Cognitive Comparative Study on Temporal Deixis in Russian and Chinese

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Abstract: Based on the Figure-Ground Theory, the Bounded-Unbounded Theory and the Iconicity Theory in the field of cognitive linguistics, this article gives a theoretical interpretation and comparative analysis of the relevant phenomena of temporal deixis in Russian and Chinese. The research of "time" in linguistics is mainly conducted at the semantic and grammatical levels. Cognitive factors should be taken into account in the attempt to elaborate the phenomenon of temporal deixis with strong subjectivity clearly. Similar temporal cognitive models and the close relationship among time, space and movement contribute to the commonness between Russian and Chinese temporal deixis in spatial conceptual metaphors and the iconicity of temporal sequence expression, forming a similar sentence structure pattern of "ground" followed by "figure". The antithesis in spatial metaphorical meanings, the difference of temporal deixis in the expression of boundary characteristics, the incomplete compatibility in sentence structure patterns and the incomplete correspondence in the principle of temporal sequence expression all reveal the personalities of Russian and Chinese in language type and cognitive thinking. The purpose of this article is to reveal the similarities and differences between Russian and Chinese in temporal deixis and the corresponding causes from several aspects including language type, cultural thinking and cognitive mode, to deepen the understanding of the universal and unique characteristics of different languages in time positioning expression, to outline the general linguistic image of temporal deixis, and to promote the improvement of cross-lingual and intercultural communication.

Keywords: Russian and Chinese; Temporal Deixis; Spatial Metaphors; Figure-Ground; Boundary Characteristics; Iconicity

1. INTRODUCTION

The word "deixis", originating from ancient Greek, means pointing or indicating and already came into being before the birth of human language as an important means to recognize the objective world and complete social interaction (Varukha & Davletbaeva, 2022). Before the birth of human language, deixis was a kind of actions completed with the help of the body. The development of language and human beings' cognition of the objective world has gradually given rise to linguistic symbols involving the expression of abstract concepts such as person, space and time, expanding the function of deixis from the pure visual level to the auditory

and verbal levels (Yang et al., 2022). Among all kinds of linguistic concepts and categories, "time" is an important basis for the construction of semantic space (Xiang et al., 2024). It relies on the space, movement and event nature perceived by human beings, and further highlights its complexity between abstractness and concreteness, as well as between objectivity and subjectivity, in the representation of different languages. The so-called temporal deixis refers to the use of linguistic symbols to indicate and mark grammatical time (past tense, present tense and future tense) and temporal relations (temporal point, temporal period, temporal sequence and temporal frequency). The expression and understanding of temporal deixis need to be based on the speech subject and dependent on the specific context. Temporal deixis has different explicit levels and corresponding reference time (Comrie, 1981). The research of temporal deixis in European and American academia can be roughly divided into three stages: 1) In the 1930s, inspired by the theoretical system of subject positioning constructed by K. Bühler, namely "I" — "here" — "now", the academic community officially started to study the phenomenon of temporal deixis (Bühler, 1928). 2) From the 1940s to the 1960s, H. Reichenbach , E. Benveniste and other scholars focused on the research of temporal types and references involved in temporal deixis, incorporating the grammatical time system into the research category of temporal deixis (Reichenbach, 1947). 3) In the 1970s and the 1980s, the core theoretical system of temporal deixis was gradually established under the driving by scholars represented by C.J. Fillmore, J. Lyons and S.C. Levinson (Fillmore, 1975; Levinson, 1983; Lyons, 1977). In particular, since the 1980s and the 1990s, a number of scholars including E.L. Erzinkyan, Yu.D. Apresyan, Reichenbach, based on the observation of Russian and other languages, have put forward enlightening views on the expression, understanding, classification and other issues of temporal deixis from the perspective of the philosophy of language (Apresyan, 1986; Erzinkyan, 1978; Reichenbach, 1947). Chinese scholars such as Guo Yukai, Wu Zheng, Sun Lei, Wang Aiqing explored the theoretical development of temporal deixis and Russian temporal deixis (Guo, 1995; Sun, 2002; Wang, 2020; Zheng, 2024). Although the research of temporal deixis is never neglected in linguistics, there are still fewer studies on temporal deixis compared with the studies on person and space deixis due to the complexity and abstraction of the problem itself. As early as the 1970s, Erzinkyan stressed that a series of problems related to deixis have not been theoretically explained, which is particularly evident in the research of temporal deixis, and there are relatively scarce specialized studies on

temporal deixis (Jing et al., 2022). In the 1990s, T.V. Li and other scholars pointed out that the three important monographs on deixis, including *Here and There* (1982), *Speech, Place and Action* (1982) and *Essays on Deixis* (1983), all focus on spatial deixis and pay less attention to temporal deixis (Li, 2012).Up to now, many new pragmatic topics have emerged with the continuous development of pragmatics. Meanwhile, the studies on deixis, especially temporal deixis, have been significantly reduced. Noticeably, there has been relatively weak bilingual or multilingual comparative research of temporal deixis in the academic field. Most of the existing comparative studies are based on the same or similar languages such as Russian and English, and are restricted to the semantic and grammatical levels. There is insufficient exploration of the similarities and dissimilarities between different languages in temporal deixis and the underlying reasons, leading to the failure to outline the general linguistic image of temporal deixis (Langacker, 1987). As typical synthetic languages and analytical languages, Russian and Chinese have their own characteristics with regard to temporal deixis. According to the existing academic research, the importance of lexical means in temporal deixis has been highlighted early in the studies by Huang & Feng and Reichenbach, 1947 Afterwards, Benveniste classified the temporal form of verbs into the category of temporal deixis (Huang & Feng, 2019; Reichenbach, 1947). Since then, the two main explicit forms of temporal deixis have been determined. Russian and Chinese have great similarities in the generation and inference mechanism of temporal deixis. Specifically, they both involve the application of grammar, vocabulary and other means, but these different means occupy varying proportions in Russian and Chinese. The temporal form of verbs accounts for a large proportion in the expression of Russian temporal deixis, while Chinese prefers the use of lexical means to complete the indication of temporal information. Undoubtedly, there are much more similarities and differences between Russian and Chinese temporal deixis. Russian and Chinese have both similarities and differences in the expression of temporal deixis and the conceptual cognition of time. Their comparison is characterized by the existence of differences in similarities, the existence of similarities in difference, and the existence of more similarities than differences. On the one hand, they reflect the similarities between the Russian and Chinese nationalities in living environment and physiological mechanism. On the other hand, they also show the differences between Russian and Chinese in language type, cultural thinking and cognitive mode (Noreen, 1923). Based on the Figure-Ground Theory, the Bounded-Unbounded Theory, and the Iconicity Theory in the

field of cognitive linguistics, this article aims to elaborate the spatial metaphorical meanings of temporal deixis, the syntactic position difference in temporal deixis, the behavioral boundary characteristics mapped by the meanings of temporal deixis in Russian and Chinese, and the consistent relationship between the linguistic expression of temporal sequence and the natural sequence of events, to reveal the cognitive thinking followed by Russian and Chinese people to express and understand temporal deixis (Song, 2022). According to the language types of Russian and Chinese, this article explores the deep reasons for the similarities and differences between Russian and Chinese in temporal deixis from the aspects of cognitive mode and cultural thinking.

2. SPATIAL METAPHORICAL MEANINGS OF RUSSIAN AND CHINESE TEMPORAL DEIXIS

The categories and concepts of time and space are interdependent. At the level of temporal deixis, spatial metaphors can be regarded as a cognitive model, namely "Image Schema", which has been formed by human beings in the long-term interaction with the objective world. The image schema structure related to the phenomenon of spatial metaphors is mainly a type of orientational metaphors, including Up-Down Schema and Back-Front Schema, used to construct the concepts of vertical and horizontal time axis in linguistic expression (Song, 2022). Both Russian and Chinese expression of temporal deixis can be realized through the form of spatial metaphors, but there are certain differences in the specific directional meanings involved. Compared with Russian and other Indo-European languages, Chinese has systematic and rich vertical time expression, and often uses the up-down vertical spatial relationship to describe the past and the future. Some scholars, represented by Yu Wu, even emphasized that the vertical deixis with the up-down relationship is a unique form of expression in Chinese (Yuan & Wu, 2016). The sequential meanings of weeks, months, and events in Chinese are often expressed through time metaphors along the vertical axis. With "present" as the origin, "past" is "shang" ('up/last') (e.g. "shang shi ji" ['last century'] and "shang xing qi" ['last week']), while "future" is "xia" ('down/next') (e.g. "xia shi ji" ['next century'] and "xia xing qi" ['next week']). Although Russian rarely uses vertical metaphors with Up-Down Schema in the expression of temporal deixis, its existence cannot be completely denied. The Russian preposition "под" (*pod*) has the possibility of expressing both

space and time, and its spatial meaning of "under" can be extended to "before/on the eve of..." in the corresponding context, reflecting the idea of vertical time expression to a certain extent. For example:

(1) Поэтому свежие, недавно собранные семена этих двух культур лучше высевать в грунт *под зиму*.

Poetomu svezhie, nedavno sobrannye semena etih dvuh kul'tur luchshe vysevat' v grunt *pod zimu*.

'Therefore, it is better to sow fresh, recently harvested seeds of these two crops in the field *before the winter*.'

(2) Однажды *под праздник* к нашим в гости пришли близкие и знакомые.

Odnazhdy *pod prazdnik* k nashim v gosti prishli blizkie i znakomye.

'One day, *on the eve of the festival*, our relatives and acquaintances came to visit us.'

(3) "*shang ge yue* liang guo ling dao ren hu zhi he dian qing zhu jian li da shi ji wai jiao guan xi 40 zhou nian."

'*Last month*, the leaders of the two countries exchanged congratulatory messages to celebrate the 40th anniversary of the establishment of their ambassadorial diplomatic relationship.'

(4) "ke dui ji jiang li bei jing qu shang hai fang wen, yu ding *xia xing qi* zai na li xian hou tong shang hai, si chuan nan zi lan qiu dui ju xing you yi bi sai."

'The visiting team is about to leave Beijing for Shanghai, and plans to hold friendly matches with male basketball teams in Shanghai and Sichuan *next week*.'

In addition, "shen" ('deep/late') and "xia" ('down/next') have similar longitudinal characteristics in spatial semantics. The word "глубокий (*glubokij*, 'deep/late') / shen" in Russian / Chinese is not used to express the temporal meanings of the past, the present and the future, but it can further clarify the long distance from the temporal point or temporal period to the origin of the time axis and its duration. For example:

(5) Однако *глубокой осенью* во время своей очередной добровольной отсидки в деревне я зашел по какому-то делу к старухе Матрене.

Odnako *glubokoj osen'yu* vo vremya svoej ocherednoj dobrovol'noj otsidki v derevne ya zashyol po kakomu-to delu k staruhe Matryone.

'However, *in late autumn*, during my regular voluntary detention in the village, I visited the old woman Matryona on some affairs.'

(6) В жизни человека роль птиц разнообразна и многогранна. Некоторых из них еще *в глубокой древности* люди сделали домашними, стали разводить, получать ценнейшее   мясо, яйца, пух.

V zhizni cheloveka rol' ptic raznoobrazna i mnogogranna. Nekotoryh iz nih eshchyo *v glubokoj drevnosti* lyudi sdelali domashnimi, stali razvodit', poluchat' cennejshee myaso, yajca, puh.

'In human life, the roles of birds are diverse and multifaceted. *In ancient times*, people made some of them domestic, began to breed them and harvest the most valuable meat, eggs and fluff.'

(7) "wei ci, ta chang nian lei yue jia ban jia dian, ji hu mei tian dou gong zuo dao *shen ye*."

'For this reason, he worked overtime for many years and worked *late at night* almost every day.'

(8) "shuo ye qi guai, wo san ci shang gao han ling dou shi zai *shen qiu* zhi ji, mei dang wo deng gao yi wang, kan gou he qi fu wan mu xiao tiao zhi shi, jiu xiang qi ou yang xiu de 'qiu sheng fu'."

'Oddly enough, I went to Gaohanling three times all *in late autumn*. Whenever I looked up and saw the ups and downs of the ravine and the desolateness of numerous trees, I would think of Ouyang Xiu's "The Autumn Sound".'

Horizontal time metaphors have universal linguistic significance, of which the reasoning process reflects the metaphorical thinking of "time movement" and "time orientation". In the consideration of "time movement", the observer always faces the future and backs to the past. According to the existence mode and moving direction of time, time metaphors can be further divided into "moving time metaphor" and "moving ego metaphor". The former emphasizes the moving direction of time, namely "past ← present ← future". This means that time moves from the future to the past through the relatively static time perception subject. The latter focuses on the movement of the time perception subject itself from the past to the future, where time coexists with it in the direction of "past → present → future". These two kinds of metaphors coexist in the expression of temporal deixis in Russian and Chinese. For example:

(9) Через день у меня *наступили каникулы*, и мы с Катей уехали домой в деревню. (moving time)

Cherez den' u menya *nastupili kanikuly*, i my s Katej uekhali domoj v derevnyu.

'A day later, *my vacation came*, and Katya and I returned to the village.'

(10) До обеда отсыпался, а вечером решил со знакомым пастухом отправиться на ночное дежурство вчетвером караулить табун оленей. (moving ego)

Do obeda otsypalsya, a vecherom reshil so znakomym pastuhom otpravit'sya na nochnoe dezhurstvo vchetverom karaulit' tabun olenej.

'I slept off *until lunch*, and in the evening I decided to go on night duty with some familiar shepherds, so that four of us guarded a herd of deer.'

(11) "er you de gong si de nian zhong jiang jin, yi ban hui zai *lai nian* 4 yue ling wai zai fa fang." (moving time)

'In some companies, the year-end bonus will be paid separately in April of the *next year*.'

(12) "wei le jie jue zhe yi she hui wen ti, da lian shi hu gong jie shao suo yu 12 yue 11 ri cheng li, dang tian yi tian jie dai le 100 duo ren, *dao zuo tian shang wu* zong gong you 30 duo ren bao ming." (moving ego)

'In order to solve this social problem, the Dalian Nursing Service Agency was established on December 11ᵗʰ, served more than 100 people that day and received enrollment applications from more than 30 people *by yesterday morning*.'

In the relevant metaphors of "time orientation", time passes from the past to the future. The observer is based on the "present" and has different orientation positions to either face the future and back to the past, or face the past and back to the future. The time orientation model of "facing the future" has universal meanings in linguistic expression, while some languages represented by Chinese have unique metaphorical expression of "facing the past". For example:

(13) "hua bo ping zhi dao yang xing yuan bu yuan yi, bian shuo dao: 'wo men ji ran lai le, ye bu ke yi bu guang guang shan, xian dao shan shang qu zou zou, *hui tou* zai lai xiu xi, hao bu hao?'"

'Hua Boping knew that Yang Xingyuan didn't want to do it, so he said, "Now that we are here, there is no reason to give up wandering on the mountains. Let's go up the mountains first and rest *later*, OK?"'

It is precisely because of the difference in time orientation that "вперед" (*vperyod*, 'forward') and "назад" (*nazad*, 'ago/backward') are used in Russian to indicate the time of the future and the past, while "qian" ('ago/front') and "hou" ('later/back') are mainly used in Chinese to express the temporal meanings of the past and the future. Here are some examples for comparison:

(14) *Неделю назад* к нам поступило заявление о том, что пропал журналист, да даже не журналист, а главный редактор телекомпании.

Nedelyu nazad k nam postupilo zayavlenie o tom, chto propal zhurnalist, da dazhe ne zhurnalist, a glavnyj redaktor telekompanii.

'*A week ago*, we received a statement that a journalist was missing, who was even not a journalist, but the editor-in-chief of the TV company.'

(15) Встань, Семен, прощаю тебя, но *вперед* будь осторожнее.

Vstan', Semyon, proshchayu tebya, no *vperyod* bud' ostorozhnee.

'Get up, Semyon, I forgive you, but be careful *going forward*.'

(16) "shou jie dong meng guo jia he dui hua guo zhi jian de wai zhang hui yi *wu nian qian* zai tai guo ju xing."

'The first foreign minister meeting between ASEAN countries and dialogue countries was held in Thailand *five years ago*.'

(17) "ta men hen ke qi de tong yi huan huo, dan qian ti shi xian tong guo you ju tui huo, xin huo *liang zhou hou* cai neng song dao."

'They politely agreed to exchange the goods, but the premise is to return the goods through the post office first, and the new goods will be delivered *two weeks later*.'

Generally, spatial metaphors can be divided into three linguistic forms: 1) words expressing spatial meaning are directly collocated with temporal words (e.g. до Нового года [*do Novogo goda*, 'before the new year'], "wu nian hou" ['five years later']); 2) words expressing spatial meaning are collocated with words with temporal attributes (e.g. за ужином [*za uzhinom*, 'during the dinner'], "jian mian qian" ['before the meeting']); 3) the spatial metaphor idiom structure where phrases with spatial meaning imply certain special meaning in a certain context as a whole: за плечами (*za plechami*, 'in the past'), на носу (*na nosu*, 'at hand'), на пороге (*na poroge*, 'on the edge of...'). Compared with Russian, such phrases in Chinese have evolved into phrases that directly express time meaning, and can be regarded as the temporal idiom structure without the dual semantic implications of space and time, such as "po zai mei jie" ('imminent'). In addition, it is necessary to emphasize that "у" (*u*, 'at'), "возле" (*vozle*, 'near'), "из" (*iz*, 'from') and other prepositions of place and space in Russian can be collocated with other nouns to mark time in a certain context. The corresponding Chinese expression also has a similar function. For example:

(18) Я писал Кате еще *с дороги*, а *из госпиталя* почти каждый день.

Ya pisal Kate eshchyo *s dorogi*, a *iz gospitalya* pochti kazhdyj den'.

'I wrote to Katya *from the road*, but *from the hospital* almost every day.'

(19) "*zai ban gong shi*, wo jian dao le gao hua gong si de zong gong cheng shi, qing hua da xue de   sun jia guang jiao shou."

'*In the office*, I met Sun Jiaguang, the chief engineer of Gaohua Company and a professor of Tsinghua University.'

There is some complexity in the temporal meanings of spatial metaphors, due to the coexistence of the direct and indirect expression of temporal deixis: the first linguistic form should be classified into the direct expression of temporal deixis. The main function of spatial words is to modify, so that they can be regarded as special temporal modifiers (Strauss & Feiz, 2013). Temporal words are still the core words in the phrases

formed thereby. The latter two linguistic forms have certain similarities. The phrases formed by them indicate time information as a whole. If internal division is carried out, each word constituting the temporal phrase has no temporal meaning. In addition, the spatial metaphor idiom structure is different from the conventional idiom structure that expresses temporal meanings: после дождичка в четверг (*posle dozhdichka v chetverg*, 'when two Sundays come together'), от молодых ногтей (*ot molodyh nogtej*, 'since childhood'), "hou nian ma yue" ('donkey's years'), "huo shao mei mao" ('in imminent danger'). The former has the dual implications of space and time, and the expression of temporal meanings depends on the specific linguistic context. Therefore, the latter two linguistic forms should all be included in the indirect expression of temporal deixis.

3. SENTENCE STRUCTURE PATTERNS FOR RUSSIAN AND CHINESE TEMPORAL DEIXIS

The elements of the sentence structures for Russian and Chinese temporal deixis are by no means arranged accidentally. They reveal changes in the observer's focus of attention and convey the relationship between "figure" and "ground".

L. Talmy emphasized that the existent that is more mobile and significant, simpler in structure, closer in scene or consciousness and smaller can be regarded as figure, while the opposite is regarded as ground (Talmy, 2000). The definition is relatively fixed for figure and ground existing in objective space, but the embodiment of figure and ground in linguistic expression is often affected by subjective cognition. Figure and ground in the sentence can not only reveal spatial relationship, but also convey temporal relationship. The relevant indicative expression that provides time positioning for the behavior or scene described in the sentence plays the function of "ground", while the corresponding predicates are regarded as "figure" at the core position. The relative positions of figure and ground differ in different languages. As stressed by Hu Peian (2006, p. 1), temporal words in modern Chinese generally do not play the role of forward jurisdiction. Therefore, from the perspective of the sentence structure for temporal deixis, the sentence structure pattern of "ground before figure" (ground>figure) is more suitable for Chinese. For example:

(20) "*cong xia wu 1 shi dao bang wan 6 shi* e mao da xue fen fen yang yang, mi man da li gu cheng,   yin zhuang su guo, shi cheng nei de ji xue hou du

da 5 li mi.”

'*From 1:00 p.m. to 6:00 p.m.*, large snowflakes fluttered like feathers, scattered in the ancient   city of Dali, covering it with white and making the snow in the city as thick as 5cm.'

(21) “*qian tian xia wu*, ta cong ta mu qin jia li yi lu zou le lai, mei you xiang dao dao zhe er de lu zhe yang yuan, zou dao zhe er shi tian yi jing hen wan le, bu guo hai hao, ta dao le zhe er tian cai kai shi xia xue, zai ke zhan li shui le yi ge wan shang.”

'*In the afternoon before yesterday*, she walked all the way from her mother's house, but didn't   expect that it was so far away from here. It was very late when she got here. Fortunately, it   began to snow when she arrived here, and she slept all night in the inn.'

(22) a:“er *dang chi fan shi*, ta que xiang shan dian yi yang xun su chu xian, wang wang ba wo men di xiong san ren xia yi tiao.”

'However, *when eating*, he appeared as quickly as lightning and often startled the three brothers of us.'

b: * “ta que xiang shan dian yi yang xun su chu xian, wang wang ba wo men di xiong san ren xia yi tiao, er *dang chi fan shi*.”

'However, he appeared as quickly as lightning and often startled the three brothers of us *when eating*.'

Obviously, the clause structure expressing temporal deixis in Example (22)b does not conform to the speech habit in Chinese. In the complex sentence structure for temporal deixis such as Example (22)a, the applicability of “ground>figure” to Chinese can be further verified. It should be emphasized that temporal words in Chinese sometimes can be used for abnormal forward jurisdiction. For example:

(23) a:“zai gang ru shui yi ge ban xiao shi zuo you shi shu shui qi, zhe shi da nao que shi zai an jing de xiu xi le, dan yue shui yue qian.”

'About one and a half hours after falling asleep is the deep sleep period, *when* the brain is really resting quietly, but the sleep then becomes lighter.'

b: “zai gang ru shui yi ge ban xiao shi zuo you shi shu shui qi, da nao que shi zai an jing de xiu xi le, dan yue shui yue qian.”

'During about one and a half hours after falling asleep is the deep sleep period, the brain is really resting quietly, but the sleep then becomes lighter.'

In Example (23)a, “zhe shi” ('when/at this time') is a word that has jurisdiction over time in both directions. It simultaneously provides the temporal ground reference for the two events including “ru shui yi ge ban xiao shi zuo you” ('about one and a half hours after falling asleep') and “da nao   xiu   xi” ('the   brain   is   resting'),   presenting   the   form   of

"figure>ground>figure". However, in terms of the essential attribute of deixis, the branch of "figure>ground" in Example (23)a does not belong to temporal deixis, but should be regarded as an anaphoric reference to the previous segment of "ru shui yi ge ban xiao shi zuo you". If "zhe shi" is deleted, Example (23)b can be obtained, which is basically the same as the temporal ground for "da nao xiu xi" conveyed by (23)a. Accordingly, the sentence structure pattern for expressing temporal deixis in Chinese can be summed up as "ground>figure".

Unlike Chinese, the sentence structure for expressing temporal deixis in Russian has both the patterns of "figure>ground" and "ground>figure". For example:

(24) *Вчера*, *когда* я плакала перед вами, если б вы мне сказали одно слово, одно только   слово — я бы осталась. (Ground>figure)

Vchera, *kogda* ya plakala pered vami, esli b vy mne skazali odno slovo, odno tol'ko slovo — ya   by ostalas'.

'*Yesterday*, *when* I was crying in front of you, if you had told me one word, even just one word,   I would have stayed.'

(25) Сначала, *при выходе   из   самолета*,   мне   понравился   североафриканский воздух — горячий,   сухой   и   сладковатый. (Ground>figure)

Snachala, *pri vyhode iz samolyota*, mne ponravilsya severoafrikanskij vozduh — goryachij, suhoj i sladkovatyj.

'At first, *when I got off the plane*, I was attracted by the air in North Africa — hot, dry and   sweet.'

(26) Эрих, это капитан Саврасов и майор Левченко из уголовного розыска. Они уже приходили *сегодня утром*. (Figure>ground)

Erih, eto kapitan Savrasov i major Levchenko iz ugolovnogo rozyska. Oni uzhe prihodili *segodnya utrom*.

'Erih, this is Captain Savrasov and Major Levchenko from the department of criminal investigation. They had already come here *this morning*.'

(27) Познакомились мы только *вчера*, *когда* купались в Москве-реке.

Poznakomilis' my tol'ko *vchera*, *kogda* kupalis' v Moskve-reke.

'We got to know each other just *yesterday when* we were swimming in the Moskva River.'

In addition to the aforementioned function of indicating time positioning, the elements of temporal deixis also play a role in indicating temporal ontology (Arkadiev, 2022). Specifically, the speaker uses nominal words that represent the concept of time to perform the function of indicating time through the association with the communicative context.

Different from the indication of time positioning, in this case, the speaker's focus of attention is no longer a certain behavior, but time itself. Therefore, the completion of temporal words is transformed into the role of "figure". For example:

(28) *Весна* наступила, тепло!

Vesna nastupila, teplo!

'*Spring* has come, it's warm!'

(29) "*shu jia* lai le."

'*Summer vacation* has come.'

In the examples above, time becomes the focus of information. Both "spring" and "summer vacation" move in the direction of the perception subject implied by the role of "ground". It should be noted that the sentence structure pattern for Chinese temporal deixis has evolved into "figure>ground" in this context, but this is not incompatible with the pattern of "ground>figure" that expresses time positioning. These two types of structures belong to different cognitive models including "moving time" and "moving ego", with the focus on time and the perception subject respectively.

4. BOUNDARY CHARACTERISTICS OF RUSSIAN AND CHINESE TEMPORAL DEIXIS

As a basic means for human beings to understand and constitute the concepts of time and space, "bounded-unbounded" can present the unity of opposites between the dispersion and continuity of objective things in time, space and state. The distinctive characteristics of "bounded" and "unbounded" things mainly include: 1) The interior of unbounded things is featured with homogeneity. For instance, the nature and function of water or air never change even when it is dispersed. The interior of bounded things is featured with heterogeneity. A house or furniture composed of various components will no longer have its original shape, nature and function after being disassembled. 2) The interior of unbounded things is featured with scalability. For instance, the increase or decrease in amount will not change the original properties of water or air. The interior of bounded things is featured with a lack of scalability. A house or furniture will no longer be considered as the original house or furniture after being increased or decreased in structure. 3) Unbounded things are non-repeatable. Unbounded things such as water or air can only rely on measuring tools to express the corresponding amount (Zheng, 2024).

There are no special quantifiers that can be directly collocated with them. Bounded things are repeatable, and often have special quantifiers that are directly collocated with them, which is particularly evident in Chinese (Langacker 1987; Chen 2005, p. 340). In the universe, space and time themselves have no boundary, but with the development of human cognition, the conceptual definitions of space and time have changed, giving rise to artificially classified Calendric Time and Greenwich Mean Time. Therefore, objective things themselves have continuous, extensive and ambiguous boundary, and exist as a whole. However, in the human knowledge representation system, objective things are often transformed into discrete individuals with clear boundary, thus forming the "bounded-unbounded" opposition at the cognitive level. The boundary characteristics of time are determined by the boundary characteristics of space. The end of behaviors or events in space indicates that the time spent has also come to the end. Hence, at the level of temporal expression, what correspond to "bounded" and "unbounded" are often "perfective" and "imperfective" with regard to the behaviors or actions represented by aspect category (Yuan & Wu, 2016). Although aspect category does not belong to deictic category, it plays an essential role in the complete and comprehensive understanding of the deictic meanings of verbs in temporal forms. The use of Russian verbs in tense strongly highlights the explicit influence of aspect category on the boundary characteristics of temporal deixis. For example:

(30) Мы *прочитали* вашу статью и *привезли* вас сюда, чтобы доказать вам ошибочность вашей   точки зрения. (Bounded)

My *prochitali* vashu stat'yu i *privezli* vas syuda, chtoby dokazat' vam oshibochnost' vashej   tochki zreniya.

'We *have read* your article and *brought* you here to prove to you the fallacy of your point of   view.'

(31) Отец *спит*, или *читает* в комнате. (Unbounded)

Otec *spit*, ili *chitaet* v komnate.

'The father *is sleeping*, or *reading* in the room.'

In Example (30), the behaviors of "reading" and "bringing" are presented in the past tense of perfective aspect. The external observation of a behavior has the natural ending attribute. The behavior reaches the end boundary in space, which determines the end of the running time for the behavior. In Example (31), the behavior, either "sleeping" or "reading", is expressed in the present tense of imperfective aspect, which further shows that the behavior has not reached the end boundary in space and has the non-ending attribute, so that the time for the behavior can continue to run. In addition to the tense and aspect forms of verbs, words indicating

time positioning and measurement are also important means to present the boundary characteristics of time. This is fully illustrated with Chinese, and also in the sentence structures of Russian in which imperfective aspect verbs are used as predicate elements. Subject to the linguistic attribute, the "bounded" and "unbounded" expression of temporal deixis in Chinese is often judged by the presence of temporal words but cannot be absolutely dependent on tense and aspect category. For example:

(32) "wo da yue shui le *liang xiao shi*." (Bounded)

'I have slept for about *two hours*.'

(33) "hu shi shuo: 'dou hen zheng chang, bing ren zheng zai shui jiao.'" (Unbounded)

'The nurse said, "It's normal. The patients are sleeping."'

(34) Вот так же сидел он *вчера* в поезде, слушая своих попутчиков. (Bounded)

Vot tak zhe sidel on *vchera* v poezde, slushaya svoih poputchikov.

'That's how he sat on the train *yesterday*, listening to his fellow travelers.'

(35) В коридоре я катался на велосипеде: он был метров пятьдесят. (Unbounded)

V koridore ya katalsya na velosipede: on byl metrov pyat'desyat.

'I was riding a bicycle along the corridor: it was about fifty meters.'

The boundary of temporal deixis is related to not only the end of behaviors, but also the temporal continuity between different behaviors in the multi-predicate structure. Compared with Russian verbs in temporal forms, Chinese dynamic auxiliary words lack stability in expressing boundary characteristics, but the changes of their position can express the boundary of the more complex "semantic-syntactic" structural relationship. For example:

(36)"wo qian tian qu zao shi mai *le* 5 jin huang tao."

'I went to the morning market the day before yesterday for 2.5 kilograms of yellow   peaches.'

The act of "qu" ('going') is earlier than the act of "mai" ('buying'). They are both acts that have occurred in the past and have been completed. It should be emphasized that the dynamic auxiliary "le" ('close in meaning to the suffixes of Russian verbs in the past tense') cannot appear after the verb "qu" in the structure of Example (36)a. In Example (36)a, "mai huang tao" ('buying yellow peaches') is the purpose of "qu zao shi" ('going to the morning market'), and "qu zao shi" is the premise of "mai huang tao". "qu zao shi" and "mai huang tao" belong to the same overall continuous event. Therefore, no element can be inserted between the acts of "qu" and "mai", thus highlighting the inherent continuous and unbounded relationship

between the two acts, namely the logical connection between the premise and the purpose. Here is another example for comparison:

(37) "wo chi *le* fan cai hui su she."

'I went back to the dormitory after eating.'

In the above example , "hui su she" ('going back to the dormitory') is not the purpose of "chi fan" ('eating'). They are different events that are separated from each other. There is a time-bound relationship rather than an inherent continuous and unbounded relationship between them. It should be stressed that although the boundary characteristics of temporal deixis have different explicit forms, its essence lies in the boundary characteristics of space, regardless of the evolution and end of behaviors themselves, or the continuity and separation of multiple events or behaviors.

5. ICONICITY OF RUSSIAN AND CHINESE TEMPORAL DEIXIS

C.S. Peirce put forward the concept of iconicity in view of the correspondence between symbols and the objects they refer to at the level of structural characteristics. Similarly, the iconicity between linguistic structures and the objective world has received widespread attention in the field of cognitive linguistics. Time, as an inseparable element of the physical condition for human existence and development, inevitably has iconicity in consistence with objective laws when human experience and perception of time are projected into linguistic expression, where the iconicity of temporal sequence expression is particularly obvious (Wang, 2020). Although temporal sequence does not create strong indication compared to concepts such as time point, time period, etc., the interval between the prior event and the following event, as well as the actual sequence of their occurrences, still has some indicative implications that cannot be ignored. With regard to the semantic explicitness of temporal sequence, Dai Haoyi (1988, p. 10) proposed "the principle of temporal sequence" (PTS), that is, the relative sequence of two syntactic units depends on the temporal sequence of their states in the conceptual domains they represent. This principle is applicable to the description of the temporal sequence of objective events in Russian and Chinese. In other words, there is iconicity in the syntactic structure and the temporal sequence of events. For example:

(38) Вздохнув под этим взглядом, Аля открыла дверь и вышла на лестницу.

Vzdohnuv pod etim vzglyadom, Alya otkryla dver' i vyshla na lestnicu.

'Sighing under this gaze, Alya opened the door and walked up onto the stairs.'

(39) Ночью он пришел на вокзал и узнал, что в два часа отходит последний поезд на   Ленинград, купил билет, взял вещи из камеры хранения.

Noch'yu on prishyol na vokzal i uznal, chto v dva chasa othodit poslednij poezd na Leningrad,   kupil bilet, vzyal veshchi iz kamery hraneniya.

'At night he arrived at the station and found out that the last train to Leningrad departs at two   o'clock, bought a ticket, and took his belongings from the luggage room.'

(40) "ta wei kong zi ji jiang de bu qing chu, fan lai fu qu de jiang le yi bian you yi bian, zhi dao xia   yi tang de shang ke ling xiang le, cai hui dao zi ji de zuo wei shang."

'With the fear of the failure to explain it clearly, she talked about it over and over again until   the bell for the next class rang, and then returned to her seat.'

(41) "di er tian zao shang, tan gong da gang zou jin ban gong shi, zhuo shang de dian hua ling jiu   xiang le."

'The next morning, as soon as Tan Gongda entered the office, the telephone on the table rang.'

Compared with Russian and other Indo-European languages, Chinese absolutely follows "the principle of temporal sequence" in the indicative expression of temporal meanings. The reason is closely related to the lack of changes in word formation. In contrast, Russian is a hypotactic language and has rich changes in word formation to ensure the flexibility of sentence structure, making it possible to violate "the principle of temporal sequence" in some cases. For example:

(42) Статус адвоката Навальный получил в 2009 году, сдав квалификационный экзамен в   кировской палате адвокатов.

Status advokata Naval'nyj poluchil v 2009 godu, sdav kvalifikacionnyj ekzamen v kirovskoj   palate advokatov.

'Navalny obtained the identity of a lawyer in 2009, having passed the qualification exam at the   Kirov Chamber of Lawyers.'

(43) Он принял предложение Двинятина после того, как Федя уверил его в том, что группу "Рыцари диких яблок" ждет большое будущее, поскольку в ней будет играть "сам   Аствацатуров, человек с   потрясающими   вокальными   данными   и   виртуозной   пианистической техникой".

On prinyal predlozhenie Dvinyatina posle togo, kak Fedya uveril ego v

tom, chto gruppu "Rycari dikih yablok" zhdyot bol'shoe budushchee, poskol'ku v nej budet igrat' "sam Astvacaturov, chelovek s potryasayushchimi vokal'nymi dannymi i virtuoznoj pianisticheskoj tekhnikoj".

'He accepted Dvinyatin's offer after Fedya assured him that the Wild Apple Group of Knights would have a promising future, since "Astvatsaturov himself, a man with amazing vocal abilities and virtuoso piano techniques," would perform among them.'

It should be noted that the arrangement of dynamic auxiliary words in Chinese also strictly follows "the principle of temporal sequence" to ensure the correspondence and consistency with objective laws. For example:

(44) "ta zheng dai yi wu yi shi shuo xia qu shi, tu ran xiao he de chuan shang you ren jiao ta, ta hui tou yong shou zhe zhe yang guang yi kan, ma shang gao sheng hui da dao: 'ni bu shi dao xin di qu ma? gei xian li dou da *guo* dian hua *le*, ni qu ba.'"

'When he was about to go on, he was suddenly called by someone on a boat in the river. He looked back, covered the sunlight with his hands, and immediately replied loudly: "Aren't you going to Xindi? I have made a call to the county. Just Go."'

If "guo" ("close in meaning to the suffixes of Russian verbs in the past tense') and "le" ("close in meaning to the suffixes of Russian verbs in the past tense') are changed in terms of position, it will violate not only the principle of iconicity, but also the temporal logic necessary for Chinese expression. The dynamic auxiliary word "guo" should be used to show the process meaning of the event, and then the auxiliary word "le" is used then to indicate that the event has been completed. In addition, Dai Haoyi (1988, p. 16) also put forward "the principle of temporal scope" (PTSC), which requires that the components with a larger temporal range should be placed before the components with a smaller range in the sentence structure. This principle contradicts the logic of speech in Russian to a certain extent. For example:

(45) Либо *поздно вечером сегодняшнего дня*, либо в субботу стороны должны подписать межправительственное соглашение.

Libo *pozdno vecherom segodnyashnego dnya*, libo v subbotu storony dolzhny podpisat' mezhpravitel'stvennoe soglashenie.

'Either *late tonight* or on Saturday, the parties must sign an intergovernmental agreement.'

(46) Модест уехал в Петербург *в четверг прошлой недели*.

Modest uekhal v Peterburg *v chetverg proshloj nedeli*.

'Modest left for St. Petersburg *on Thursday last week*.'

(47) "*qu nian zhe ge shi hou*, cao chang shang zao yi pu man le bai xue."

'*Last year*, *at this time* the playground was already covered with snow.'

(48) "ju liao jie, *jin nian qiu ji* yi lai, jiu zhai gou he huang long de you ke zeng zhang le 30%."

'It is reported that the number of tourists to Jiuzhaigou and Huanglong has increased by 30% *since this autumn*.'

Human perception of temporal sequence mainly depends on the "from periphery to core" or "from core to periphery" strategy. The former regards the whole as the reference point, tends to think as a whole, and gradually approaches from the periphery to the local for observation. This is consistent with "the principle of temporal scope" and conforms to the language logic of Chinese at the level of temporal deixis expression. The latter takes a local point as the reference point, starts from the core, and observes the local first and then the whole. It coincides with the arrangement order of temporal and even spatial words in Russian, that is, the smaller followed by the larger. Russian relies on changes in word formation to construct semantic logic, while Chinese uses logical relations to form words into sentences. Therefore, the iconicity degree of temporal sequence expression in Russian is lower than that in Chinese.

6. CONCLUSION

The similarities and differences between Russian and Chinese in the expression of temporal deixis, especially in the explicit forms of wordings, are closely related to their language types. Russian and Chinese, with one being hypotactic and the other being paratactic, belong to comprehensive languages and analytical languages respectively. Their difference in language type directly leads to the rich changes of Russian in verb formation for the expression of temporal deixis, while Chinese depends more on the semantic meanings of words. Consequently, Russian has more flexible changes in word order than Chinese, and there may be temporal descriptions that violate "iconicity". Besides, Russian predicate verbs have stronger timeliness than Chinese predicate verbs. In Russian sentences, verbs must be changed into the corresponding temporal form for the generation of a sentence. In contrast, Chinese verbs themselves cannot be changed and can be directly placed into the sentence even without the assistance of dynamic auxiliary words. As a result, while lacking stability in showing boundary characteristics, Chinese dynamic auxiliary words also give rise to the more complex "semantic-syntactic" structural relationship.

Definitely, in addition to the reason of language type, the similarities and differences between Russian and Chinese in the expression of temporal deixis are also related to cognition and national cultural thinking, which constitute deeper reasons. The Russian and Chinese nationalities have similarities in the spatial metaphors of temporal deixis. This is closely related to their similarities in living environment, physiological mechanism and cognitive thinking. The concepts that can be directly perceived by human beings are often intuitive and concrete. In this sense, the perception of time as an abstract concept can only depend on the moving objects and changing space in the objective world, which determines the close relationship among time, space and movement. Time cannot be separated from change and movement, because it is embodied through movement. Language, as a prism reflecting national cultural thinking, evidently highlights this common cognitive basis. For example, both Russian and Chinese frequently use prepositions with spatial meanings in the expression of temporal deixis. Besides, human cognition of time is based on space, where space is primary and time is secondary. Therefore, in both Russian and Chinese, compared with verbs in tense forms, temporal words that work better in reflecting the metaphorical meaning of space occupy the core of the semantic field of temporal deixis expression. In addition, in Russian and Chinese languages, the expression of the "bounded" and "unbounded" time also corresponds to "bounded" and "unbounded" space. Human perception and experience of the passage of time is a psychological sense, which is connected with the cognitive model of "time movement" and "time orientation" in cognitive linguistics. Although the syntactic positions of "figure" and "ground" in Russian and Chinese structures for temporal deixis conform to human beings' cognitive rules, it is also necessary to pay attention to the differences they reflect in the model of "time movement". Specifically, in the process of time moving from the future through the perception subject to the past and of the perception subject moving from the past to the future, the focus of attention should be "figure", which is time or the perception subject. In comparison with Russian, Chinese has more diverse cognition of time orientation, and its expression of time orientation involves the model of "facing the future" that is common to both Russian and Chinese, and is also affected by the model of "facing the past". For this reason, there are differences between Russian and Chinese languages in the time orientation of "before" and "after" in spatial conceptual metaphors. It should be stressed that compared with their commonness in the expression of temporal deixis, the cultural thinking modes of the Russian and Chinese nationalities are more

related to their differences in the expression of temporal deixis. As mentioned above, different strategies, including "from periphery to core" and "from core to periphery", can be adopted for the temporal sequence perceived by human beings. The different ways of observation reflect their differences in national cultural thinking, which are embodied by the different orders of temporal words in Russian and Chinese languages. Russian follows the observation strategy of "from core to periphery", with the smaller prior to the larger and the local prior to the whole. On the contrary, Chinese tends to think as a whole, with the larger prior to the smaller. The comparative study of Russian and Chinese in the expression of temporal deixis further reveals the close relationship among time, space and movement. The conceptual perception of time is rooted in the conceptual perception of space and cannot be separated from the social and cultural background where the perception subject is living and the corresponding cultural thinking mode. Hence, in the linguistic interpretation of temporal deixis, consideration at the cognitive level cannot be ignored. Just as the close relationship among time, space and movement contributes to the commonness between Russian and Chinese in the expression of temporal deixis, the differences in language type, cultural thinking and cognitive mode determine the differences between Russian and Chinese in the expression of temporal deixis.

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