Polysemy and Enantiosemy: Mandarin *Dui* and Taiwanese *Tui*

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Abstract

From a cognitive viewpoint, we compare Mandarin *Dui* and Taiwanese *Tui* by looking into their sense developments in the *Dui/Tui* + NOUN Construction. *Dui* and *Tui* are usually regarded as lexical equivalents across Mandarin and Taiwanese, two of the major languages spoken in Taiwan. Assuming with Lakoff (1987) that polysemy is a semantic network with radial categories, we adopt a metaphorical approach in our investigation. Through metaphorical extensions, *Dui* and *Tui* develop distinct routes to developing differing but related senses, forming differential semantic networks. Both *Dui* and *Tui* profile spatial-, eventive-, and communicative-domain senses. However, Taiwanese *Tui*, but not Mandarin *Dui*, encodes a temporal sense. Apart from polysemous expansion, we also address the enantiosemy arising in the "to" and "from" senses attached to Taiwanese *Tui*. The findings of our study offer insight into the nature of polysemy as well as the lexical differentiation across Mandarin and Taiwanese.

Keywords

Polysemy, Enantiosemy, Path Schema, Metaphor, Focus-Shifting

1. Introduction

From a cognitive viewpoint, we compare Mandarin *Dui* and Taiwanese *Tui* by looking into their sense developments in the *Dui/Tui* + NOUN Construction. By adopting the metaphorical approach, we intend to detect their routes to metaphorical sense extension. Additionally, we investigate whether enantiosemic opposition is attested in the polysemous behaviors of the two lexemes.

Dui and *Tui* are usually regarded as lexical equivalents across Mandarin and Taiwanese, two major languages spoken in Taiwan. Under closer scrutiny, however, *Dui* and *Tui* share but also differ in sense denotation. Witness (1), (2), and

(3) as follows.

(1) a. dui   ren   chengken (Mandarin)
      to   people   sincere
      'being sincere to people'

   b. tui   lang   singkhun (Taiwanese)
      to   people   sincere
      'being sincere to people'

(2) a. dui   tian   fashi (Mandarin)
      to   sky   vow
      'vowing to the sky'

   b. tui   thinn   tsiutsua (Taiwanese)
      to   sky   vow
      'vowing to the sky'

(3) a. *Wo   dui   chezhan   lai. (Mandarin)
      I   to   station   come.

   b. Wo   cong   chezhan   lai. (Mandarin)
      I   from   station   come.
      'I came from the station.'

   c. Gua   tui   tshiathau   lai. (Taiwanese)
      I   from   station   come.
      'I came from the station.'

As in (1), Mandarin *Dui* and Taiwanese *Tui* both indicate that the agents have a certain attitude toward the references of the nouns in their posterior positions. In (2), *Dui* and *Tui* alike communicate the readings that the agents perform an action toward the entities of their succeeding nouns. However, as revealed in (3), Taiwanese *Tui*, but not Mandarin *Dui*, conveys the reading that the agent travels from a spatial location to another. As illustrated in (3b), Mandarin *Cong* is employed in order to impart the "from" sense. What can be learned from the examples (1) to (3) is that Taiwanese *Tui*, but not Mandarin *Tui*, delivers meanings "to" and "from", which are opposite and contradictory. In view of this fact, we propose to investigate these two lexical items regarding their sense generations. Our investigation can help offer deeper understanding of the two languages Mandarin and Taiwanese used by Taiwanese people. Specifically, our findings shed light on the importance of cognitive construct in the typological studies of language.

Taiwan basically consists of four major ethnolinguistic groups: Southern Min, Mainlanders, Hakka, and Austronesian aborigines (Chen, 2010). Klöter (2006) offers a sketch of Taiwan's language landscape. Mandarin, as the official language and the medium of education and media, is commonly used across ethnic boundaries. Many Taiwanese people are fluent in Mandarin and can even speak local languages. Mandarin proficiency is especially widespread among Taiwanese people who received education after the late 1940s, when Mandarin was established as the sole medium of school instruction. Taiwan's Southern Min dialects, used by approximately seventy percent of the population, are known un-

der the terms like Taiwanese, Hoklo (or Holo), Taiwanese Min, Taiwanese Hokkien, Taiyu, Tai-gu, and Tai-gi. We adopt the term Taiwanese in this research. Other languages used in Taiwan include Hakka and Austronesian languages spoken by the indigenous peoples in the center and on the eastern coast of Taiwan.

In this research, we adopt the central prototype theory, which proposes that the senses of a lexical unit are structured as radial categories (Lakoff, 1987). The prototypical meaning in the context of our research is described in terms of the path schema theory (Johnson, 1987). In addition, the expansion of senses is attributed to the focus shift on different elements of the basic schematic representation (Brugman & Lakoff, 1988).

Methodologically, for *Dui* and *Tui* respectively, we identify the central prototypical senses and subsequently determine their peripheral extensions. Once the prototypical and peripheral senses are recognized, a comparative analysis is conducted across the polysemous structures of *Dui* and *Tui*. This paper is organized as follows. Section 2 introduces the theories relevant to our study. Section 3 and 4 discuss the multiplex meanings of Mandarin *Dui* and Taiwanese *Tui* respectively. Section 5 is the conclusion of this article.

2. Theoretical Framework

In the theoretical foundation, we assume with Lakoff (1987) that polysemous senses are expanded into a radical network on the basis of a prototypical origin meaning. The path schema theory along with the focus-shifting mechanism and a series of metaphorical mappings are cited to account for the meaning extensions of the two lexical units.

2.1. Polysemy as Radial Categories

Lakoff (1987) applies the idea of prototypicality in the explanation of polysemy (Rosch, 1973, 1978). According to Lakoff, the multiplex meanings of a polysemous lexeme all are derived from a central prototype. Prototypicality not only exists between the major sense groups but also extends to the relationship between the minor senses in each major sense category. That is to say, the entire semantic network constitutes a radial category structure.

2.2. The Path Schema and Focus-Shifting

The path schema is a conceptual structure based on our experience of either moving in the world or sensing the movements of other entities (Johnson, 1987). It is composed of a starting point, an end point, a projected path, a trajector, and a landmark. Moreover, by focusing attention on differing elements of the basic path representation, distinct but related meanings of a lexeme are engendered (Brugman & Lakoff, 1988).

2.3. Metaphorical Extension

In cognitive linguists, metaphors are means in search of understanding whereby

abstract areas of experiences can be profiled in terms of concrete concepts (Reddy, 1993; Lakoff & Johnson, 1980; Lakoff & Turner, 1989; Lakoff, 1993). According to the invariance principle, the inference pattern of the source domain is preserved in the target domain (Lakoff, 1990; Brugman, 1990; Turner, 1990). The mechanism of metaphorical mapping plays a critical role in our analysis for Mandarin *Dui* and Taiwanese *Tui*.

First, we resort to the metaphor A FORCE IS A MOVING OBJECT, in which a force is conceptualized as a moving object (Johnson, 1987). Specifically, the force has a source, a goal, and a direction as does a moving object.

Additionally, the metaphor EMOTIONS ARE OBJECTS (Tyler, Mueller, & Ho, 2011) is helpful for our research to investigate the issue at hand. In this metaphorical conceptualization, emotions and the recipients thereof are analogically compared to the moving objects and the end points of the trajectories.

Also, Langacker (1993) refers to our capacity to invoke the concept of one entity as a cognitive reference point for purposes of establishing mental contact with another. As Kreitzer (1997) expounds, linguistic notions can be defined notionally through spatial relations. A spatial utterance expresses or profiles a trajector, i.e., the entity whose (trans-)/location is of relevance (Zlatev, 1997). The trajector may be static or dynamic, a person or an object, or a whole event. In contrast, the landmark is the reference entity in relation to which the location or the trajectory is specified, which is labelled as ground (Levinson, 2003) or relatum (Miller & Johnson-Laird, 1976). In addressing the metaphorical uses of spatial expressions, Lindstromberg (2010) introduces the notion "topic landmark", demonstrating that English prepositions *on*, *about*, and *concerning* can be devoid of spatial imagery and used to mark a subject topic in discourse. In conjunction with the metaphor COMMUNICATION IS OBJECT TRANSTER (Lakoff & Johnson, 1980), the notion of topic landmark serves to account for the use of a lexical item as a topic introducer in our study.

Lastly, according to Lakoff and Johnson (1980), time is cognitively conceptualized as a stationary landscape for language speakers to move through. Precisely, time is understood as the concrete spatial setting which human beings traverse. This metaphorical mapping, again, is useful as a means to comprehending abstract temporal entities.

3. The Polysemy of Mandarin *Dui* and Its Prototype

In this section, we list all the multiple meanings of Mandarin *Dui* and subsequently identify the central origin meaning and the periphery among them. Through the mechanism of metaphorical mapping, these senses are further categorized into groups by family resemblance[1].

Here, we offer all the senses attached to *Dui* by consulting Cheng (1997).

Sense 1: showing the goal toward which an object is directed from the source

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[1]The family resemblance is the degree of membership of a semantic category, measured by sharing of features (Lakoff & Johnson, 1980).

Sense 2: indicating the patient on which an action is taken or an impact is posed

Sense 3: showing the receiver of experience, perception, or mental conclusion

Sense 4: indicating a subject topic in discourse

3.1. Sense 1 of *Dui* as Prototypical Origin

Viewing that concepts, relating to space and objects, are more clearly delineated and are prototypical in human organization of thoughts (Lakoff & Johnson, 1980), we identify Sense 1 of *Dui* as the central prototype. Refer to the example sentences as follows.

(4) a. Ta   dui   wo   diu   le   yi   ke qiu.
He   to   I   throw   ASP   one   CL ball[2].
'He threw a ball to me.'

b. Xiaoming   dui   ha   kai   le   yi qiang.
Xiaoming   to   he   fire   ASP   one gun.
'Xiaoming fired a shot to him.'

In sentences (4a) and (4b), the ball and the bullet referring to entities moving in air are conceptually construed as the trajectors travelling along the trajectories in the path schema. The source and the goal of the events denoted in the sentences are cognitively understood as the start point and the end point. With the focus on the end point, *Dui* points to the references of the nouns occurring in its posterior positions as the goals toward which objects are moving in air.

3.2. Sense 2 of *Dui*: Indicating the Patient Being Acted and Impacted on

In our proposal, Sense 2 of *Dui* is expanded from Sense 1 through the metaphorical analogy A FORCE IS A MOVING OBJECT (Johnson, 1987). The rationale is that, given that a force is cognitively compared as a trajector, an exercising force is conceptualized as the moving object as depicted in Sense 1. The example sentences demonstrating Sense 2 of *Dui* are shown as below.

(5) a. Laoban   dui   wo   yaoqiu   hen   duo.
Boss   to   I   demand   very   much.
'My boss is very demanding to me.'

b. Laoshi   dui   tamen   hen   guanxin.
teacher   about   they   very   concern.
'The teacher is very concerned about them.'

In sentences (5a) and (5b), the acts *yaoqiu* "demand" and *guanxin* "concern" bring forces by the agents to the patients, metaphorically as a moving object travels from the starting point to the end point along the trajectory in the path schema. With the attention centered on the end point, *Dui* indicates the patients

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[2]ASP is the abbreviation of Aspect Marker, and CL stands for Classifier.

being acted and impacted on in the context of the two sentences.

Sense 3 of *Dui*: Marking the Receiver of Experience, Perception, or Mental Conclusion

On the basis of the metaphor EMOITONS ARE OBJECTS, Sense 3 of *Dui* is engendered. In the context of this metaphorical interpretation, mental states are conceptualized as the moving objects, and the receivers thereof are profiled as the end points in the path schema. Given the focal attention on the end point, *Dui* points to the recipient of emotion, including an experiential feeling, a perception, and a mentality. Consider the examples in (6).

(6) a. Dushu   dui wo   hen   zhongyao.
       Study   to   I   very   important.
       'Studying, to me, is very important.'
   b. Zhe dui ta   shi hen zhengui de   jingyan.
       This to he   be very valuable POSS   experience[3].
       'This is a very valuable experience to him.'
   c. Yundong dui tamen   shi liangfei shijian.
       Exercise to they   be waste   time.
       'Doing exercise, to them, is a waste of time.'

As in (6), *Dui* indicates the recipients of metal conclusion, experience, and perception, as lexically realized by the nouns in its posterior positions. The noun references *wo* "I", *ta* "he", and *tamen* "they" in (6a), (6b), and (6c) have the emotional states "regarding something as important", "considering something as a valuable experience", and "taking something as a waste of time" like receiving approaching objects.

3.3. Sense 4 of *Dui*: Indicating a Subject Topic in Discourse

Through the metaphor LANDMARK AS TOPIC (Lindstromberg, 2010), the landmark of the path trajectory is construed with focal attention as the topic to facilitate communication. In the metaphor COMMUNICATION IS OBJECT TRANSTER (Lakoff & Johnson, 1980), communicative exchange is conceptualized as the trajector, and the topic, akin to the landmark, serves as the cognitive base reference for the verbal interaction (Langacker, 1993). With the attention paid to the landmark, *Dui* functions as the indicator for the topic being introduced in the discourse. Witness the examples illustrating Sense 4 of *Dui*.

(7) a. Dui   zhe ge zhengce, women   dou xiwang   jinkuai
       Concerning this CL policy,   we   all hope   soon
       zhixing, yinwei ta keyi tisheng   shenghuo pingzhi.
       execute, because it can uplift   life   quality.
       'Concerning this policy, we all hope that it could be executed soon be-

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[3]POSS refers to possession marker.

cause it can help uplift the quality of life.'

b. Ta bu dong   sheji,   dand   ui   diannao ta shi zhuanjia.
He not know   design,   but   about computer he be   expert.
'He does not know about design, but he is an expert about computers.'

In sentences (7a) and (7b), *Dui* designates the noun references *zhengce* "policy" and *diannao* "computer" placed in its succeeding positions as the topical subjects of discussion.

3.4. The Polysemous Network of Mandarin *Dui*

We have illuminated the sense development of Mandarin *Dui*. Let us summarize the organization of the polysemous network at this point of time. Refer to Figure 1 as follows.

As shown in Figure 1, Sense 1 of *Dui* is the prototypical origin of its polysemous structure. In this sense, *Dui* denotes the goal to which a moving object is coming close. As an act or an impact and even a mental state are analogically mapped to the trajector moving in space, *Dui* engenders Sense 2 and Sense 3 in marking the patient and the receiver respectively. We suggest that Sense 1, as the major sense of *Dui*, and Sense 2 as well as Sense 3 form a semantic sense group. Likewise, as verbal communication is metaphorically comprehended on a par with the trajector, the focal attention is shifted to the landmark of the trajectory. In this context of metaphorical mapping, Sense 4 is extended from Sense 1 of *Dui*, constituting another major sense group in the network.
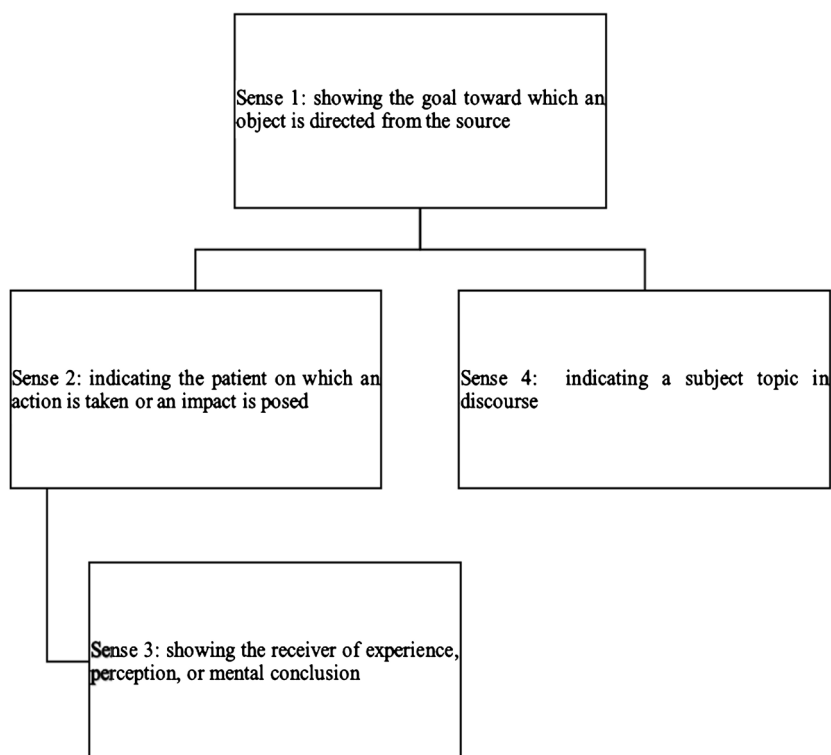

Figure 1. The polysemous network of Mandarin *Dui.*

4. The Polysemy of Taiwanese *Tui* and Its Prototype

In this section, we show all the senses attached to Taiwanese *Tui* by consulting Campbell (1958) and Cheng (1997).

Sense 1: showing the goal toward which an object is directed from the source

Sense 2: marking the goal toward which an object is moving in space from the source

Sense 3: indicating the source from which an object is moving toward the goal

Sense 4: indicating the patient on which an action is taken or an impact is posed

Sense 5: showing the receiver of experience, perception, or mental conclusion

Sense 6: indicating a subject topic in discourse

Sense 7: specifying the point in time from which an action starts

After listing all the senses of Taiwanese *Tui*, we identify the central and the peripheral senses and demonstrate how they are grouped based on family resemblance.

According to Lakoff and Johnson (1980), physical and concrete readings constitute the central prototype of polysemy. For Sense 1 and Sense 7 of *Tui*, the two senses pertaining to the spatial domain, the schematic model for Sense 1 is the basic, which serves as the groundwork to derive Sense 7.

4.1. Sense 1 of *Tui* as Prototypical Origin

We identify Sense 1 of Taiwanese *Tui* as the central prototype of the polysemy network. The usage of *Tui* in this sense is exemplified as follows.

(8) a. I tui goa phuah tsit thang tsui.
He on me pour one bucket water.
'He poured a bucket of water on me.'

b. Hitkua lang tui hit tsiah kau khian tsioohthau.
Those people at that CL dog shoot stone.
'Those people shot stones at that dog.'

In sentences (8a) and (8b), the water and the stones thrown off are metaphorically portrayed as objects moving along the path courses (Johnson, 1987). The sources and the goals encoded in the two sentences are conceptualized as the start point and the end point in the path schema. Given the end point as the focus of attention, *Tui* signifies the goal to which an object is coming close.

4.1.1. Sense 2 of *Tui*: Marking the Goal toward Which an Object Is Moving in Space from the Source

Sense 2 of Taiwanese *Tui* is identified as extended by focusing on the end point of the path schema (Johnson, 1987). In this sense, *Tui* indicates a spatial point to which an object is moving. Note the sentences in (9).

(9) a. I tui Bikok khi ah!
He to America go PRT!

'He headed to America!'

b. Niaua   tui   ia   thiau   kue.

Cat   to   chair   jump   over.

'The cat jumped over the chair.'

As the sentences in (9) show, *Tui* in this sense describes the end point of the motion from the position of the speaker toward another location in space. The movements depicted in (9) are different from those construed in (8), where the trajectors are moving without contacting the spatial grounds.

4.1.2. Sense 3 of *Tui*: Indicating the Source from Which an Object Is Moving toward the Goal

Sense 3 of Taiwanese *Tui* is identified as developed out of Sense 1. Given that the path schema can further be transformed with variations, we suggest that senses are derived as an instantiation of the trajector moving in contact with the landmark. Consider the examples in (10).

(10) a. I   tui   Jitpun   lai   e.

He   from   Japan   come   PRT[4].

'He came from Japan.'

b. Abing   tui   hitpeng   chau   kelai.

Abing   from   there   run   come.

'Abing ran here from there.'

In sentences (10), the agents travel between two locations in space. The space of the movement is analogically compared to the landmark of the path schema. As the start point is in the focus of attention, *Tui* specifies the locations from which the agents move to the positions of the speakers. Notice that the trajector moves from a location to the position of the speaker in this case. That is, Sense 3 of *Tui* contrasts with Sense 2, where the trajector travels from the position of the speaker to another point of space. The attachment of contradictory meanings to *Tui* is attributed to shifting the focal attention to the start point and the end point of the trajectory respectively.

4.2. Sense 4 of *Tui*: Indicating the Patient Being Acted and Impacted on

The metaphor A FORCE IS A MOVING OBJECT (Johnson, 1987) provides the groundwork to pinpoint Sense 3 of *Tui* as developed from Sense 1. In this sense, *Tui* indicates a patient being acted and impacted on. Note the sentences in (11) as below.

(11) a. I   tui   goa   chin   giamkeh.

He   on   I   very   strict.

[4]PRT is the abbreviation of Particle. More specifically, it refers to sentence final particle used in Taiwanese.

'He is very strict on me.'

    b. Kingli   tui   tsujim   tsiok   koansim.

       Manager   about   director   very   concerned.

       'My manager is very concerned about my director.'

In sentences (11), *giamkeh* "being strict" and *koansim* "being concerned" produce impacts on the noun references in the post-*Tui* positions. As the focus of attention is on the end point, *Tui* specifies the patients on which acts are performed and impacts are made.

Sense 5 of *Tui*: Showing the Receiver of Experience, Perception, or Mental Conclusion

Through the metaphorical mapping EMOTIONS ARE OBJECTS, experience, perceptual feeling, and mentality are cognitively compared to moving objects. Meanwhile, the end point of the path route is comprehended as the receiver of mental states. With the attention falling on the end point, *Tui* marks its following nouns as emotion receivers. Refer to the examples in (12).

(12) a. Thakchu   tui   goa   chin   tiongiau.

        Studying   to   I   very   important.

        'Studying, to me, is very important.'

     b. Tui   iuing   ahiann   huisiong   u   hingtshu.

        In   swimming   brother   incredibly   have interest.

        'My elder brother is incredibly interested in swimming.'

     c. Lausu   tui   li   tsiok   sitbong   e.

        Teacher   at   you   very   disappointed   PRT.

        'Our teacher is very disappointed at you.'

As in (12), the noun references placed in the post-*Tui* positions assume the role as recipients of mental states. In (12a), the noun *goa* "I" receives the perception of studying as important and critical. In (12b), the noun *ahian* "(my elder) brother" has his interest in swimming. Still, as in (12c), *li* "you" receives the emotion of disappointment from the teacher. In a word, these examples show the status of *Tui* as a marker for the semantic roles of the succeeding nouns.

4.3. Sense 6 of *Tui*: Indicating a Subject Topic in Discourse

The metaphor LANDMARK AS TOPIC is relevant in our explanation of Sense 6 of Taiwanese *Tui*. Given this conceptual mapping, the landmark of the trajectory path is comprehended as a topic of discourse when it receives attention as the focal element. In the metaphor COMMUNICATION IS OBJECT TRANSTER (Lakoff & Johnson, 1980), the verbal exchange is profiled as the trajector, and the topic as "landmark" functions as the cognitive base reference for the discourse to proceed (Langacker, 1993). Given that the focal attention is transferred to the landmark, Taiwanese *Tui* serves as the indicator for introducing a subject topic. Consider the examples in (13).

(13) a. Tui   tsit   e   bunte   takke   tshingkiu
      Concerning   this   CL   problem   everyone   ask
      tsìnghu   tseting   sine   tsingtshik.
      government   make   new   policy.
      'Concerning this problem, everyone asks the government to make new policies.'

    b. Tui   kingtse   huattian,   tshutkhau   bi   tsinkhau
      Concerning   economy   development,   export   than   export
      koh   khah   tiongiau.
      even   more   important.
      'Concerning economic development, export is even more important than import.'

As in (13a) and (13b), *tsit e bunte* 'this problem' and *kingtse huattian* 'economic development' are introduced as the subjects of discussion. In the two sentences, comments are made on these two nouns placed subsequent to *Tui*. Put more simply, *Tui* functions as the signifier for introducing the two noun references into discourse.

4.4. Sense 7 of *Tui*: Showing the Point in Time from Which an Event, Activity, or Action Starts

In this section, we elucidate the development of Sense 6 of *Tui*. Through the metaphor TIME IS A LANDSPACE, the spatial ground is conceptually profiled as temporal realm. Given this metaphor, we assume that time is conceived of as the spatial landmark. In conjunction with the metaphor EVENTS OR ACTIONS ARE OBJECTS (Lakoff & Johnson, 1980), we suggest that events and actions are conceptually akin to trajectors moving in contact with the "temporal landmark", which serves as the basis for reference (Langacker, 1993). With the start point as the focus of attention, *Tui* indicates the temporal points from which the event, activity, and action start as it points to the locations from which objects travel in space. Refer to the examples in (14).

(14) a. I   tui   sehan   khaisi   chiahhun.
      He   since   childhood   start   smoke.
      'He has been smoking since childhood.'

    b. Hoegi   tui   ngo   tiam   khaisi.
      Meeting   from   five   o'clock   start.
      'The meeting started from five o'clock.'

Tui, as the sentences (14) suggest, points to the temporal locations *sehan* "childhood" and *ngo tiam* "five o'clock" from which the acts start. In this sense, *Tui* has no ties to the spatial domain but to the temporal realm.

4.5. The Polysemous Network of Taiwanese *Tui*

In summary, we sketch the polysemous network of Taiwanese *Tui* in Figure 2.

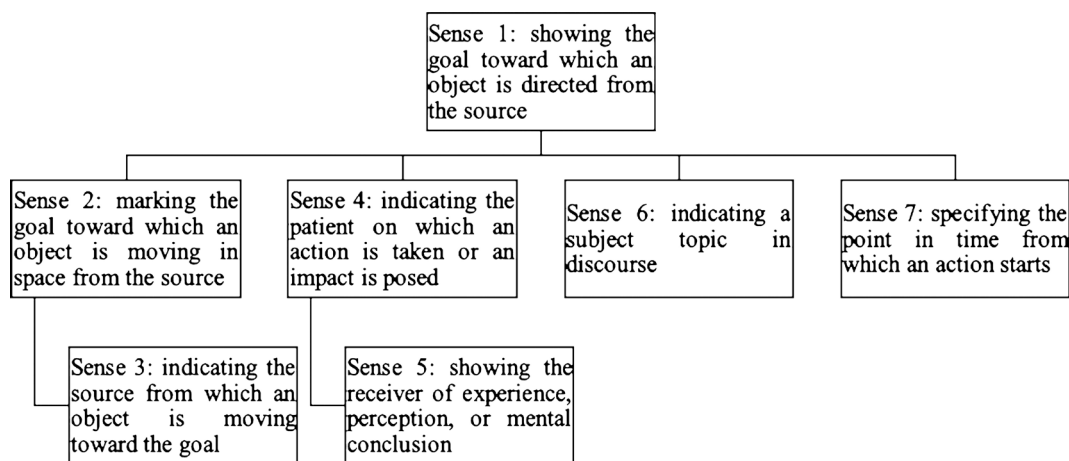As demonstrated in Figure 2, Sense 1 of *Tui* is the prototypical center of the

Figure 2. The polysemous network of Taiwanese *Tui.*

polysemous development. In this sense, *Tui* denotes the spatial movement of the trajector as reflection of the path schema. With the trajectory moving in contact with the landmark and the focus shifted to different points of the trajectory, Sense 2 and Sense 3 are extended from Sense 1 correspondingly. We believe that Sense 1, Sense 2, and Sense 3 belong to the same sense group.

Furthermore, given that the trajector moving in space is metaphorically mapped to an act or an impact and even a mental state, *Tui* provokes Sense 4 and Sense 5 in marking the patient and the receiver respectively. We evince that Sense 1, being the major sense of *Tui,* and Sense 4 as well as Sense 5 constitute a semantic group.

In a similar vein, as verbal exchange is metaphorically akin to the trajector moving in space, the focal attention is transferred to the landmark of the trajectory path. In this case of metaphorical mapping, Sense 6 is extended from Sense 1 of *Tui,* constituting another sense group in the semantic network.

Lastly, since time is cognitively recognized as a trajector travelling in space, we propose that Sense 7 of *Tui,* indicating a point in temporal realm from which an action starts, is spread out from Sense 1 as well. We believe that Sense 1 and Sense 7 represent a sense group in the polysemous structure.

A summary of the sense developments of Mandarin *Dui* and Taiwanese *Tui* across domains is sketched in Table 1.

5. Conclusion

5.1. Polysemy and Enantiosemy

Dui and *Tui,* based on the path schema, have the same prototypical sense—showing a goal toward which an object is directed from a source. Through metaphorical extensions, *Dui* and *Tui* develop distinct routes to developing differing but related senses, forming differential semantic networks.

However, *Tui* derives senses, which *Dui* does not possess. First, when the focus is on the object moving in contact with the landmark in the path schema, *Tui* is associated with a point in space toward which an object is moving.

Second, as the focus shifts to the end point of the trajector along the path course, *Tui* produces the sense indicating the point in space from which an object is moving.

Moreover, through space-time metaphorical mapping, *Tui* extends the sense in marking the point in time from which an action starts. In this sense, the denotation of Taiwanese *Tui* transfers from the spatial domain to the temporal domain.

What is worth noting is the developments of Sense 2 and Sense 3 of Taiwanese *Tui*. The two senses contrast each other in the denotation of spatial movement. Witness Figure 3.

Tui in Sense 2 designates the point in space toward which the trajector is moving away from the near location. On the contrary, in Sense 3, *Tui* signifies the point in space from which the trajector is approaching toward the near position.

The occurrences of opposite meanings within one lexical unit in language have been documented in literature. Shmelev (2016) notes that enantiosemy arises out of semantic shifts when the meaning of a linguistic unit takes two different paths with the resulting formation of two opposite meanings. In Russian,

Table 1. A summary of the sense extensions of *Dui* and *Tui*.

| Sense Domain	Mandarin *Dui*	Taiwanese *Tui*
Spatial Domain	Sense 1: showing the goal toward which an object is directed from a source.	Sense 1: showing the goal toward which an object is directed from a source.
		Sense 2: marking the goal toward which an object is moving in space from the source.
		Sense 3: indicating the source from which an object is moving toward the goal.
Eventive Domain	Sense 2: indicating the patient on which an action is taken or an impact is posed.	Sense 4: indicating the patient on which an action is taken or an impact is posed.
	Sense 3: showing the receiver of experience, perception, or mental conclusion.	Sense 5: showing the receiver of experience, perception, or mental conclusion.
Communicative Domain	Sense 4: indicating a subject topic in discourse.	Sense 6: indicating a subject topic in discourse.
Temporal Domain		Sense 7: specifying the point in time from which an action starts.
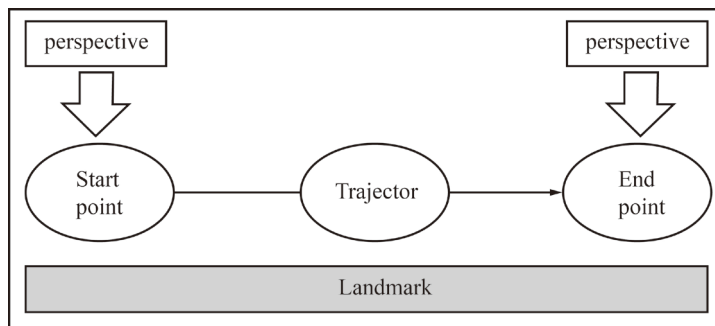
Figure 3. The enantiosemy of Taiwanese *Tui*.

proslus at' can mean either "to hear (a lecture)" or "to fail to hear (a lecture)". Also, Sakhno & Tersis (2009) elucidate that Yulu (the Sara-Bongo-Bagirmi variety) shows a clear case of synchronic enantiosemy between the notions of "friend" and "enemy" via "other": *lot* conveys the readings "another, neighbor, mate, companion, colleague, of the same age, partner, and each other (reciprocal)" and "opponent". In addition, Eskimo-Aleut also exhibits enantiosemy in synchrony, as attested in Alutiiq Alaskan Yupik: *iŋlu* expresses the meanings "other (of pair) and mate" and "adversary". In our investigation of Taiwanese *Tui*, we account for its opposite readings by resorting to the focus-shifting mechanism. The "to" sense arises when the attention is centered on the start point of the path schema. By contrast, the "from" sense emerges as the end point of the path schema falls into the center of attention.

5.2. The Implications of This Research

First, semantic changes of lexemes are driven by mental processes such as focus shifting and metaphorical transformation. As this comparison between Mandarin *Dui* and Taiwanese *Tui* reveals, thanks to the change of focus, the basic schema can derive different but related conceptual representations. These conceptual representations, thus, give birth to major senses, which further extend minor senses by metaphor.

Second, different speech communities have different cognitive operations causing distinct ways of developing lexical polysemy. According to functionalists, language has ties to other cognitive domains, including how we experience the world. Since different peoples have varying styles in interacting with the environment, they have their own mental processes to derive meaning as illustrated by our research.

In future pursuit, we wish to discuss Mandarin *Dui* and Taiwanese *Tui* regarding the interplay of sense extensions and syntactic environments. By so doing, we can start a more attractive line of analysis from the syntactic-semantic interface.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

Brugman, C. (1990). What Is the Invariance Hypothesis? *Cognitive Linguistics, 1,* 257-266. https://doi.org/10.1515/cogl.1990.1.2.257

Brugman, C., & Lakoff, G. (1988). Cognitive Topology and Lexical Networks. In S. L. Small, G. W. Cottrell, & G. Adriaens (Eds.), *Lexical Ambiguity Resolution: Perspectives from Psycholinguistics, Neuropsychology, and Artificial Intelligence* (pp. 477-508). San Mateo, CA: Morgan Kaufmann. https://doi.org/10.1016/B978-0-08-051013-2.50022-7

Campbell, W. (1958). *A Dictionary of the Amoy Vernacular, Spoken through the Prefectures of Chin-Chiu, Chiang-Chiu, and Formosa*. Tainan: Ho Taihong Printing Factory.

Chen, S. C. (2010). Multilingualism in Taiwan. *International Journal of the Sociology of Language, No. 205,* 79-104. https://doi.org/10.1515/ijsl.2010.040

Cheng, R. L. (1997). *Pro-Forms, Focus and Scope in Taiwanese and Mandarin*. Taipei: Yuan-Liou Publishing Co., Ltd.

Johnson, M. (1987). *The Body in the Mind*. Chicago, IL: University of Chicago Press. https://doi.org/10.7208/chicago/9780226177847.001.0001

Klöter, H. (2006). Mandarin Remains More Equal: Changes and Continuities in Taiwan's Language Policy. In D. Fell, & D. Fell (Eds.), *What Has Changed?: Taiwan before and after the Change in ruling Parties* (pp. 207-223). Wiesbaden: Harrassowitz.

Kreitzer, A. (1997). Multiple Levels of Schematization: A Study in the Conceptualization of Space. *Cognitive Linguistics, 8,* 291-325. https://doi.org/10.1515/cogl.1997.8.4.291

Lakoff, G. (1987). *Women, Fire, and Dangerous Things*. Chicago IL: University of Chicago Press. https://doi.org/10.7208/chicago/9780226471013.001.0001

Lakoff, G. (1990). The Invariance Hypothesis: Is Abstract Reason Based on Image-Schemas? *Cognitive Semantics, 1,* 39-74.

Lakoff, G., & Johnson, M. (1980). *Metaphors We Live By*. Chicago, IL: University of Chicago Press.

Lakoff, G., & Tuner, M. (1989). *More than Cool Reason*. Chicago, IL: University of Chicago Press. https://doi.org/10.7208/chicago/9780226470986.001.0001

Langacker, R. W. (1993). Reference-Point Construction. *Cognitive Linguistics, 4,* 1-38. https://doi.org/10.1515/cogl.1993.4.1.1

Levinson, S. R. (2003). *Space in Language and Cognition: Explorations in Cognitive Diversity.* Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511613609

Lindstromberg, S. (2010). *English Prepositions Explained*. Amsterdam: John Benjamins Publishing. https://doi.org/10.1075/z.157

Miller, G. A., & Johnson-Laird, P. N. (1976). *Language and Perception*. Cambridge, MA: Harvard University Press. https://doi.org/10.4159/harvard.9780674421288

Reddy, M. (1993). The Conduit Metaphor. A Case of Frame Conflict in Our Language about Language. In A. Ortony (Ed.), *Metaphor and Thought* (pp. 254-283). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139173865.012

Rosch, E. H. (1973). Natural Categories. *Cognitive Psychology, 4,* 328-350. https://doi.org/10.1016/0010-0285(73)90017-0

Rosch, E. H. (1978). *Cognition and Categorization*. Hillsdale: Erlbaum.

Sakhno, S., & Tersis, N. (2009). Is a "Friend" an "Enemy"? Between "Proximity" and "Opposition". In M. Vanhove, & M. Vanhove (Eds.), *From Polysemy to Semantic Change: Towards a Typology of Lexical Semantic Associations* (pp. 317-340). Amsterdam: Benjamins.

Shmelev, A. (2016). Semantic Shifts as Sources of Enantiosemy. In P. Juvonen, & M. Koptjevskaja-Tamm (Eds.), *The Lexical Typology of Semantic Shifts* (pp. 67-92). Boston: De Gruyter Mouton. https://doi.org/10.1515/9783110377675-003

Turner, M. (1990). Aspects of the Invariance Hypothesis. *Cognitive Linguistics, 1,* 247-255.

Tyler, A., Mueller, C., & Ho, V. (2011). Applying Cognitive Linguistics to Learning the Semantics of English to, for and at: An Experimental Investigation. *Vigo International Journal of Applied Linguistics, 8,* 181-205.

Zlatev, J. (1997). *Situated Embodiment: Studies in the Emergence of Spatial Meaning*. Stockholm: Gotab Press.