions of time and space according to the way specified by their own language, to think about time in corresponding methods. Gibbs (2019) also compared English and Chinese time words when discussing how conceptual metaphor shapes decision-making, he argued that about one-third of all time expressions in Mandarin use the vertical metaphor, and the results show that people's temporal judgments are influenced by their most salient conceptual metaphors. National languages are constructed based on national thinking and culture, this vertical preference of the Chinese "temporal-spatial" concept comes from our perception of vertical orientation of the world at the beginning of the establishment of language. For example, "up and down five thousand years of Chinese history", this kind of historic view presents a vertical assumption, and once this conceptual metaphor is formed, it will strengthen the cognition of people who use this language.

Lakoff (2010) argued that moral metaphors are rooted in people's experiences of physical and social interactions and that different moral types are based on different models of family, in the model of "strict father", metaphors of moral authority, moral power, and moral order are given the priority. This kind of cognition is derived from acculturation, the moral orders advocated by Confucianism, as a hidden discourse, display its powerful energy in the formation of metaphors. The three groups of antonymous cognate words, "integrity/greed" (廉/贪), "diligence/ease" (勤/逸), and "courage/fear" (勇/惧) reflects the discipline of Confucian ideology for ancient scholars.

The original meaning of "廉" is narrow, it extended the meaning of angular through metonymy and then extended the meaning of integrity by metaphor mapping, the discipline represented by "廉" is extremely strict even harsh, and the salience of absolute incorruptibility reflects the moral order made by Confucian. The original meaning of "逸" is to escape, then it was extended to the meaning of "leisure and happiness"; "勤" is a pictophonetic character, and its pictogram reflects the advocacy of "physical strength" in the farming civilization. Doing physical labor hard is the

moral requirement of the farming era, while“逸” implies ignorance about the toil of farming. “勇” is another pictophonetic character whose initial meaning is the strength, after metaphor mapping, the semantics was upgraded to the category of morality. In the Confucian classics, “勇” was interpreted as an excellent moral character and regarded as an admonition to scholar behavioral norms.

The dominant ideology in the feudal era is Confucianism that is centered on patriarchy, therefore, the semantic opposition of “勤/逸”, “廉/贪”, “勇/惧” stands for the exhortation for intellectual moral behavior ruled by Confucian ideology, the binary opposition of value is engraved in the words and brings about these Chinese antonymous cognate words.

V. CONCLUSION

As a system, the proliferation of Chinese antonymous cognate words is a regular movement, no matter the analysis of etymological fission from the perspective of conceptual metonymy, or the description from the perspective of the cross-domain mapping of image schemas, all above which we discussed aims to reveal the law of this movement. Explaining the formation of Chinese antonymous cognate words from the perspective of cognitive occurrence will be helpful to overcome the shortcomings of the research paradigms and methods from historical linguistics that have occupied the field of Chinese cognates for a long time, meanwhile, replenish methods and means for the interpretation and judgment of cognate words from the perspective of thinking generation.

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