Typological shift in lexicalizing motion events : the case of Wenzhou

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Typological shift in lexicalizing motion events: The case of Wenzhou

Abstract: Typological shift in lexicalizing motion events has hitherto been observed cross-linguistically. While over time, Chinese has shown a shift from a dominantly verb-framed language in Old Chinese to a strongly satellite-framed language in Modern Standard Mandarin, this study presents the Chinese dialect Wenzhou, which has taken a step further than Standard Mandarin and other Chinese dialects in becoming a thoroughly satellite-framed language. On the one hand, Wenzhou strongly disfavors the verb-framed pattern. Wenzhou not only has no prototypical path verbs, but also its path satellites are highly deverbalized. On the other hand, Wenzhou strongly prefers the satellite-framed pattern, to the extent that it very frequently adopts a neutral motion verb to head motion expressions so that path can be expressed via satellites and the satellite-framed pattern can be syntactically maintained. The findings of this study are of interest to intra-linguistic, diachronic and cross-linguistic studies of the variation in encoding motion events.

Keywords: lexicalization, motion event, neutral motion verb, path expressions, satellite-framed, typological shift, verb-framed, Wenzhou

1 Introduction

This study focuses on the expressions of non-caused translational motion events in which an object (i. e. "figure" in Talmy's 2000: 25 terms) moves and changes its location with respect to a reference object (i. e. "ground" in Talmy 2000: 25 terms). The linguistic representation of motion events has been a focus of typological studies, particularly since Talmy's (1975, 1985, 2000) seminal proposal that languages in general are either satellite-framed or verb-framed according to how path information is encoded. Specifically, satellite-framed languages (e. g. English, Russian, German) tend to express path information via satellites to the verbs (e. g. affixes and particles), whereas verb-framed

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languages (e. g. Spanish, Turkish, Japanese) tend to use verbs for encoding path information. The former is exemplified by English in (1a), where the path is expressed via the non-verbal morpheme *down*, and the latter by the Spanish example in (1b), where the path is encoded in the verb *entró*.

(1)   a. *The rock slid **down** the hill.* (Talmy 2000: 28 (5c))
        b. *La botella **entró**   a la   cueva (flotando)*
           the bottle   MOVED-in to the cave   (floating)
           'The bottle floated out of the cave.' (Talmy 2000: 49 (29a))

While Talmy's proposal has been supported by many studies on different languages, an increasing number of studies have raised alternative opinions. Among them, a third type of language – equipollently-framed languages – has been proposed, where both manner information and path information are encoded by equivalent grammatical forms (Slobin 2004; also see Ameka & Essegbey 2001; Zlatev & Yangklang 2004; cf. Talmy 2009, 2016). There are also studies (e. g. Beavers et al. 2010; Croft et al. 2010; Goschler & Stefanowitsch 2013) demonstrating that motion events can be encoded in a variety of ways, which thus leads to a variety of possible lexicalization patterns. Furthermore, several studies (e. g. Slobin 2004; Ibarretxe-Antuñano 2009; Filipović 2007, 2013) propose that rather than distinct categories, languages fall along a continuum in terms of lexicalization of motion information. For instance, Slobin (2004: 6–7) finds that despite the fact that they are all satellite-framed languages, Russian uses manner-of-motion verbs much more frequently than Modern Standard Mandarin Chinese (or *Putonghua*) and Thai, who in turn use such verbs more frequently than English, German, and Dutch.

     In addition to typological comparisons, attention has also been paid to the diachronic change of event integration within a certain language, i. e. intra-linguistic variation. For instance, Ancient Greek is dominantly verb-framed whereas Classical Greek is satellite-framed (Nikitina 2013); on the contrary, French went in an opposite direction in that path information is mainly expressed by satellites in Old French, but by verbs in Modern French (Kopecka 2013).

     Changes in lexicalization patterns have also been observed in Chinese. Old Chinese (before West Han Dynasty, around 100AD) was primarily a verb-framed language (e. g. Shi & Wu 2014; Shi 2015; cf. Peyraube 2006).[1] Path satellites

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[1] Both Peyraube (2006) and Shi and Wu (2014) are diachronic studies of the typological shift of motion expressions in Chinese. Peyraube (2006) claims that Old Chinese was a verb-framed language and the shift to a satellite-framed language was achieved around 1000AD. Shi and Wu (2014) argue that Old Chinese was strongly verb-framed, and Modern Standard Mandarin is

started to appear around 500AD (the end of the Wei-Jin-Nan-Bei-Chao period), which marks the shift to a satellite-framed language (Peyraube 2006). Ma's (2008) investigation also shows that around 500AD, some path verbs (e. g. 如 *rú* 'arrive', 适 *shì* 'arrive', 复 *fù* 'return') started to lose their path meanings so the number of path verbs since then became smaller than that of Old Chinese. Consistent with Peyraube (2006), Ma (2008) points out that the decline of path verbs is correlated to the emergence of path satellites. Corpus-based studies also find that Chinese uses fewer and fewer path verbs for motion events: Shi and Wu's (2014) investigation of Old Chinese shows that 74.53% of the motion expressions consist of path verbs only, but the number decreased to 22.89% in Modern Standard Mandarin according to the study of Chen and Guo (2009). It is in general agreed upon that Chinese has shown a tendency to express path in satellites rather than in verbs, and in Modern Standard Mandarin, the satellite-framed pattern has become dominant.

In this paper, we present the case of Wenzhou, a branch of the Wu Chinese dialect. With a primary focus on what can be lexicalized in motion verbs and on how path information is encoded, this study shows that Wenzhou has taken a step further than Modern Standard Mandarin, other Wu branches, and other Chinese dialects in exhibiting features that strongly prefer the satellite-framed pattern over the verb-framed pattern. First, Wenzhou has abandoned almost all verbs for expression of path information and is thus hardly verb-framed. Second, the path satellites in Wenzhou have been highly deverbalized (i. e. have lost verbal properties in the process of grammaticalization) compared with their counterparts in Mandarin Chinese or other Chinese varieties. They cannot take ground NPs as objects, so Wenzhou stands as a special case of satellite-framed pattern in that a non-directional motion verb (e. g. a manner-of-motion verb) has to take a ground NP directly as object (e. g. 射大门出 *zei²¹² dʁuⁱⁱmaŋ³¹ tɕ'y³¹³* run gate out 'run out the gate' vs. *⋆射出大门 ⋆zei²¹² tɕ'y³¹³ dʁuⁱⁱmaŋ³¹* run out gate). Furthermore, all path satellites in Wenzhou have developed a nominal use and are thus allowed to occur in the object position of directional PPs (e. g. 望出射 *muɔⁱⁱ tɕ'y³¹³ zei²¹²* toward out run 'run toward the outside'). Third, Wenzhou very frequently adopts a neutral motion verb (a verb that encodes neither manner nor path information, but only motion) as the main verb in motion expressions, so that path information is expressed in satellites rather than verbs, and the motion expressions remain satellite-framed.

strongly satellite-framed, but the shift has not yet been achieved. Despite the difference, the two studies agree that there exists a diachronic shift of lexicalization pattern in Chinese from the verb-framed pole to the satellite-framed pole.

While Wenzhou fits the general development of Chinese, i. e. path is less and less expressed in verbs, it has gone further in the path of this specific typological shift, and thus represents a significant variation from Standard Mandarin, other branches of the Wu Chinese dialect, and other Chinese dialects (e. g. Cantonese, Min, and Hakka). In this sense, the Wenzhou data presented in this study suggest what kinds of lexicalization and typological shifts are possible in languages, and thus may contribute to the current knowledge of linguistic variation and diversity in encoding motion events.

In the rest of this paper, Section 2 will introduce the Wenzhou dialect and the data used for this study. Sections 3 and 4 show how path and manner information is encoded in Wenzhou, respectively. The special motion verb 走 *tsau*[35] 'walk; leave; move; away' is discussed in detail in Section 5. While Sections 3–5 mainly compare Wenzhou with Modern Standard Mandarin, Section 6 presents a cross-dialectal discussion by extending the comparison to other branches of Wu and other Chinese dialects. Section 7 concludes the paper.

2 The Wenzhou dialect and the data

The Wenzhou dialect is mainly spoken in Wenzhou, a city with around 9.1 million residents located in the southeast part of Zhejiang Province in southeast Mainland China.[2] Wenzhou is regarded as a branch of the Wu Chinese dialect (Chao 2011[1928]; Wurm et al. 1987; Norman 1988), which in turn is one of the ten major Chinese dialect groups (or Sinitic languages), with the other nine being Mandarin, Gan, Xiang, Min, Hakka, Yue, Jin, Huizhou, and Pinghua (Zhang 2012). The formation of Wenzhou (and the Wu dialect in general) has been a prolonged process compared with some other dialects of Chinese (Zhengzhang 2008; Zhengzhang & Zheng 2015, among others). Historically, ancient Yue (a Tai-Kadai language) was spoken in the Wu areas before it was replaced by the ancient Chu language (the basis of the modern Xiang dialect) when the Yue kingdom was overthrown. Since the Han Dynasty (around 200BC – 20AD), Mandarin was brought southward by the Han immigrants and merged with the ancient Chu language, which then formed into the Jiangdong dialect, the proto-dialect of Modern Wu and Min. The Wu dialect was separated

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2 The population data are from *the 6th National Population Census of the People's Republic of China* (2010) by the National Bureau of Statistics of the People's Republic of China, available online at http://www.stats.gov.cn/tjsj/tjgb/rkpcgb/dfrkpcgb/201202/t20120228_30409.html (accessed December 10, 2015).

from Min during the Tang Dynasty and Five Dynasties (around 618 – 960AD), with Wenzhou being a Wu branch.

Wenzhou shares many major phonological, lexical, and grammatical features with the other branches of Wu (Liu 2001a; Chao 2011[1928]; Zhengzhang 2008). However, there are also many differences between the branches. For instance, of the 21 typological features investigated in Szeto et al. (2018), Wenzhou varies from Suzhou (another branch of Wu) in seven features, e. g. the use of the "V + DO + IO" order in double object constructions and the different lexical resources of the post-verbal deontic modality marker. As will be shown in this paper, Wenzhou also greatly differs from the other Wu branches in terms of motion expressions.

The Wenzhou data in this study mainly come from the Wenzhou Spoken Corpus (hereafter "the WSC", Newman et al. 2007).[3] The WSC consists of transcription of spoken data collected in 2004–2006, with a total of around 155,000 words. The data consist of six spoken genres: (1) Wenzhou news commentary (about 115,000 words, 72.9%), (2) phone calls among family, relatives, and friends (about 21,000 words, 13.2%), (3) face-to-face conversation (about 13,000 words, 8.22%), (4) audio chat via Internet (about 7,000 words, 4.42%), (5) story telling (about 1000 words, 0.66%); and (6) traditional songs (about 900 words, 0.56%). This study uses data from the first three categories, which consist of both formal and informal spoken data and make up about 94.32% of the whole corpus. The data from the other three categories are excluded mainly because their current sizes are too small to be representative of their respective categories. The study also includes supplementary data that have been confirmed by native speakers of Wenzhou; the informants include two males born in 1952 and 1980, and two females born in 1956 and 1982. All examples that are not specified with citation sources in this paper are either from or confirmed by the informants, and further verified by this author as a native speaker of Wenzhou. In addition, unless otherwise indicated, the data given in this paper is from Wenzhou.

In order to collect all possible motion morphemes in Wenzhou, this study first generated a word list from the WSC, and then manually searched all words in the list that could possibly express motion in the WSC and collected all examples that actually contain motion expressions for further analysis. In total, this study identified 49 verbs and satellites that are used in motion expressions, including 13 (26.5%) for path information, 35 (71.4%) for manner information, and one (2%) special motion morpheme that expresses motion only.

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3 The WSC is available online at http://ntuprojects.com/wenzhou/ (accessed December 2015).

This paper mainly follows You and Yang (1998) for the orthographic and phonetic transcription of the data in Wenzhou. For words whose orthographic transcription is not available, only the phonetic transcription is given. Furthermore, this paper uses Standard Mandarin Pinyin when an example does not refer to one particular dialect. Finally, for protection of privacy, this paper uses 阿三 $A^{313}sa^{33}$ to refer to all personal names in the examples from the WSC.

3 Path morphemes in Wenzhou

Path in a directed motion event refers to the path traveled by the figure with respect to the ground (Talmy 2000: 25). This section will introduce how path can be encoded in Wenzhou, or more specifically, how the direction of motion is expressed. It will demonstrate that the dialect strongly disfavors verbs for the encoding of path information.

3.1 The three groups of path morphemes in Wenzhou

The analysis of the data from the WSC retrieved 13 path morphemes. As in (2), these morphemes can be classified into three groups according to whether or not they can be used as verbs. The numbers in parentheses indicate their occurrence frequencies and percentage against all path morphemes (929 tokens) in the WSC.[4]

(2)   a. path morphemes that can only be used as satellites to verbs: 来 le^{31} 'hither' (364, 39.2%), 出 $tɕ'ɣ^{313}$ 'out' (132, 14.2%), 去 $k'e^{42}$ 'thither' (102, 11.0%), 过 ku^{42} 'across; past' (59, 6.4%), 底 tei^{35} 'into' (55, 5.9%), 拢 $loŋ^{24}$

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4 Note that verbal reduplication is frequently used in Wenzhou, e. g. 遁遁拉落 $daŋ^{11}$ $daŋ^{11}$-la^{33} lo^{212} fall fall-PERF down 'fall down (in a short time)'. The reduplicated form was counted as one occurrence in the study. Also note that some path morphemes can have different functions. For instance, in addition to functioning as a path satellite meaning 'into', 底 tei^{35} can also be used as a localizer meaning 'inside', e. g. 屋底人多显 u^{313}-tei^{35} $naŋ^{31}$ $tɣu^{33}$ $ɕi^{33}$ house-inside human many much 'there are many people in the house.' One way to distinguish the two uses of 底 tei^{35} is that the former can be negated, e. g. 走不底 $tsau^{35}$-fu^{35}-tei^{35} walk-NEG-into 'unable to walk into [a place]', and the latter cannot, e. g. *屋不底 u^{313}-fu^{35}-tei^{35} house-NEG-inside. There are also a few motion morphemes that are polysemous, e. g. 开 $k'e^{33}$ 'apart, drive'. The different functions and meanings of the path morphemes could be a result of grammaticalization. Due to space limitations and the lack of sufficient data from earlier stages of Wenzhou, this paper will not discuss their grammaticalization in detail.

'together' (9, 1.0%), 上 *ji²⁴* 'up' (8, 0.9%), 转 *tɕy³⁵* 'back' (8, 0.9%), 起 *ts'ɿ³⁵* 'up' (4, 0.4%), 开 *k'e³³* 'apart' (2, 0.2%)

b. one path morpheme that can only be used as a verb: 遁 *daŋ¹¹* 'fall' (36, 3.9%)

c. path morphemes that can be used as verbs or satellites: 落 *lo²¹²* 'fall; down' (124, 13.3%), 走 *tsau³⁵* 'leave; away' (26, 2.8%)

Before we discuss the morphemes in (2), it is worth noting that previous studies do not necessarily agree on what elements can be considered path satellites. Take English for example. According to Talmy (1985, 2000, cf., 2009, 2016), particles can be distinguished from prepositions in that the former do not require a ground NP (e. g. *away* in *He ran away*), but the latter do (e. g. *into* in *He ran into the room*), and Talmy includes particles as satellites to verbs, but not the latter. However, some other studies (e. g. Filipović 2007; Beavers et al. 2010; Croft et al. 2010) argue for a wider inter-pretation of satellites and treat prepositions and their objects (i. e. PPs) as a type of satellite too. According to them, the distinction between particles and prepositions in English is not always clear. While agreeing that in English, PPs could be an option for path encoding, this study does not treat PPs in Wenzhou as path satellites. The reason is that prepositions in Wenzhou have a distribution distinct from the other path morphemes that are considered path satellites in this study: a preposition must take a ground NP as object to form a PP and the PP occurs in preverbal position, whereas a path satellite in this study must occur in post-verbal position and they usually cannot take a ground NP as object. For ease of reference and also to be consistent and comparable with the majority of existing studies on Chinese, PPs are not included in (2a).

It is also worth noting that in Wenzhou, the concepts of 'arrive' and 'to' in motion events are rarely explicitly expressed. We will come back to this point in Sections 4 and 5.

3.1.1 Satellite-only path morphemes

The path morphemes in (2a) do not function as motion verbs in Wenzhou. Two examples are given in (3), where neither 出 *tɕ'y³¹³* 'out' nor 来 *le³¹* 'hither' can occur alone as a verb in a clause. In Standard Mandarin, on the other hand, the cognate counterparts to these morphemes can function as path verbs, as in (4).

(3) a. *渠出拉大门。
   *gei^{31} $t\textctc'y^{313}$-la^{33} $d\textgamma u^{11}ma\eta^{31}$
   he out-PERF gate
   (intended) 'He went out the gate.'

   b. *渠来伐。
   *gei^{31} le^{31} va
   he hither SFP+PF
   (intended) 'He came.'

(4) Standard Mandarin
   a. 他出了大门。
   $t\bar{a}$ $ch\bar{u}$-le $d\grave{a}m\acute{e}n$
   he exit-PERF gate
   'He went out the gate.'

   b. 他来了。
   $t\bar{a}$ $l\acute{a}i$ le
   he come SFP+PF
   'He came.'

The path morphemes in (2a) have to occur after manner-of-motion verbs in order to specify the direction of motion. Ground NPs are optional, as in (5). But when a ground NP is present, the NP must occur directly after the manner-of-motion morpheme rather than the path morpheme, as in (6).

(5) 渠射出伐。
   gei ^{31} zei^{212} $t\textctc'y^{313}$ va
   he run out SFP+PF
   'He ran out.'

(6) a. 渠射大门出伐。
   gei^{31} zei^{212} $d\textgamma^{11}uma\eta^{31}$ $t\textctc'y^{313}$ va
   he run gate out SFP+PF
   'He ran out the gate.'

   b. *渠射出大门伐。
   *gei^{31} zei^{212} $t\textctc'y^{313}$ $d\textgamma u^{11}ma\eta^{31}$ va
   he run out gate SFP+PF

In (5–6), the manner-of-motion morpheme 射 zei^{212} 'run' functions as a verb. As shown in (7), when the verbal suffix for perfective aspect 拉 la^{33} is used, the

suffix has to attach to 射 *zeɨ²¹²* 'run' instead of the path morpheme 出 *tɕ'y³¹³* 'out'. This shows that 出 *tɕ'y³¹³* 'out' in (5) does not form a verb compound with 射 *zeɨ²¹²* 'run'. Meanwhile, 出 *tɕ'y³¹³* 'out' and the preceding ground NP 大门 *dɤu¹¹maŋ³¹* 'gate' in (6a) do not form a constituent (e. g. a postposition phrase), because the NP can be topicalized and moved to the preverbal position, as in (8). In other words, 出 *tɕ'y³¹³* 'out' functions as a satellite to 射 *zeɨ²¹²* 'run' in (5–8).

(7)   a. 渠射拉出伐。

          gei³¹ zeɨ²¹²-la³³ tɕ'y³¹³ va

          he   run-PERF out   SFP+PF

          'He ran out.'

    b. 渠射拉大门出伐。

          gei³¹ zeɨ²¹²-la³³ dɤu¹¹maŋ³¹ tɕ'y³¹³ va

          he   run-PERF gate   out   SFP+PF

          'He ran out the gate.'

(8)   渠大门射拉出伐。

      gei³¹ dɤu¹¹maŋ³¹ zeɨ²¹²-la³³ tɕ'y³¹³ va

      he   gate   run-PERF out   SFP+PF

      'He ran out the gate.'

3.1.2 Verb-only path morphemes

遁 *daŋ¹¹* 'fall' is the only path morpheme identified in the WSC that is always used as a path verb. It can occur alone (9a), be reduplicated (9b), be suffixed by the perfective marker 拉 *la³³* (9b), take a path morpheme as its satellite (9b), or take a ground NP as its object (9c); but it is not found as a satellite to verbs in non-caused motion.[5]

(9)   a. 人老爻哪牙齿会遁爻。

          *naŋ³¹   lɘ²⁴ ɦuɔ³¹ na²⁴ ŋo³¹tsʅ³⁵ vai¹¹ **daŋ¹¹** ɦuɔ³¹*

          human age PF   SMP tooth   will fall   SFP+PF

          'When people get older, [their] teeth will fall out.' (WSC)

    b. 宿九楼遁遁拉落。

          *ɕyo³¹³ tɕiau³⁵lau³¹ daŋ¹¹ **daŋ¹¹-la³³** lo²¹²*

          at   nine.floor fall   fall-PERF down

          '[A worker] fell down from the ninth floor.' (WSC)

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5 In Chinese, reduplication is a feature of verbs, especially action verbs. Verbal reduplication can express different grammatical meanings, but this is beyond the focus of the present study.

c. 有个两岁个姆姆遁井里伐。

jiau²⁴ kai³¹³ liɛ²⁴-sɿ⁴² gei³¹ mai³³mai³³ **daŋ¹¹ tseŋ-lei³³** ɦuɔ³¹
have CLF two-year REL child fall well-inside SFP+PF
'A two-year old child fell into a well.' (WSC)

Other than 遁 daŋ¹¹ 'fall', no other morpheme is found to behave in this way in the WSC. However, according to the informants, 升 seŋ³³ 'ascend' and 降 kuɔ⁴² 'descend' can be used as verbs (10), and they can be followed by path morphemes such as 起 tsɿ³⁵ 'up' and 落 lo²¹² 'down' (11); further investigation is necessary to determine whether 升 seŋ³³ 'ascend' and 降 kuɔ⁴² 'descend' are borrowed from Standard Mandarin.

(10) a. 太阳升天上伐。

t'a⁴²ji³¹ **seŋ³³** t'i³³ji²⁴ va
sun ascend sky SFP+PF
'The sun ascended to the sky.'

b. 飞机降地下伐。

fei³³tsɿ³³ **kuɔ⁴²** di⁴²ɦo²⁴ va
plane descend ground SFP+PF
'The plane descended to the ground.'

(11) a. 太阳升起伐。

t'a⁴²ji³¹ **seŋ³³** tsɿ³⁵ va
sun ascend up SFP+PF
'The sun ascended.'

b. 飞机降落伐。

fei³³tsɿ³³ **kuɔ⁴²** lo²¹² va
plane descend down SFP+PF
'The plane descended.'

3.1.3 Path morphemes either as verbs or satellites

This study only identified two path morphemes that can function either as verbs or satellites to verbs in the WSC, namely 落 lo²¹² 'fall; down' and 走 tsau³⁵ 'leave; away'. 走 tsau³⁵ in Wenzhou is a special motion morpheme with multiple meanings and will be discussed in more detail in Section 5. This section will focus on 落 lo²¹² 'fall; down'.

A total of 124 instances of 落 lo²¹² 'fall; down' are found in expressions denoting non-caused directed motion events in the data. Among them, 61

(49.2%) are satellites to motion verbs such as 遁 *daŋ*¹¹ 'fall' and 流 *lʏu*³¹ 'flow',
e. g. (9b). In these examples, 落 *lo*²¹² 'down' behaves like the path satellites in
(2a). For instance, it occurs after manner-of-motion verbs; a ground NP, when
present, follows the manner-of-motion verb and precedes 落 *lo*²¹² 'down'.

The other 63 (50.8%) instances of 落 *lo*²¹² occur as a verb, as in (12).
However, closer examination of the corpus data shows the verbal uses are
very restricted in that 落 *lo*²¹² 'fall' is only found to describe the motion of rain
(34 instances), snow (26 instances), and tide (3 instances). Other than these three
kinds of figures, it is not natural for 落 *lo*²¹² 'fall' to describe motion where the
sun, tree leaves, tears, or people fall down; however, its cognate counterpart in
Standard Mandarin, 落 *luò* 'fall', is frequently found with such figures.

(12)   该一场扬雨呢落不长。
   *kɨ*³¹³ *i*³¹³ *dʑi*³¹ *ji*³¹*vu*²⁴ *ne*   **_lo_**^{**212**} *fu*³⁵ *dʑi*³¹
   this one CLF shower SMP fall   NEG long
   'The shower will not last long.' (lit.) 'The shower will not fall for a long
   time.' (WSC)

To summarize, even though 遁 *daŋ*¹¹ 'fall' and 落 *lo*²¹² 'fall' are found as verbs in
Wenzhou, they cannot represent a class of prototypical path verbs. First, the
inventory of path verbs is very small when compared with other satellite-framed
languages such as Standard Mandarin and English. Second, the majority of
these path verbs denote vertical direction, and motion in other directions typi-
cally cannot be expressed by verbs in Wenzhou. Third, these verbs can only be
used for vertical motion in the air, whereas path verbs that denote vertical
motion in other languages (e. g. 上 *shàng* 'ascend' and 下 *xià* 'descend' in
Standard Mandarin, *ascend* and *descend* in English) are not limited in terms of
the medium of motion (e. g. whether through air or liquid). Therefore, this study
does not treat these verbs as prototypical path verbs, and accordingly, the
motion expressions headed by these verbs are not prototypical verb-framed
patterns. In other words, Wenzhou displays an extreme tendency to disfavoring
verbs encoding the direction of motion.

3.2 The grammatical status of path satellites in Wenzhou

In Modern Standard Mandarin, some motion morphemes (e. g. 回 *huí* 'return;
back', 进 *jìn* 'enter; into', 出 *chū* 'exit; out') can occur either as path verbs (e. g.
回房间 *huí fángjiān* return room 'return to the room') or appear after another
motion verb (e. g. 跑回房间 *pǎo-huí fángjiān* run-return room 'run back to the

room'). When occurring after another motion verb, these morphemes are called "directional complements" and recognized as path satellites in previous studies (e. g. Talmy 2000: 108–109; Lamarre 2003; Peyraube 2006; cf. Tai 2003). Diachronic studies (e. g. Peyraube 2006; Ma 2008) have shown that the path satellites in Modern Standard Mandarin originated from path verbs.

Due to the lack of written records in the history of Wenzhou, direct evidence is unavailable to show whether and how path verbs were used in the earlier stages of this dialect. However, some traces of their earlier usage can be found in Modern Wenzhou. While path verbs are rarely used in Modern Wenzhou for physical motion events (the kind of motion events this study focuses on), they do occur in expressions of metaphorical motion events. Take 到 ta^{42} 'arrive', 来 le^{31} 'come', and 过 ku^{42} 'cross; pass' as examples. A search in the WSC yields 22 instances of 到 ta^{42} 'arrive', 10 instances of 来 le^{31} 'come', and seven instances of 过 ku^{42} 'cross; pass' where they are used as verbs, referring to metaphorical motion with inanimate or abstract figures (e. g. seeds, money, electricity, events, and festivals). Three examples are given in (13).

(13) a. 八月十五呢快会到伐。
      $po^{313}\eta y^{212}\text{-}zai^{212}\eta^{24}$ ne $k'a^{42}$ vai^{11} $\boldsymbol{ta^{42}}$ va
      August-fifteen   SMP fast   will   arrive SFP+PF
      'August fifteenth (i. e. The Mid-Autumn Festival) will soon arrive.' (WSC)
   b. 电来伐电来伐。
      di^{11} $\boldsymbol{le^{31}}$ va di^{11} $\boldsymbol{le^{31}}$ va
      electricity come PF   electricity come SFP+PF
      'The electricity came; the electricity came.' (WSC)
   c. 该年耶过一半爻罢。
      ki^{313} ηi^{31} $z\eta^{24}$ $\boldsymbol{ku^{42}}$ $i^{313}\text{-}p\emptyset^{42}$ $\hbar u\jmath^{31}$ ba^{24}
      this   year   again pass one-half PF   SFP+PF
      'Half of this year has passed.' (lit.) 'This year has again passed half.' (WSC)

According to studies on conceptual metaphor (e. g. Lakoff & Johnson 1980) and grammaticalization (e. g. Hopper & Traugott 2003), the directionality of meaning extension via metaphor goes from concrete entities (e. g. space) to more abstract ones (e. g. time), but not the other way around. Examples such as (13) suggest that 到 ta^{42} 'arrive', 来 le^{31} 'come', and 过 ku^{42} 'cross; pass' were probably used as path verbs for motion events in the history of Wenzhou. However, they have grammaticalized and become path satellites in Modern Wenzhou. Furthermore, 到 ta^{42} is no longer used as a path satellite for 'to' at all.

In the rest of this section, I will discuss the grammatical status of the path satellites in (2a) in Modern Wenzhou. Through a synchronic comparison with the path satellites in Modern Standard Mandarin, this study finds that the Wenzhou path satellites are less "verbal", or more grammaticalized, than their counterparts, although all of them were probably verbs in earlier history.

In Standard Mandarin, non-deictic directional complements (i. e. 回 *huí* 'back', 进 *jìn* 'into', 出 *chū* 'out', 过 *guò* 'across', 上 *shàng* 'up', and 下 *xià* 'down') usually require explicitly expressed information about the ground, as in (14a) (cf. Liu 1998; Qi 1998; Lamarre 2008, among others). Therefore, they often take ground NPs as objects (14b), and if the ground NP is unavailable, these motion morphemes require the deictic morphemes 来/去 *lái/qù* 'hither/thither' as their complements (14c), because the deictic meanings of 来/去 *lái/qù* 'hither/thither' provide ground information and thus satisfy this requirement (Lin 2015, Lin 2019). In addition, if both a ground NP and 来/去 *lái/qù* 'hither/thither' are present, the directional complement takes the ground NP as object, followed by the deictic morpheme, as in (14d). But the manner-of-motion verb cannot take the ground NP directly as object (14e).

(14)   Standard Mandarin
    a. ?他跑出了。
       ?tā pǎo chū le
       he   run out SFP+PF
       'He ran out.'
    b. 他跑出大门了。
       tā pǎo chū dàmén le
       he run out gate   SFP+PF
       'He ran out the gate.'
    c. 他跑出来了。
       tā pǎo chū lái   le
       he run out hither SFP+PF
       'He ran out (towards the speaker).'
    d. 他跑出大门来了。
       tā pǎo chū dàmén lái   le
       he run out gate   hither SFP+PF
       'He ran out the gate (towards the speaker).'
    e. *他跑大门出(来)了。
       *tā pǎo dàmén chū (lái)   le
        he run gate   out (hither) SFP+PF

However, the corresponding path satellites in Wenzhou show a different, even opposite, distribution. As shown earlier in (5) and also in (15a) below, these satellites can occur directly after a manner-of-motion verb without any ground NP or deictic morpheme; as a matter of fact, as shown in (15b-d), the satellites have lost their verbal properties and cannot be followed by ground NPs, deictic morphemes, or both. Rather, it is the manner-of-motion morpheme that takes the ground NP (15e). Therefore, when compared with their counterparts in Standard Mandarin, the path satellites in Wenzhou have deverbalized to a greater degree.

(15) a. 渠射出伐。
      gei^{31} zei^{212} $tɕ'y^{313}$ va
      he   run   out   SFP+PF
      'He ran out.'
    b. *渠射出大门伐。
      *gei^{31} zei^{212} $tɕ'y^{313}$ $dɤu^{11}maŋ^{31}$ va
       he   run   out   gate   SFP+PF
    c. *渠射出来伐。
      *gei^{31} zei^{212} $tɕ'y^{313}$ le^{31} va
       he   run   out   hither SFP+PF
    d. *渠射出大门来伐。
      *gei^{31} zei^{212} $tɕ'y^{313}$ $dɤu^{11}maŋ^{31}$ le^{31} va
       he   run   out   gate   hither SFP+PF
    e. 渠射大门出伐。
      gei^{31} zei^{212} $dɤu^{11}maŋ^{31}$ $tɕ'y^{313}$ va
      he   run   gate   out   SFP+PF
      'He ran out the gate.'

The second piece of evidence that the path satellites in Wenzhou are less verbal lies in the fact that all of them can function as the noun object in directional PPs. Specifically, in Wenzhou, all path satellites can directly appear after prepositions such as 望 $muɔ^{11}$ that expresses 'toward', and the combination functions as a PP and occurs in preverbal position to indicate the direction of motion. Conversely, only a few path satellites (回 *huí* 'back', 上 *shàng* 'up', 下 *xià* 'down') in Standard Mandarin display this distribution (cf. Wang & Guo 2013). As shown in (16) and (17), 出 *chū* 'out' and 落 *luò* 'down' exist in both Wenzhou and Standard Mandarin, but it is only in Wenzhou (16) can they occur as the object of the directional preposition.

(16) a. 大家人望出逃爻。
    da^{11}ko^{33}naŋ^{31} **muɔ^{11}** **tɕʰy^{313}** *də^{31}*   *ɦuɔ^{31}*
    everyone   toward out   escape SFP+PF
    'Everyone escaped toward the outside.' (WSC)
  b. 两只手望落挂。
    liɛ^{24} *tsʅ^{35}* *ɕieu^{35}* **muɔ^{11}** **lo^{212}** *ko^{31}*
    two CLF hand toward down hang
    'The two hands hung down.' (WSC)

(17) Standard Mandarin
  a. *往出逃
    wǎng   chū *táo*
     toward out escape
  b. *往落挂
    wǎng   luò *guà*
     toward down hang

There are few studies on the nominal uses of path satellites in Chinese PPs except for Lamarre (2013) and Wang and Guo (2013). Both studies investigate the historical development of the PPs in the form of "preposition + path satellite" and show that it was not until the Qing Dynasty (1644–1911 AD) that such combinations first occurred. Wang and Guo (2013) further point out that these path satellites in PPs are at an early stage of developing the new function as directional nouns. Nonetheless, the fact that all path satellites can occur as prepositional objects in Modern Wenzhou suggests that these satellites have been further deverbalized than their counterparts in Modern Standard Mandarin.[6]

   Table 1 summarizes the functions of path satellites in Wenzhou introduced in this section: when occurring after a motion verb, they function as path satellites ((a) in Table 1); and all of them can act as directional nouns in the object position of PPs ((b) in Table 1).

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6 According to Wang and Guo's (2013: 85) survey of Wenzhou, there is no path satellite that can occur as a prepositional object for 'upside', but in fact as shown in Table 1, 上 *ji^{24}* 'up' and 起 *tsʰʅ^{35}* 'up' can function both as a path satellite and a prepositional object. It is also worth noting that very few Chinese dialects have all path satellites occurring as objects in directional PPs: of the six Chinese dialect groups (27 branches in total) investigated in Wang and Guo (2013: 84–85), only the Dabao dialect of Northwestern Mandarin is found of this category. The other dialect with such path satellites discussed in the literature is Shenmu Jin (Xing 2011).

Table 1: Path satellites in Wenzhou.

Path satellites in Wenzhou	(a) As a path satellite: "V + (ground NP +) path satellite"	(b) As a directional noun in PPs: "P + directional noun + V"
来 *le³¹* 'hither'	射(房间里)来 *zei²¹²* (*ɦuɔ³¹ka³³-lei³³*) *le³¹* run (room-inside) hither 'run (to the inside of the room) toward the deictic center'	望来射 *muɔ¹¹ le³¹ zei²¹²* toward hither run 'run toward the deictic center'
出 *tɕ'y³¹³* 'out'	射(大门)出 *zei²¹²* (*dɤu¹¹maŋ³¹*) *tɕ'y³¹³* run (gate) out 'run out (the gate)'	望出射 *muɔ¹¹ tɕ'y³¹³ zei²¹²* toward out run 'run toward the outside'
去 *k'e⁴²* 'thither'	射(房间里)去 *zei²¹²* (*ɦuɔ³¹ka³³-lei³³*) *k'e⁴²* run (room-inside) thither 'run (to the inside of the room) from the deictic center'	望去射 *muɔ¹¹ k'e⁴² zei²¹²* toward thither run 'run away from the deictic center'
过 *ku⁴²* 'across; past'	射(大门)过 *zei²¹²* (*dɤu¹¹maŋ³¹*) *ku⁴²* run (gate) past 'run past (the gate)'	望过射 *muɔ¹¹ ku⁴² zei²¹²* toward across run 'run toward inside
底 *tei³⁵* 'into'	射(房间里)底 *zei²¹²* (*ɦuɔ³¹ka³³-lei³³*) *tei³⁵* run (room-inside) into 'run into (the room)'	望底射 *muɔ¹¹ tei³⁵ zei²¹²* toward into run 'run toward the inside'
拢 *loŋ²⁴* 'together'	射拢 *zei²¹² loŋ²⁴* run together 'run (and gather) together'	望拢射 *muɔ¹¹ loŋ²⁴ zei²¹²* toward together run 'run toward the center'
上 *ji²⁴* 'up'	射(楼梯)上 *zei²¹²* (*lau³¹t'ei³³*) *ji²⁴* run (stairs) up 'run up (the stairs)'	望上射 *muɔ¹¹ ji²⁴ zei²¹²* toward up run 'run upward'
转 *tɕy³⁵* 'back'	射(房间里)转 *zei²¹²* (*ɦuɔ³¹ka³³-lei³³*) *tɕy³⁵* run (room-inside) back 'run back (to the inside of the room)'	望转射 *muɔ¹¹ tɕy³⁵ zei²¹²* toward back run 'run back'
起 *ts'ŋ³⁵* 'up'	飞起 *fei³³ ts'ŋ³⁵* fly up 'fly up'	望起飞 *muɔ¹¹ ts'ŋ³⁵ fei³³* toward up fly 'fly upward'
开 *k'e³³* 'apart'	射开 *zei²¹² k'e³³* run apart 'run away'	望开射 *muɔ¹¹ k'e³³ zei²¹²* toward apart run 'run away'
落 *lo²¹²* 'down'	射(楼梯)落 *zei²¹²* (*lau³¹t'ei³³*) *lo²¹²* run (stairs) down 'run down (the stairs)'	望落射 *muɔ¹¹ lo²¹² zei²¹²* toward down run 'run downward'

Note that when the path satellite 过 *ku⁴²* 'across; past' occurs as the object in PPs, it denotes 'inside', as the example shown in Table 1. Further study is necessary to identify the reason. Furthermore, the path satellites 拢 *loŋ²⁴* 'together', 起 *ts'ŋ³⁵* 'up', and 开 *k'e³³* 'apart' rarely occur with the presence of a ground NP, so no ground NP is given for the examples in Table 1.

4 Manner-of-motion morphemes in Wenzhou

Manner of motion information in Wenzhou is typically expressed in verb form. Table 2 lists the manner-of-motion verbs identified from the WSC, with their frequencies and percentage given in parentheses.

Table 2: Manner-of-motion verbs in the WSC (type: 35; token: 699).

1	开 $k'e^{33}$ 'drive' (126, 18.0%)	19	溜 $lɤu^{33}$ 'slip' (7, 1.0%)
2	走 $tsau^{35}$ 'walk' (106, 15.2%)	20	步 $bøy^{11}$ 'move by walking' (7, 1.0%)
3	逃 $də^{31}$ 'escape' (69, 9.9%)	21	踨 lai^{11} 'roll' (6, 0.9%)
4	赶 ky^{35} 'rush' (52, 7.4%)	22	漂 $p'iɛ^{35}$ 'float (in water)' (5, 0.7%)
5	射 zei^{212} 'run' (40, 5.7%)	23	推 $t'ai^{33}$ 'float (in water)' (5, 0.7%)
6	乘 $ts'aŋ^{31}$ 'ride (motor vehicle)' (38, 5.4%)	24	钻 $tsø^{11}$ 'squeeze' (4, 0.6%)
7	飞 fei^{33} 'fly' (32, 4.6%)	25	潎 $piɛ^{33}$ '(water) spurt' (4, 0.6%)
8	$suɔ^{31}$ 'walk' (31, 4.4%)	26	溢 $boŋ^{35}$ '(water) overflow' (4, 0.6%)
9	爬 bo^{31} 'climb' (26, 3.7%)	27	旋 jy^{11} 'whirl' (2, 0.3%)
10	撞 $dʑyɔ^{11}$ 'bump' (23, 3.3%)	28	搥 $tɕ'yɔ^{42}$ '(water) collide' (2, 0.3%)
11	泅 $jieu^{31}$ 'swim' (19, 2.7%)	29	浮 $vɔ^{31}$ 'float (in water)' (2, 0.3%)
12	流 $lɤu^{31}$ 'flow' (18, 2.6%)	30	$lø^{33}$ 'walk around' (2, 0.3%)
13	冲 $tɕ'yoŋ^{33}$ 'rush' (11, 1.6%)	31	滴 tei^{42} 'drip' (2, 0.3%)
14	荡 $duɔ^{11}$ 'stroll' (10, 1.4%)	32	围 vu^{31} 'surround' (2, 0.3%)
15	勫 $koŋ^{42}$ 'rush by force' (9, 1.3%)	33	跑步 $p'uɔ^{35}bøy^{11}$ 'jog' (1, 0.1%)
16	碰 $biɛ^{31}$ 'stride' (8, 1.4%)	34	飘 $p'iɛ^{33}$ 'float (in air)' (1, 0.1%)
17	跳 $t'iɛ^{42}$ 'jump' (7, 1.0%)	35	闯 $tɕ'yɔ^{35}$ 'rush' (1, 0.1%)
18	游(泳) $jiau^{31}(yoŋ^{35})$ 'swim' (7, 1.0%)		

These morphemes can occur as the only main verbs in a clause, thus behaving as verbs, e. g. 射 zei^{212} 'run', 飞 fei^{33} 'fly', and 逃 $də^{31}$ 'escape' in (18).

(18) a. 该个抢包个人呢冇射几徕远。
    ki^{313} kai^{313} $tɕ'i^{35}$ $puɔ^{33}$ gei^{31} $naŋ^{31}$ ne nau^{35} **zei^{212}** ki^{35}-le^{31}
    this CLF rob purse REL person SMP NEG run how-much
    jy^{35}
    far
    'The person who robbed the purse didn't run too far.' (WSC)
  b. 坦克阿会飞啊？
    $t'a^{35}k'e^{313}$ a^{313} vai^{11} **fei^{33}** a
    tank   also can fly Q
    'Tanks can fly too?' (WSC)

c. 伉渠兄弟早早逃爻罢。

k'uɔ⁴² gei³¹ ɕyoŋ³³dei²⁴ tsɿ³⁵-tsɿ³⁵ **dʑ³¹** ɦuɔ³¹ ba

with his brother early-early escape PF SFP+PF

'He and his brother had escaped at a much earlier time.' (WSC)

As shown with some examples (e. g. (7b) and (15e)) in Section 3 and some of the (a) examples in Table 1, a manner-of-motion verb, a ground NP and a path satellite can co-occur and they follow a certain word order, that is, the manner-of-motion verb is followed by the ground NP and then by the path satellite. For convenience, this paper schematizes the sequence as "Vᴍ + NPɢ + Sᴘᴀᴛʜ". The sequence describes 'motion in a manner denoted by the manner-of-motion verb and in a direction denoted by the path satellite with reference to the ground'. For instance, 开温州出 k'e³³ y³³tɕieu³³ tɕ'y³¹³ drive Wenzhou out 'drive out of Wenzhou' expresses a motion event where a figure moves out of Wenzhou in the manner of driving a vehicle.

However, it should be noted that in the absence of a path satellite, a manner-of-motion verb in Wenzhou can take a ground NP only, i. e. "Vᴍ + NPɢ". Furthermore, even though no path satellite or directional PP is explicitly used, "Vᴍ + NPɢ" is understood as 'motion to the ground in a manner denoted by the manner-of-motion verb'. Note that the sequence can only be understood as motion 'to' the ground, but not motion in any other directions, e. g. back from, out of, or across the ground. As shown in (19), although no morpheme expressing direction is present, all examples express motion to the ground. For instance in (19a), 射鸡棚底面 zei²¹² tsɿ³³-poŋ³¹-tei³⁵mai¹¹ run hen-house-inside is understood as directional, referring to motion to the inside of the hen house in a rushing manner.

(19) a. 阿三劲起射鸡棚底面觑一觑。

A³¹³sa³³ tɕiaŋ⁴²ts'ɿ³⁵ **zei²¹² tsɿ³³-poŋ³¹-tei³⁵mai¹¹**

Asa exert.the.utmost.strength run hen-house-inside

ts'ɿ⁴²-i³¹³-ts'ɿ⁴²

look-one-look

'Asa ran with his utmost strength into the hen house to take a look.' (WSC)

b. 该头猫头鹰飞我拉个鸡场里。

ki³¹³ dɣu³¹ muɔ³³dɣu³¹iaŋ³³ **fei³³** ŋ²⁴ la³³ **gei³¹** tsɿ³³-dʑi³¹-lei³³

this CLF owl fly my home POSS chicken-farm-inside

'This owl flew into my chicken farm' (WSC)

c. 渠早早逃广东爻。

gei³¹ tsɿ³⁴-tsɿ³⁴ **dʑ³¹** **kuɔ³⁵toŋ³³** ɦuɔ³¹

he early-early escape Guangdong SFP+PF

'He had escaped to Guangdong at a much earlier time.' (WSC)

The question, then, is where the directional meaning 'to' comes from, given that no directional morpheme is used in the sequence "VM + NPG", and the answer to this question reveals what lexicalization pattern the sequence belongs to.

In fact, the sequence "VM + NPG" with a directional 'to' interpretation, though not common, can also be found in Modern Standard Mandarin as well as in earlier stages of Chinese. For instance, (20a) is an example from late Archaic Chinese, where the verb 奔 *bēn* 'rush', typically used as a manner-of-motion verb, is immediately followed by the ground NP *shān* 'mountain', and the combination denotes a directed motion, i. e. rush to the mountain. Similar examples can be found in Modern Standard Mandarin too, e. g. 飞树上 *fēi shù-shàng* fly tree-upper.part 'fly onto the tree' in (20b). Furthermore, it is observed in Standard Mandarin that manner-of-motion verbs can precede the locative 在 *zài* 'at' PP, i. e. "VM + PLOC + NPG". Despite the fact that neither the manner-of-motion verbs nor the locative PP encode any direction, such a sequence can describe motion events in a 'to' direction, e. g. 飞在墙上 *fēi zài qiáng-shàng* fly at wall-upper.part 'fly onto the wall' in (20c) (see Fan 1982; Liu 2009; Tham 2013; Peck & Lin 2019, among many others for more discussion on the directional interpretation of post-verbal 在 *zài* 'at' PP).

20   a. 白公奔山而缢。
         Bái gōng **bēn shān**   *ér*   *yì*
         lord.Bai **rush mountain** then hang.oneself
         'Lord Bai rushed to the mountain and then hanged himself.' (*Zuozhuan*, late Archaic Chinese, cited from Ma 2008: 29)
      b. 鸡老爱飞树上过夜。
         jī   *lǎo*   *ài*   **fēi shù-shàng**   *guòyè*
         chicken often love **fly tree-upper.part** stay-overnight
         'The chickens love to fly onto trees and stay there overnight.' (http:// iask.sina.com.cn/b/5cCxjVsHYLF.html, accessed 19/01/2016)
      c. 乌鸦又叫了一声......飞在墙上。
         wūyā *yòu*   *jiàole*   *yīshēng* ... **fēi zài qiáng-shàng**
         crow   again call-PERF one sound ... **fly at   wall-upper.part**
         'The crow cawed once more, and flew onto the wall.' (CCL Corpus, cited from Tham 2013: 346 (12))

Furthermore, the sequence "VM + PLOC + NPG" can express directed motion in a variety of other languages, too. For instance, Italian is known to have manner-of-motion verbs (e. g. *correre* 'run' and *volare* 'fly') taking locative PPs and expressing directed motion (Alonge 1997, cited from Levin et al. 2009; Folli & Ramchand 2005); in English, manner-of-motion verbs taking locative PPs

headed by 'in' and 'under' can have a directional interpretation, as in 'John fell in this pool' (Nikitina 2008: 182 (example 10a); Folli & Ramchand 2005). Two explanations have been proposed in the literature for the directional understanding of such sequences. One proposes that the manner-of-motion verbs actually lexicalize both manner and path information rather than manner only; the other proposes that the interpretation of directional motion is due to pragmatics or context. However, the rest of this section will show that neither of these explanations can account for the situation in Wenzhou.

In addition to Talmy's (1985, 2000) two-way classification of motion verbs into manner-of-motion verbs and path verbs, some studies argue that there exists a third type of verb that lexicalizes both manner and path information, and such verbs are found in different languages, e. g. Thai (Zlatev & Yangklang 2004), English (Özçalışkan & Slobin 2000; Hsiao 2009: 53–54; 65), Turkish (Slobin 2004), Spanish (Fábregas 2007), and Italian (Folli & Ramchand 2005). For instance, Slobin (2004: 230) points out that Turkish, as well as the equivalent CLIMB verbs in other verb-framed languages, lexicalizes both manner and path because it denotes "upward motion in a grasping manner". Following Zlatev and Yangklang (2004), this paper terms such verbs as "MP verbs". MP verbs also exist in Chinese, according to studies such as Ma (2008), Hsiao (2009), and Shi (2015). For instance, Ma's (2008) study focuses on earlier stages of Chinese and argues that the so-called manner-of-motion verbs such as 奔 *bēn* 'rush' in (20a) are actually MP verbs when they occur in the sequence "VM + NPG", and thus it is the verbs that give rise to the directed motion interpretation. If MP verbs do exist, then the motion expressions with such verbs denote both manner and path information via verbs, and thus belong to the third type of lexicalization, i. e. "equipollently-framed" (Slobin 2004; Zlatev & Yangklang 2004).

The hypothesis of MP verbs, however, is questioned in recent work by Levin and colleagues (e. g. Levin et al. 2009; Rappaport Hovav & Levin 2010; Levin & Rappaport Hovav 2013, Levin & Rappaport Hovav 2014). According to Levin et al. (2009), a similar phenomenon (i. e. directional interpretation of sequences without directional morphemes, e. g. "VM + PLOC + NPG") is attested in all satellite-framed languages, but these languages are inconsistent in the sets of verbs that can or cannot take directional locative PPs. Similarly, for Ma's (2008) analysis of motion verbs in earlier stages of Chinese, Ma cannot consistently explain when and why a particular motion verb is a pure manner-of-motion verb or an MP verb in each of its uses. As observed in earlier stages of Chinese, the goal preposition 于 *yú* sometimes appears to introduce a goal after a manner-of-motion verb. For example, (21) is from the same text as the example in (20a), but the ground NP is introduced by 于 *yú* rather than directly following the motion verb 奔 *bēn* 'rush'.

According to the MP hypothesis, 奔 *bēn* would be an MP verb in (20a) and a manner-of-motion verb in (21), but such an analysis is neither systematic nor unified.[7]

(21)　单子亡，乙丑，奔于平時。
　　　Dānzi wáng,　yǐchǒu,　bēn　yú　Píngzhì
　　　Danzi　escape　19th.day　rush　to　Pingzhi
　　　'Danzi escaped. He rushed to Pingzhi on the 19th day.' (*Zuozhuan*, late Archaic Chinese)

Alternatively, some studies (e. g. Levin et al. 2009; Rappaport Hovav & Levin 2010; Levin & Rappaport Hovav 2014) propose the hypothesis of a manner/result complementarity. That is, a verb either lexicalizes a manner meaning or a result (including path) meaning in each use, but cannot have both manner and result (path) simultaneously. Consistent with Nikitina's (2008) analysis of English 'in' PPs, Levin et al. (2009) argue that the directional understanding of sequences such as "Vᴍ + Pʟᴏᴄ + NPɢ" is facilitated by pragmatic factors, including the nature of the verb and the ground. For instance, a directional interpretation is more likely to arise when the verb is inherently punctual and tends to result in displacement of the figure (e. g. 'jump') and when the ground is a location with well-defined boundaries (e. g. rooms rather than forests). The pragmatic account is supported by Tham's (2013) corpus study on Modern Standard Mandarin.

　　　However, even though the pragmatic account can explain the directional understanding of the above-mentioned expressions as in English, Standard Mandarin, and the other languages discussed in Levin et al. (2009), it cannot be applied to the Wenzhou cases. In Standard Mandarin, although "Vᴍ + (在 *zài* 'at' +) NPɢ" can have a directional understanding as in (20b-c), it is actually more common to have a goal morpheme (e. g. 到 *dào* 'to') to introduce the ground NP, i. e. "Vᴍ + 到 *dào* 'to' + NPɢ". For instance, according to a search in the assorted subcorpus of the BLCU Chinese Corpus,[8] 飞天上 *fēi tiān-shàng* fly sky-uppper.part ("Vᴍ + NPɢ"), 飞在天上 *fēi zài tiān-shàng* fly at sky-upper.part ("Vᴍ + 在 *zài* 'at' + NPɢ"), and 飞到天上 *fēi dào tiān-shàng* fly to sky-upper.part ("Vᴍ + 到 *dào* 'to' + NPɢ") retrieved 17, 36, and 97 results respectively, where the frequency of the manner-of-motion verb 飞 *fēi* 'fly' taking a goal PP is

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7 Previous studies on the optional use of the preposition 于 *yu* in earlier stages of Chinese (e. g. Fang 2000; Peyraube 2003; Shi 2003; Xu 2006; Lin 2013) have shown that there are various reasons to use or omit 于 *yu*, which thus suggests that Ma's (2008) account is even less convincing.

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approximately six times more than that of taking a goal NP directly.[9] Similar situations can be found in English. Although, in certain contexts, a PP headed by *in* can have a directional interpretation like a PP headed by *into*, it is much less frequently used than the latter (Nikitina 2008).

As shown in Section 3, a path satellite in Wenzhou usually does not take ground NPs as object; if a ground NP occurs after the manner-of-motion verb, the NP is required to occur immediately after the verb. 走 $tsau^{35}$ 'walk', 赶 ky^{35} 'rush', 逃 $d\vartheta^{31}$ 'escape', 开 $k'e^{33}$ 'drive', and 射 zei^{212} 'run' are five frequently used manner-of-motion verbs in the WSC. Table 3 presents the distributions of these five verbs and the co-occurring ground NPs. The corpus data show that the ground NPs generally have only two positions. First, they occur immediately after the manner-of-motion verb, no matter whether the path satellites are present or not, as in (a) in Table 3. Second, they occur in pre-verbal PPs, as in (b) in Table 3. Except for two instances of 赶 ky^{35} 'rush', as in (c) in Table 3, there are no data where a directional morpheme occurs in between the manner-of-motion verb and the ground NP. As for the two exceptional instances, closer examination reveals that both occur in the example 赶到现场 ky^{35} $t\vartheta^{42}$ $ji^{11}dzi^{31}$ rush to scene 'rush to the scene', produced by the same speaker. This expression is very likely influenced by Standard Mandarin because all four informants find it less natural than 赶现场 ky^{35} $ji^{11}dzi^{31}$ rush scene 'rush to the scene'. Therefore,

Table 3: The distribution of ground NPs in motion expressions in the WSC.

Sequences	走 $tsau^{35}$ 'walk'	赶 ky^{35} 'rush'	逃 $d\vartheta^{31}$ 'escape'	开 $k'e^{33}$ 'drive'	射 zei^{212} 'run'	sum
(a) Vм + NPG (+Sᴘᴀᴛʜ)	34	26	11	21	6	98
(b) [Prep + NPG]ᴘᴘ + Vм (+Sᴘᴀᴛʜ)[a]	17	2	5	10	6	40
(c) Vм + Sᴘᴀᴛʜ + NPG	0	2	0	0	0	2

[a] In the WSC, this study only yields three major prepositions for motion events, i. e. 望 $mu\vartheta^{11}$ 'toward', 朝 $dzi\varepsilon^{31}$ 'toward', and 从 $jy\vartheta^{11}$ 'from', and no preposition is found for goal or route. Of these three, 从 $jy\vartheta^{11}$ 'from' can often be omitted when a supporting context is available. Given that Chinese prepositions originated from verbs and often retain some verbal properties (Ma 2002), the small number of prepositions in Wenzhou also suggests that the dialect strongly disfavors verbal morphemes for path information. Due to space limitations, this paper does not discuss prepositions in detail.

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9 The BLCU Chinese Corpus is available at http://bcc.blcu.edu.cn/ (Xun et al. 2016). One of its subcorpora, namely the assorted subcorpus, has one billion Chinese characters, consisting of Modern Mandarin Chinese data from different genres.

unlike Standard Mandarin or English, the sequence of a manner-of-motion verb immediately followed by a ground NP (i. e. "VM + NPG") is a syntactic rule rather than a pragmatic choice in Wenzhou.

The question that remains to be answered is why "VM + NPG" in Wenzhou expresses allative motion, i. e. 'motion to the ground in a manner denoted by the manner-of-motion verb'. As shown in (18), when manner-of-motion verbs occur alone, i. e. without ground NPs, path satellites, or PPs, the motion expressions do not express any direction at all. On the contrary, to encode motion in directions other than 'to', a path satellite or directional PP must be present. As illustrated in the (a) examples in Table 1, path satellites such as 出 $t\varphi'y^{313}$ 'out' and 转 $t\varphi y^{35}$ 'back' need to occur after the ground NP to express outward and backward motion. If path satellites are not used, then a directional PP is required to express the direction of motion, as in (22a). And if the PP is deleted, the sentence no longer expresses any direction, as in (22b).

(22) a. 渠界慢慢尔恁望山里射。
       gei^{31} ka^{42} $ma^{31}ma^{31}zl^{24}$-$na\eta^{313}$ **$mu\upsilon^{11}$** **sa^{33}-lei^{33}** **zei^{212}**
       he   now   slowly-like   toward mountain-inside run
       'He now ran toward the mountain slowly.' (WSC)
   b. 渠界慢慢尔恁射。
       gei^{31} ka^{42} $ma^{31}ma^{31}zl^{24}$-$na\eta^{313}$ **zei^{212}**
       he   now   slowly-like   run
       'He now ran slowly.'

In other words, if a manner-of-motion verb lexicalizes allative motion, it is not allowed to co-occur with path satellites or PPs that denote a direction other than 'to', because the directional meanings of the verb and the path satellites/PPs are semantically incompatible. That is, expressions such as the (a) examples in Table 1 would not be allowed. In this sense, this study argues that the manner-of-motion verbs in Wenzhou do not lexicalize direction; accordingly the directional interpretation of "VM + NPG" cannot be ascribed to the manner-of-motion verbs.

Therefore, alternative explanations are needed for why the sequence of "VM + NPG" in Wenzhou is understood as allative motion. One possible account is that the sequence has gone through a process of constructionalization (Goldberg 1995; Traugott & Trousdale 2013, among others), so that regardless of whether the verb denotes a direction or not, the whole sequence expresses motion to a ground. Furthermore, such constructionalization could be cognitively motivated by goal bias (e. g. Dirven & Vespoor 1998; Stefanowitsch & Rodhe 2004). As will be shown in Section 6, studies have also observed that

some Chinese dialects (e. g. Beijing and some other Mandarin branches) tend not to use a lexical goal marker to introduce goal NPs, and they have explained such a tendency within the framework of grammaticalization (Jiang 2000) or construction grammar (Lamarre 2009). However, for the Wenzhou case, because no historical data are available to show how the sequence emerged, or how the path satellite for 'to' disappeared from the sequence, further study is still needed for answers to the question.

Nonetheless, this section has shown that in Wenzhou, manner-of-motion verbs conflate motion and manner only, and thus the motion expressions headed by these verbs are satellite-framed. Furthermore, as path satellites cannot take ground NPs as object, Wenzhou exhibits a special satellite-framed pattern in that the manner-of-motion verbs have to take ground NPs directly as their objects.

5 The special motion verb 走 *tsau*[35] and the satellite-framed pattern headed by 走 *tsau*[35]

As introduced in Section 4, the WSC retrieved 106 instances of 走 *tsau*[35] as a manner-of-motion verb, i. e. 'walk'. However, there are 1158 additional instances of 走 *tsau*[35] identified as motion verbs in WSC, and in these instances, 走 *tsau*[35] is no longer used as a manner-of-motion verb. Instead, 23 of the examples function as a path verb, meaning 'leave', and 1135 of them as a neutral motion verb, referring to "move".[10] 走 *tsau*[35] is the only motion verb that is found with multiple types of lexicalization in Wenzhou. Furthermore, the frequency of 走 *tsau*[35] as a verb, especially as a neutral motion verb, is much higher than the other motion verbs found in the WSC (the total occurrence of all other manner-of-motion verbs as shown in Table 2 is 699). Therefore, this section will be devoted to 走 *tsau*[35] and the lexicalization features of the motion expressions headed by 走 *tsau*[35].

When 走 *tsau*[35] 'walk' functions as a manner-of-motion verb, it behaves like the other manner-of-motion verbs introduced in Section 4. For instance, it can occur alone (23a), take a ground NP directly (i. e. "走 *tsau*[35] + NPG") and

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10 In the WSC, there are three examples where 走 *tsau*[35] is used as a path satellite (meaning 'away') to manner-of-motion verbs, e. g. 早早逃走 *tss9*[34]-*tss9*[34] *d9*[31] *tsau*[35] early-early escape away 'escaped away at a much earlier time'. It is likely that the satellite 走 *tsau*[35] originated from the path verb 走 *tsau*[35] 'leave'. This paper will not discuss this non-verbal use of 走 *tsau*[35] in detail, given its low frequency.

express an event of walking to the ground (23b), or can occur in the sequence "走 *tsau³⁵* (+NPG) + SPATH" and express an event of walking in the direction denoted by the path satellite, as in (23c-d). For easier reference, this paper will use the term "走 *tsau³⁵*ₘₐₙₙₑᵣ" to refer to the manner-of-motion 走 *tsau³⁵* as in (23).

(23)   a. 你着走痕爻呢, …
          *ŋi²⁴ dʑia²¹² **tsau³⁵** uai³¹ ɦuɔ³¹ ne, ...*
          you if   walk   tired PF   SMP
          'if you are tired after walking...' (WSC)
       b. 另外一个呢走拉旅客边厢。
          *leŋ³¹va¹¹ i³¹³ kai³¹³ ne   **tsau³⁵-la³³** løy²⁴k'a³¹³-pi³³ɕi³³*
          another one CLF SMP walk-PERF tourist-nearby
          'The other [person] walked to the vicinity of the tourist.' (WSC)
       c. 雄鸡啊走出。
          *jyoŋ³¹tsɿ³³ a⁴²   **tsau³⁵** tɕ'y³¹³*
          rooster   also walk   out
          'The rooster also walked out.' (WSC)
       d. 个姆姆呢佗起不倒翁就走边厢过。
          *kai³¹³ mai³³mai³³ ne   dɤu³¹-ts'ɿ³⁵ pai³¹³də³¹³oŋ³³ jieu¹¹ **tsau³⁵***
          CLF child   SMP carry-up   roly.poly   then walk
          pi³³ɕi³³ ku⁴²
          nearby past
          'The child carried the roly-poly up and walked past (a place) from the side.' (WSC)

Another use of the motion verb 走 *tsau³⁵* is for the expression of directed motion 'leave'. For instance, the two sentences in (24) do not use directional complements, directional PPs, or ground NPs, but both express motion away from the ground. Such instances of 走 *tsau³⁵* are path verbs and are referred to as 走 *tsau³⁵*ₚₐₜₕ in this paper.

(24)   a. 乘车个人哪宿交警队门口打地铺，赖搭不走。
          ts'aŋ³¹ ts'o³³ gei³¹ naŋ³¹ na²⁴ ɕyo³¹³ kuɔ³³tɕiaŋ⁴²dai¹¹ maŋ³¹k'au³⁵
          ride bus REL person SMP at   traffic.office   doorway
          *tiɛ³⁵dei¹¹p'øy⁴², la¹¹   ta³¹³ fu³⁵ **tsau³⁵***
          sleep.on.the.floor hang.on there NEG leave
          'The bus passengers slept on the floor at the doorway of the traffic office team; [they] hung on there and did not leave.' (WSC)

b. 我俙走能界房东呢还在搭伉阿三呢商量。

$\eta^{24}le^{31}$ ***tsau³⁵*** $na\eta^{31}ka^{42}$ $\hbar u\mathfrak{o}^{31}do\eta^{33}$ ne
we   leave when   landlord   SMP
va^{31} $z\eta^{24}ta^{313}$ $k'u\mathfrak{o}^{42}$ $A^{313}sa^{33}$ ne $\mathfrak{c}i^{33}li^{31}$
still PROG   with   Asa   SMP discuss
'At the time when we left, the landlord was still discussing (the matter) with Asa.' (WSC)

走 *tsau³⁵* in Wenzhou shares similarities with its counterpart 走 *zǒu* in Standard Mandarin in that both can function as a manner-of-motion verb denoting 'walk' and as a path verb denoting 'leave'. However, Wenzhou significantly differs from Standard Mandarin in that the most important function of 走 *tsau³⁵* is as a neutral motion verb that does not denote any manner or path information, but only motion.

Three examples are given in (25). In (25a), after hearing from the listener who was located in Canada that it was not easy to secure a job there, the speaker asked whether it is easier to get a job if the listener moves to the United States. In this case, even though walking is obviously not the primary mode of motion for moving from Canada to the United States, 走 *tsau³⁵* is used as the main verb in the clause. Examples can also be found where 走 *tsau³⁵* is modified by manner adjuncts such as 踏脚车 *da²¹² tɕ'ia³¹³ts'o³³* ride bike 'ride a bike' as in (25b). The compatibility of the adjunct and the verb 走 *tsau³⁵* shows that 走 *tsau³⁵* has lost its manner component, because it is impossible for a figure to move in two manners simultaneously, i. e. walking and riding a bike. Similarly, 走 *tsau³⁵* in (25c) does not encode 'walk' because the figure is moving by driving a vehicle.

(25) a. 走美国好寻来啊不？

tsau³⁵ ***mei²⁴kai⁴²*** $\hbar \vartheta^{35}$ $za\eta^{31}$ le^{31} a^{42} fu^{35}
move United.States easy look.for COMP SFP NEG
'Is it easier or not to look for (a job) if you move to the United States?' (WSC)

b. 踏脚车走尼泊尔去。

da²¹² ***tɕ'ia³¹³ts'o³³*** ***tsau³⁵*** $\eta i^{24}ba^{42}z\eta^{24}$ $k'e^{42}$
ride bike   move Nepal   thither
'go to Nepal by riding a bike' (WSC)

c. 阿三开车呢称称惂会走市会展旁面过个。

$A^{313}sa^{33}$ $k'e^{33}$-$ts'o^{33}$ ne $ts'e\eta^{33}ts'e\eta^{33}$-$na\eta^{313}$
Asa   drive-car SMP often-like
vai^{11} ***tsau³⁵*** $z\eta^{24}$ $vai^{11}tɕi^{42}$-$bu\mathfrak{o}^{31}mai^{11}$ ku^{42} kei^{313}
will move city convention-nearby   past SFP
'[When] Asa drives, [he] often goes past the city Convention (Center).' (WSC)

Therefore, the manner ('walk') component of 走 *tsau³⁵* in (25) is no longer salient, or has even been lost in most contexts. On the other hand, 走 *tsau³⁵* in (25) does not refer to 'leave' either, as neither sentence has an interpretation of motion in a direction of 'away'. In this sense, 走 *tsau³⁵* in (25) is only left with the meaning 'move', and is thus neutral in terms of manner and path. This neutralized verbal 走 *tsau³⁵* is referred to as 走 *tsau³⁵*~neutral~ in this paper.[11]

Note that in German, the verb *gehen* also has multiple functions. According to Di Meola (2003), in addition to functioning as a deictic verb describing motion away from the deictic center (i. e. deictic 'go'), *gehen* can also mean 'move on foot' or non-deictic 'go' (i. e. motion toward a goal with an intention of performing the normal activity associated with the goal). For instance, in the sentence *Sie ging in die Oper* 'She walked to the opera/She went to the opera (and saw a performance there)', *gehen* (*ging* as its simple past tense form) can be understood either as 'walk' or non-deictic 'go' (Di Meola 2003: 44).[12] In (25a), 走 *tsau³⁵*~neutral~ is immediately followed by a ground NP and the sequence describes 'motion to the ground', so it seems that 走 *tsau³⁵* in (25a) could be understood as 'move to' or non-deictic 'go' in the same way with German *gehen*. However, this paper argues that 走 *tsau³⁵* ~neutral~ denotes 'move' only, but not 'move to': like 走 *tsau³⁵*~manner~ and all other manner-of-motion verbs, when 走 *tsau³⁵*~neutral~ does not occur with any ground NPs, path satellites, or directional PPs, or when there is no supporting context, the motion expression it heads does not express any direction. For instance, in (26), when 走 *tsau³⁵*~neutral~ is modified by a non-directional locative PP, the motion it denotes is not directional, which indicates that 走 *tsau³⁵*~neutral~ by itself is non-directional.

(26)　称阿在外角走喏，应该有个碰着喏。

　　　ts'eŋ³³　a³³　zɿ²⁴　va¹¹ko³¹³　tsau³⁵　no　iaŋ⁴²ke²¹²　jiau²⁴　kai³¹³　p'oŋ³¹dʑia²¹²
　　　often　SMP　at　outside　move　SFP　should　have　CLF　meet

　　　no
　　　SFP

　　　'[You] travel around very often; [you] should have met one (boyfriend).' (WSC)

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11 Liu (2003: 277) points out that 走 *tsau³⁵*~neutral~ in Wenzhou has grammaticalized into a goal marker, and thus exhibits the same distribution with prepositions such as 望 *muɔ¹¹* 'toward' in other branches of Wu. According to Liu's analysis, in (25c), the directional morpheme 过 *ku* 'across; past' is the main verb, "走 *tsau³⁵* + NP~G~" is a PP, and the motion expression is verb-framed. However, such an analysis is untenable: it is 走 *tsau³⁵*~neutral~, but not 过 *ku⁴²*, that functions as the verb in motion expressions such as (25c), because the perfective marker 拉 *la³³* can only be suffixed to 走 *tsau³⁵* rather than the directional morpheme 过 *ku⁴²*.

12 A reviewer points out that the semantic bleaching of 'walk' to 'move' seems common, at least in European languages (e. g. Swedish *gå* and French *aller*). These examples further suggest that such a semantic bleaching is frequent for manner-of-motion verbs. Due to space limitations, this paper does not discuss these examples in detail.

Furthermore, as shown in Section 4, when manner-of-motion verbs are involved in expression of directed motion events, the sequence "V$_M$ + NP$_G$ + S$_{PATH}$" is used for 'motion in a direction denoted by the path satellite with reference to the ground and in a manner denoted by the manner-of-motion verb', and the sequence "V$_M$ + NP$_G$" is understood as 'motion to the ground in a manner denoted by the manner-of-motion verb', where the manner-of-motion verb denotes manner information only. A closer examination of 走 $tsau^{35}$$_{neutral}$ shows that its distribution is similar to that of the manner-of-motion verbs in Wenzhou. Specifically, to describe motion with regard to a ground in a direction other than 'to', "走 $tsau^{35}$$_{neutral}$ + NP$_G$ + S$_{PATH}$" is preferred, as in (25b-c). On the other hand, to describe motion to a ground, "走 $tsau^{35}$$_{neutral}$ + NP$_G$" is used, as in (25a). Therefore, to analyze 走 $tsau^{35}$$_{neutral}$ as 'move' rather than 'move to' also yields a more consistent description of the motion verbs and motion expressions in Wenzhou. Table 4 summarizes the three meanings of the motion verb 走 $tsau^{35}$ in Wenzhou.

Table 4: The motion verb 走 $tsau^{35}$ in the WSC.

走 $tsau^{35}$	Meaning	Frequency
走 $tsau^{35}$$_{manner}$	'walk'	106 (8.4%)
走 $tsau^{35}$$_{path}$	'leave'	23 (1.8%)
走 $tsau^{35}$$_{neutral}$	'move'	1,135 (89.8%)

In terms of the typology of event integration, the motion expressions headed by 走 $tsau^{35}$$_{manner}$ are satellite-framed, whereas those headed by 走 $tsau^{35}$$_{path}$ are verb-framed. However, given its low frequency count (1.8%), the latter is not a preferred way of encoding motion events.

As for the motion expressions headed by 走 $tsau^{35}$$_{neutral}$, e. g. "走 $tsau^{35}$$_{neutral}$ (+NP$_G$) + S$_{PATH}$" or "走 $tsau^{35}$$_{neutral}$ + NP$_G$", even though 走 $tsau^{35}$$_{neutral}$ 'move' does not encode any manner information, these expressions are considered satellite-framed because the path information is encoded in the satellites to verbs instead of verbs. Note that according to some previous studies, such expressions may be captured by the notion of "equipollently-framed" proposed in Slobin (2004), where the path and manner information are expressed by forms of equivalent grammatical status (in the case of Wenzhou, both path and manner are expressed by non-verbal elements). However, "the equipollently-framed pattern" is a broad term as languages that fall into this category show significant variation regarding how the main verb and the satellites encode

motion information. The motion expressions headed by 走 *tsau*^{35}$_{neutral}$ in Wenzhou do not resemble any of the three typical equipollently-framed patterns observed in Slobin (2004): (a) manner verb + path verb as in serial-verb languages such as Niger-Cango and Sino-Tibetan; (b) MP verb as in bipartite verb languages such as Athabaskan and Hokan; and (c) manner preverb + path preverb as in Jaminjungan languages. More importantly, a closer examination of the 1,135 motion expressions headed by 走 *tsau*^{35}$_{neutral}$ finds that 1,121 (98.8%) of them do not explicitly express any manner information, and thus cannot be categorized as equipollently-framed. In this sense, this paper follows Talmy's (2000) criteria and treats the motion expressions headed by 走 *tsau*^{35}$_{neutral}$ as "satellite-framed" given that path is encoded in satellites, despite the fact that manner information is not expressed via verbs either and thus differs from the pattern that is more commonly seen in satellite-framed languages (i. e. manner in verbs and path in satellites).

Motion expressions headed by a neutral motion verb can also be found in other languages, e. g. *move to the classroom* in English (a primarily satellite-framed language) and *kyoshitsu-ni ido-suru* classroom-to move 'move to the classroom' in Japanese (a primarily verb-framed language). According to Talmy (2000: 284), a satellite-framed language is rather expected to develop such a special kind of lexicalization pattern: when information of the co-event is not pertinent or necessary in communication, a neutral verb (or a "generic", "dummy" verb in Talmy's terms) is adopted in order to maintain the satellite-framed pattern syntactically. However, the case in Wenzhou is especially noteworthy in that motion expressions headed by 走 *tsau*^{35}$_{neutral}$ has become the major pattern of all possible lexicalization patterns identified in the dialect. As shown in Table 4, 走 *tsau*^{35}$_{neutral}$ (1135 instances) is about ten times more frequent than 走 *tsau*^{35}$_{manner}$ (106 instances) and 50 times more than 走 *tsau*^{35}$_{path}$ (23 instances). Furthermore, compared with the manner-of-motion verbs in Table 2, the frequency of 走 *tsau*^{35}$_{neutral}$ is much higher (about 1.6 times) than the total of all other manner-of-motion verbs (699 instances).

6 Typological shift in Chinese: A cross-dialectal comparison

As introduced in Section 1, according to the studies by Chen and Guo (2009) and Shi and Wu (2014), the percentage of motion expressions that consist only of path verbs decreased from 74.53% in Old Chinese to 22.89% in Modern Standard Mandarin. Table 5 presents the frequencies of the lexicalization patterns exhibited by the motion expressions in Wenzhou. While Chinese in general has

Table 5: Lexicalization patterns in Wenzhou in the WSC.

Lexicalization pattern	Verb-framed	Satellite-framed		Sum (%)
		Headed by manner-of-motion verbs	Headed by the neutral motion verb 走 *tsau35* 'move'	
Frequency (%)	124 (6.3%)	699 (35.7%)	1,135 (58.0%)	1,958 (100%)

exhibited a tendency towards abandoning verbs for expressing path information and become more satellite-framed, Table 5 suggests that Wenzhou has undergone a more dramatic typological shift. The verb-framed pattern (6.3%) in Wenzhou is much less frequent than that in Standard Mandarin; on the other hand, with 93.7% of the motion expressions being satellite-framed, Wenzhou is much closer to the pole of the satellite-framed pattern than Standard Mandarin is. Furthermore, Wenzhou exhibits the special feature that the satellite-framed pattern headed by a neutral motion becomes the major pattern.

In the rest of this section, I will extend the comparison of Wenzhou to other branches of Wu and other Chinese dialects discussed in the literature, and will further show that Wenzhou has gone the furthest in abandoning the verb-framed pattern for motion events.

Table 6 is a summary of how path information can be encoded in Wenzhou and other dialects. It first suggests that while path information typically can only be encoded by satellites in Wenzhou, it can be expressed by both verbs and satellites in all other Chinese dialects described in the literature, e. g. Hong Kong Hakka, Hong Kong Cantonese, and Xiamen Min (Yiu 2014), Guanzhong Mandarin (Tang & Lamarre 2007), and Shenmu Jin (Xing 2011). Furthermore, even for all other branches of Wu, e. g. Changzhou, Suzhou (Liu 2001b, Liu 2003) and Shanghai (Liu 2001b, Liu 2003; Yiu 2014), path verbs are commonly used, including deictic verbs expressing 'come' and 'go'.

In addition, when functioning as a path satellite, no path morpheme in Wenzhou can take ground NPs directly as objects, or deictic morphemes as complements, or both. While the path satellites in some of the Wu branches and Chinese dialects also exhibit the tendency of not taking ground NPs, they retain some verbal properties. For instance, path satellites such as 到 *dào* 'to' and 进 *jìn* 'into' in the other branches of Wu allow ground NPs as their objects (Liu 2003), the path satellites in Guanzhong Mandarin can be followed by deictic complements (Tang 2008), and Shenmu Jin allows the occurrence of both a ground NP and a deictic complement after a path satellite (Xing 2011).

Table 6: The encoding of path information in Wenzhou and other Chinese dialects.

Dialect group	Branches	Path morphemes as verbs	Path morphemes as satellites (complements)		
			$V + S_{PATH} + NP_G$	$V + S_{PATH} + NP_G + S_{DEICTIC}$	$V + S_{PATH} + S_{DEICTIC}$
Wu	Wenzhou	No (except for very few for vertical motion)	No	No	No
	Other branches, e. g. Changzhou, Suzhou, Shanghai (Liu 2001b, Liu 2003; Yiu 2014)	Yes	No (except for very few path satellites such as 到 dào 'to')	No (except for very few path satellites such as 到 dào 'to')	Yes
Min	Xiamen (Yiu 2014)	Yes	Yes	No	Yes
Hakka	Hong Kong (Yiu 2014)	Yes	Yes	Yes	Yes
Cantonese	Hong Kong (Yiu 2014)	Yes	Yes	No	Yes
Mandarin	Guanzhong (Tang & Lamarre 2007; Tang 2008)	Yes	No	No	Yes
Jin	Shenmu (Xing 2011)	Yes (some with restricted verbal uses)	No	Yes	Yes

As stated in Section 4, motion verbs in Wenzhou, including manner-of-motion verbs, take a ground NP as object directly: no path satellite is used if the motion is in a 'to' direction, i. e. "V + NPG"; a path satellite is used but can only appear after the ground NP if the motion is in a direction other than 'to', i. e. "V + NPG + SPATH". As shown in Table 6 too, in some Chinese dialects (e. g. Guanzhong Mandarin and Shenmu Jin), path satellites do not tend to take ground NPs directly. Furthermore, it has been observed in other Chinese dialects that path satellites are not preferred in introducing ground NPs, especially goal NPs. According to Lamarre (2009), different dialects adopt different ways of introducing goal NPs. For instance, Beijing Mandarin can either use a zero form (like Wenzhou), or the marker 的 *de*, which actually does not bear any motion or directional meaning, between a motion verb and a goal NP, i. e. "V + goal NP" or "V + 的 *de* + goal NP" (also see Xu 1994; Jiang 2000, among others); some Mandarin branches in north China such as Hebei, Henan, Shandong, Shanxi, and Shaanxi provinces do not use goal markers either, but the motion verbs undergo some phonological changes (e. g. stress or lengthening) when occurring directly before the ground NP. On the contrary, the southern Chinese dialects tend to use goal markers that retain more lexical meanings (Lamarre 2009). For instance, Wu and Xiang use complements such as 到 *dào* 'to' and 着 *zhe* 'to', and Cantonese can even adopt directional complements such as 上 *seung^6* 'ascend, up', 来 *loi^4* 'come, hither', and 上来 *seung^6-loi^4* 'up to the deictic center' for goal NPs. Lamarre (2009) points out that the use of goal markers suggests two parallel continua, that is, for dialects ranging from the south to the north of China, the lexical/grammatical status of goal markers in these dialects ranges from being more lexical to more grammaticalized (and even a zero form).

However, Wenzhou again exhibits as an exception to the continua. While other branches of Wu have to use a more lexical path satellite (e. g. 到 *dào* or 勒 *lè*) as a goal marker (Liu 2001b, Liu 2003), Wenzhou does not allow any of these markers. Furthermore, Wenzhou only uses a zero form and its motion verbs do not undergo any phonological changes, which thus suggests that it has gone even further than all branches of Mandarin discussed in Lamarre (2009).

Given that Chinese in general is shifting from being a predominantly verb-framed language to a satellite-framed language, it is expected that the Chinese dialects that retain features of earlier stages of Chinese may be relatively more verb-framed. For instance, according to Yiu (2013: 551), Cantonese "has progressed slower than Mandarin in becoming a satellite-framed language". In addition, Yiu (2014) finds that Wu (Shanghai) behaves more like a satellite-framed language than Modern Mandarin (Taiwan), Hakka (Hong Kong), Cantonese (Hong Kong), and Min (Xiamen). However, this study has shown

that if we further examine the internal variation of the Wu branches and even other Chinese dialects in the literature, even though Wenzhou is another dialect that preserves much of the linguistic properties of earlier stages of Chinese according to studies such as You (1981) and Zhengzhang (2008), it has shifted the most to the satellite-framed pattern.

7 Conclusion

This study has demonstrated that the Chinese dialect Wenzhou exhibits some special features in terms of lexicalization of motion events. First, given its extremely small number of path verbs, Wenzhou is most unlikely to be a verb-framed language, whereas other so-called satellite-framed languages usually still have motion expressions headed by a number of path verbs. Second, Wenzhou strongly disfavors verb forms for the expression of path information, so that the path satellites are much more deverbalized than their counterparts in Standard Mandarin and other Chinese dialects. Third, while Wenzhou is domi-nantly satellite-framed, it represents a special case of satellite-frame language in two aspects: (a) the manner-of-motion verbs have to take ground NPs directly as their objects because the path satellites in Wenzhou cannot do so; (b) in order to encode path information in satellites, or in other words, in order to maintain the satellite-framed pattern syntactically, Wenzhou adopts the neutral motion verb 走 $tsau^{35}$ 'move' to head motion expressions and this pattern has become the major pattern in the dialect. In this sense, Wenzhou represents a more extreme case in shifting to a more thoroughly satellite-framed language, even though due to lack of historical data, it is yet unclear when, how, and why the shift happened. In any case, the situation of Wenzhou may add to the literature on the language-specific and cross-linguistic study of the variation and diversity languages exhibit in encoding motion events.

Abbreviations: CLF = classifier; COMP = comparative marker; NEG = negative marker; NP = noun phrase; P = preposition; SFP = sentence-final particle; SMP = sentence-medial particle; PP = preposition phrase; PERF = perfective marker; PF = perfect marker; POSS = possessive marker; PROG = progressive marker; Q = question marker; REL = relative clause marker; V = verb; WSC = Wenzhou Spoken Corpus.

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