

An Investigation on How-Why Alternation in Nanchang Dialect From the cross-dialect comparison perspective

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Received June 2013; revised August 2013

ABSTRACT. *The how-why alternation system in Nanchang Dialect has several characteristics of its own. Based on the lexical structure theory, through comparing with the dim 'how' wh-words family in Cantonese and zen 'how' wh-words family in Mandarin Chinese, this paper would describe the syntactic features in the how-why alternation process of the lang 'how' wh words family in Nanchang Dialect, and try to explain the characteristics of the lang wh-words family.*

Keywords: Nanchang Dialect; wh-word, cause; manner; lexical structure

1. **Introduction.** Tsai (1999, 2005) indicates that there exists a common phenomenon in languages, that is the manner *how* can be used to ask causes under certain contexts, which is referred as how-why alternation. In Mandarin Chinese, the how-why alternation is demonstrated as adjuncts adjoining to VP or IP. The manner *how* is the adjunct of VP, while the causal *how* is the adjunct of IP. When the manner *how* is located preceding constituents such as modal auxiliaries, quantificational/temporal/spatial adverbials, negatives, aspectual particles and *zheme* 'so', it alternates into a causal *how*. Tang (2009) conducted a detailed study of the hows and whys in Cantonese, the *dim* wh-word family, and he found out *dim*, the manner how in Cantonese could also be used as a causal how in certain circumstances, which is different from those of the Mandarin Chinese manner how *zenme* in how-why alternation. Based on Di Sciullo (2005)'s lexical structure model (relevant details below), he further convinced that if the restrictor of a wh-word is null in its lexical structure, then the wh-word needs to be licensed syntactically. However, according to our observation, when it comes to *lang*, the manner how in Nanchang Dialect, a different picture shows up. After a painstaking investigation of wh-words in Nanchang Dialect and a comparison between the how-why alternation among Nanchang Dialect, Cantonese and Mandarin Chinese, in this paper we would try to solve the paradox between the lexical

structure model of wh-words and the how-why alternation in Nanchang Dialect.

2. **The hows and whys in Nanchang Dialect.** There are three wh-words asking causes in Nanchang Dialect: *lang*, *zuxili* and *weixili* (see Zhang (2007)). *lang* behaves as the manner *how*, and can be used as causal *how* in certain conditions. When *yang* is added after *lang*, *langyang* is also a wh-word, but can only behaves as manner *how*. *zuxili* and *weixili* are the whys in Nanchang Dialect. Now we would describe the usage of *lang*, *zuxili* and *weixili* respectively as the foundation of further discussions.

lang is a frequently used wh-word in Nanchang Dialect, it can behave as manner *how*, like (1)-(2); or causal *how*, like (3)-(4). It also can be used to ask the situation of an event, like (5). We would focus on the manner how and causal how functions, other functions such as the situational usage are not involved.

- (1) *Nen xi lang howei go?*
You is how learn Particle
'How do you learn it?'
- (2) *Jitan lang mai?*
Egg how sell
'How much are the eggs?'
- (3) *Nen jinni lang go gaoxing?*
You today how so happy
'How come are you so happy today?'
- (4) *Qie lang wei xiaode li?*
He how would know Particle
'How come would he know it?'
- (5) *Go daodi xi lang fui si yo?*
This on earth is how Cl thing Particle
'How on earth is this thing?'

As the causal *how*, *lang* can be construed into the construction “Subj+*lang*+VP+*xi lang go*” to express the meaning of emphasis. In the first part of this construction, “Subj+*lang*+VP” states the situation, like “how come are you not afraid of being beat” in (6), the *lang* is a causal *how*, and the second part of this construction “*xi lang go*” is the ellipsis of “*go xi lang go*”, here the *lang* is used as situational.

- (6) *Nen lang da bu pa xi lang go?*
You how beat not afraid is how Particle
'How come are you not afraid to be beat, and how is this?'
- (7) *Nen lang go do wafa xi lang go?*
You how so many arguments is how Particle
'How come do you have so many arguments, and how is this?'

When *lang* merges with a mood particle, it can form a clause independently, to ask causes or the ins and outs of an event, equaling to why, showing in (8) and (9). Unlike in

Mandarin Chinese, *zenmeyang*, rather than *zenme*, can form a clause independently, and *ne*, the mood particle is optional. Compared with *zenmeyang*, *lang* obligatorily needs a mood particle to make a well-formed clause.

(8) A: *Yaobu nen qiu bao go za suanliao.*

Otherwise you just enroll this Cl Particle

'Otherwise you should just enroll this one.'

B: *lang li? (Compare *lang?)*

*How Particle (Compare *how?)*

'Why?'

A: *Go za bao go nin sao, yao hao kao diazi ma!*

This Cl enroll DE people few, thus easy pass little particle

'The enroll number of this one is small, thus it would be a little easier to pass.'

(9) A: *Qie conl yi ya dou mao fuilai.*

He yesterday a night all not come back

'He did not come back all the night yesterday.'

B: *Lang li? (Compare *lang?)*

*How Particle (Compare *how?)*

'Why?'

Lang can combine with *yang* to form another wh-word *langyang*, but *langyang* can only be used as the manner how, like (10)-(12); not as the causal how, like (13).¹

(10) *Go za cai langyang long?*

This Cl dish how cook

'How do you cook this dish?'

(11) *Zigan bu yonggong, laoxi langyang gao dou mao youyong.*

Self not work hard teacher how teach all not use

'If you do not work hard by yourself, it is useless no matter how the teacher teaches.'

¹ Except from behaving as manner how, *langyang* can also be used to ask properties such as (i) and (ii). This wh-word can independently form a clause optionally with a mood particle to ask for other's opinions, like (iii) and (iv).

(i) *Langyang go ca pao chulai bu ku?*

How DE tea steep out not bitter

'What kind of tea is not bitter after steeped?'

(ii) *Nen wuli go fa zang de langyang?*

You house DE flower grow DE how

'How are the flowers growing in your house?'

(iii) *Jinni loxue le, qiu buyao cumen qie nie le, langyang?*

Today snow Asp, thus don't go out to play Particle, how

'Today it snows, thus don't go out to play, how is it?'

(iv) *Ngo to le ti, nen jiu qie xi wan, langyang li?*

I clean Asp floor, you just go wash dish, how Particle

'I cleaned the floor, you just go to wash the dishes, how is it?'

- (12) *Nen xiong langyang wu jiu langyang wu.*²
You want how do then how do
'You can do whatever as you want.'
- (13) **Qie langyang wei pao dao nen wuli qie?*
He how would run to your house go?
'How come would he run to your house?'

In addition, the other two whys in Nanchang Dialect are *zuxili* and *weixili* where *xili* itself is a wh-word corresponding to what. These two whys in Nanchang Dialect can be construed to ask cause, reason or purpose. *weixili* is always used at the beginning of the clause, like (14) or between subject and predicate, like (15). *zuxili* can be the predicate of a clause, like (16) or the consequent of the serial verb construction, like (17). Generally speaking, *weixili* is usually used preceding predicate and subject while *zuxili* mostly used after predicate and object. In (14) and (15) but not in (16) and (17), *weixili* can be replaced with *zuxili*.

- (14) *Qie dou koyi qie, weixili (zuxili) ngo jiu bu koyi qie?*
He even can go, why (why) I just not can go
'Even he can go, why cannot I?'
- (15) *Sixian nen weixili (zuxili) bu wa li?*
In advance you why (why) not say Particle
'Why don't you say in advance?'
- (16) *You bu xi nen go si, nen gome cogie zuxili/*weixili?*
again not is you DE matter, you so worry why
'It is not your matter, why are you so worried?'
- (17) *Siqin dou guo le go jiu, hai ti qie zuxili /*weixili?*
Matter all go Asp so long, still mention it why
'The matter has gone for so long, why do you still mention it?'

Note that the *zuxili* asking for cause or purpose is different from the *zuxili* asking for status (18). In (18), *zu* is a notional verb here, and *zu xili* is a verb-object construction, similar to “do what”. If we need to answer the question in (18), we can reply by saying “I am watching TV” or something else. But in (16)-(17), the lexical meaning of *zu* in *zuxili* is not as concrete as in (18). Here *zuxili* has lexicalized. We can answer (16)-(17) only by explaining the cause of “being worried” and “mention the matter”, and *zuxili* in (16)-(17) is the further evolution of that in (18).³

² (12) is referred as donkey sentences in previous studies, and would not be put into discussion in this paper.

³ The two functions of *zuxili* are similar to *weishenme* in Mandarin Chinese, when asking purposes after modals, *weishenme* behaves more like a phrase and can be substituted by *wei le shenme*; when asking causes before modals, *weishenme* is a word. Please compare (i) with (ii), relevant studies please refer to Tsai (2007).

(i) Ni (hui) wei (le) shenme qu meiguo?
 You (would) for what go America
 'For what would you go to America?'

(ii) Ni weishenme (hui) qu meiguo?
 You why would go America
 'Why would you go to America?'

- (18) *Nen zai eli zu xili?*
You at there do what
'What are you doing at there?'

All in all, in Nanchang Dialect, the causal how *lang*, and the whys *weixili* and *zuxili* distribute differently in semantics. *weixili* interprets a kind of objective cause-effect relations, while *lang* and *zuxili* express psychologically affecting relations.

- (19) *Tiankong weixili xi lanse lo?*
Sky why is blue Particle
'Why is the sky blue?'
- (20) *Tiankong lang xi lanse lo?*
Sky how is blue Particle
'How come is the sky blue?'
- (21) *Tiankong zuxili xi lanse lo?*
Sky why is blue Particle
'Why is the sky blue?'
- (22) *Yi ga yi weixili dengyu a?*
One plus one why equal two
'Why does one plus one equal two?'
- (23) *Yi ga yi lang dengyu a?*
One plus one how equal two
'How come does one plus one equal two?'
- (24) *Yi ga yi zuxili dengyu a?*
One plus one why equal two
'Why does one plus one equal two?'

(19) and (22) convey something objectively. The speaker would like to know the real scientific reason why the sky is blue or one plus one equals two when he is asking such questions. Meanwhile, in (20)-(21) and (23)-(24), the speaker tends to have presuppositions in his mind as though sky is not supposed to be blue or one plus one is not supposed to equal two.

3. How-why alternation: comparison in Nanchang Dialect, Mandarin Chinese and Cantonese. Tsai (2005) points out how-why alternation is widespread in language usage, that is to say, the manner how could change into causal how in certain conditions. According to Shao (1996), Tsai (2000, 2007), in Mandarin Chinese, causal how appears preceding modal verbs (25), quantificational/temporal/spatial adverbials (26)-(27), negatives (28), aspectual particles (29), *zheme* 'so' (30), etc.

- (25) *Ta zenme hui/keyi/nenggou likai?*
He how would/could/can leave
'How would/could/can he leave?'
- (26) *Ta zenme zongshi/changchang/henshao xi che?*

- He how always/often/rarely clean car*
 ‘How come does he always/often/rarely clean the car?’
 (27) *Ta zenme zhege shihou/zai zheli xi che?*
He how this time/at here clean car
 ‘How come does he clean the car at this time/at here?’
 (28) *Ta zenme bu/mei xi che?*
He how not/not clean car
 ‘How come does not he clean the car?’
 (29) *Ta zenme ku le?*
He how cry Asp
 ‘How has he cried?’
 (30) *Ta zenme zheme congming?*
He how so clever
 ‘How come is he so clever?’

Tang (2009) reveals if the manner how *dim* in Cantonese is used as causal how, it can only appear preceding modal verbs like (31), other conditions are unacceptable, hence (32)-(36) are ungrammatical.

- (31) *Keoi dim wui/hoji/nanggau zau?*
He how would/could/can leave
 ‘How would/could/can he leave?’
 (32) **Keoi dim sengjat/housiu sai ce?*
He how always/ rarely clean car
 ‘How come does he always/often/rarely clean the car?’
 (33) **Keoi dim neigo sihau/hai nei dou sai ce?*
He how this time/at here clean car
 ‘How come does he clean the car at this time/at here?’
 (34) **Keoi dim m/mou sai ce?*
He how not/not clean car
 ‘How come does not he clean the car?’
 (35) **Keoi dim ham co?*
He how cry Asp
 ‘How has he cried?’
 (36) **Keoi dim gam lek?*
He how so clever
 ‘How come is he so clever?’

Although the manner how *lang* in Nanchang Dialect and *dim* in Cantonese are both monosyllabic, they are syntactically different when used as causal how. In the same syntactic conditions as (31)-(36), excluding (31), *lang* behaves differently from *dim*, but similar to *zenme*. The reason why *lang* distinguishes with *dim* syntactically would be stretched out later in this paper.

- (37) *Qie lang fui/koyi/lenggio zou?*
He how would/could/can go
'How would/could/can he go?'
- (38) *Qie lang laoxi/nini/haosio xi ca?*
He how always/often/rarely clean car
'How come does he always/often/rarely clean the car?'
- (39) *Qie lang goza xigan/cai goli xi ca?*
He how this time/at here clean car
'How come does he always/often/rarely clean the car?'
- (40) *Qie lang bu/mao xi ca?*
He how not/not clean car
'How come does not he clean the car?'
- (41) *Qie lang ku le?*
He how cry Asp
'How has he cried?'
- (42) *Qie lang gome congming?*
He how so clever
'How come is he so clever?'

In Mandarin Chinese, causal *zenme* can appear in the clause-initial place, preceding subject, such as (43)-(44); but *dim* in Cantonese and *lang* in Nanchang Dialect cannot, like (45)-(46).

- (43) *Zenme tamen jia mei pai ren lai?*
How their family not send person here
'How come does not their family send a person here?'
- (44) *Zenme ta you chulai le?*
How he again come out Particle
'How does he come out again?'
- (45) **Dim keoi hoji zao?*
How he would go
'How come would he go?'
- (46) **Lang qie fui zou?*
How he would go
'How come would he go?'

The differences and similarities among Mandarin Chinese, Nanchang Dialect and Cantonese are concluded as follows, shown in table 1.

TABLE 1. COMPARISON TABLE AMONG MANDARIN CHINESE, NANCHANG DIALECT AND CANTONESE

| <i>Syntactic context</i> <i>Wh-word</i> | <i>Precede modal verbs</i> | <i>quantificational/temporal/spatial adverbials, negatives, aspectual particles and zheme, etc.</i> | <i>Precede subject</i> |
|--|----------------------------|---|------------------------|
| <i>zenme in Mandarin Chinese</i> | + | + | + |
| <i>lang in Nanchang Dialect</i> | + | + | - |
| <i>dim in Cantonese</i> | + | - | - |

4. **The lexical structure of wh-words.** Tang (2009) suggests that the reason why *dim* in Cantonese and *zenme* in Mandarin Chinese response distinctly to the same syntactic circumstances lies in the lexical structure of these two wh-words. According to Di Sciallo (2005)'s lexical structure analysis, a wh-word in human languages should at least includes three parts: an operator, a variable and a restrictor. In the inner structure of a wh-word, the variable is the head, the operator is the specifier of the variable, and they are on the upper layer of the lexical structure; Thereby the restrictor and its dependents are the complement of the variable, located on the bottom of the lexical structure. Hence, the lexical structure of a wh-word is as follows:

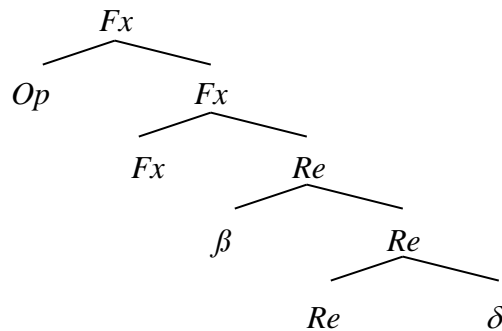


FIGURE 1. LEXICAL STRUCTURE OF WH-WORDS.

Two pairs of features, [$\pm X$] and [$\pm Re$] could be used to distinguish operator, variable with restrictor and its dependents, shown in (47)-(50):⁴

⁴ Given M-shift, the uninterpretable [-Re] feature of the variable is checked under Agree by the [+Re] feature of the restrictor, and the uninterpretable [-X] feature of the restrictor is checked by the [+X] feature of the variable and values it. Given M-Link, the uninterpretable [-X] feature of the operator is checked by the [+X] feature of the variable, and the uninterpretable [-Re] feature of the operator is checked by the previously valued [+Re] feature of the variable (Di Sciallo (2005)). Through this feature checking, the operator should be consistent with the variable while the variable should be consistent with the restrictor. The dependent feature is independent in the feature checking and its main function is to associate the wh-word with the semantic circumstance, and meanwhile, the two dependents simultaneously show up in one lexical structure must be different.

- (47) *Operator (Op)* : [-X, -Re]
 (48) *Variable (Fx)* : [+X, -Re]
 (49) *Restrictor (Re)* : [-X, +Re]
 (50) *Dependents ($\beta\delta$)* : [+X, +Re]

Di Sciallo collects a large amount of typological materials to provide a strong support for this lexical structure model, proving that the operator always precedes the restrictor. Based on this lexical structure model, Tang (2009) convinces (51) is the structure of *zenme* in Mandarin Chinese, that is to say *zen* in *zenme* is the operator, and *me* is the restrictor. Meanwhile, (52) is the structure of *dim* in Cantonese.

- (51) [*zen* [*x* [*me*]]]
 (52) [*dim* [*x* [\emptyset]]]

So compared with the structure of *zenme*, the restrictor of *dim* is null. Tang (2009) claims *dim* should get licensed syntactically since its restrictor in lexical structure is empty, and the conditions of licensing are restricted. Discovering from the syntactic environment where causal how *dim* appears grammatically, we could see only clauses where auxiliary verbs “*hui*, *keyi*, *nenggou*” appear can license causal how *dim*. These auxiliary verbs all represent capability or possibility. However, in other syntactic environment causal how *dim* cannot get licensed, so *dim* is ungrammatical in those clauses. When it goes to other auxiliary verbs which do not express capability or possibility such as “*yiding*, *yinggai*”, they are not able to license *dim*. Except for auxiliary verbs, other constituents expressing capability or possibility can also license causal *dim*, like auxiliary *dak* corresponding to *de* in Mandarin Chinese.

- (53) *Keoi dim zao dak?*
He how leave DE
 ‘How come would he go?’

Hence the conclusion is those constituents denoting capability and possibility can license causal *dim*, while *zenme* in Mandarin Chinese is freer syntactically because it has no empty restrictor and get restricted morphologically. That is why *zenme* can appear before subject while *dim* cannot (see Table 1). Thus a hypothesis is proposed by Tang (2009): if a wh-word lacks restrictor formally, no matter on semantics or syntax level it would get more restricted.

However, the linguistic data in Nanchang Dialect does not support this hypothesis completely. If *dim* in Cantonese can be analyzed to bare a null restrictor (see (52)), thus it seems like *lang* in Nanchang Dialect may inherent the same structure with *dim*, shown in (54).

- (54) [*lang* [*x* [\emptyset]]]

If the structure of *lang* is correct, then the syntactic environment where the causal *lang* can show up grammatically would be restricted just as *dim*. But the data of Nanchang Dialect indicates the syntactic conditions of causal *lang* are much freer, preceding modal

auxiliaries, quantificational/temporal/spatial adverbials, negatives, aspectual particles and *zheme*. Hence, the performance of *lang* is similar to *zenme* in Mandarin Chinese while different from *dim* in Cantonese (see Table 1). What is more, *he* ‘what’ in Shaodong Dialect of Xiang Dialect shares the same syntactic features with *dim* in Cantonese, but differs from *lang* in Nanchang Dialect. Tang (2009) points out although *me* in *zenme*, *jia* in *hejia*, *yang* in *dimjoeng* are all analyzed as restrictor, the lexical meaning of *me* and *jia* has already been bleached, they just refer to something generic, while *yang* owns a more concrete lexical meaning. That is why *zenme* and *hejia* can both be the manner how as well as the causal how, mostly owing to the bleached lexical meaning of the restrictors *me* and *jia*. So the syntactic distribution of these two wh-words is much freer. If Tang’s postulation is proper, the concreter the lexical meaning of the restrictor, the more restriction the wh-word will face syntactically; the more bleached the lexical meaning of the restrictor, the freer the wh-word would be in a clause.

The observation of Tang (2009) is quite attractive, providing a remarkable explanation to the syntactic performance of *dim*. However, this explanation is not completely suitable for *lang* in Nanchang Dialect. As an operator, *dim* can merge with two restrictors, *jie* and *yang*, to form *dimgaai* and *dimjoeng*. *dimjoeng*, similar to *dim* in syntax, can behave as manner how, while *dimgaai* can only be used as causal how. *dimgaai* can be used preceding modal auxiliaries, quantificational/temporal/spatial adverbials, negatives, aspectual particles and *zheme*. Excluding that *dimgaai* performs the same with *dim* preceding modal auxiliaries denoting capability or possibility, *dimgaai* behaves differently with *dim* in other conditions while shares similarities to *lang* (Compare (31)-(42)).

- (55) *Keoi dimgaai wui/hoji/nanggau zau?*
He how would/could/can leave
 ‘How would/could/can he leave?’
- (56) *Keoi dimgaai sengjat/housiu sai ce?*
He how always/rarely clean car
 ‘How come does he always/rarely clean the car?’
- (57) *Keoi dimgaai neigo sihau/hei nei dou sai ce?*
He how this time/at here clean car
 ‘How come does he clean the car at this time/at here?’
- (58) *Keoi dimgaai m/mou sai ce?*
He how not/not clean car
 ‘How come does not he clean the car?’
- (59) *Keoi dimgaai ham co?*
He how cry Asp
 ‘How has he cried?’
- (60) *Keoi dimgaai gam lek?*
He how so clever
 ‘How come is he so clever?’

We should know that even if both *dimgaai* and *dim* can be used preceding modal

auxiliary verbs, they convey different pragmatic meanings. Lü(1985) indicates the real meaning of causal how which precedes modal auxiliary verbs is not to require an answer, but to form a rhetorical question expressing negation. In such syntactic environment *dim* in Cantonese also functions as causal how, expressing mostly a surprising tone. ‘*Keoi dim wui zau*’(see (31) is the negation of the possible situation ‘he would go’, meaning he would not go rather than asking the reason of his leaving, while ‘*Keoi dimgaai wui zau*’(see (55)) truly requests the reason of his departure. Comprehensively speaking, the function of *dim* in Cantonese is a manner how, rather than an obvious causal how.

We have mentioned above, when *lang* in Nanchang Dialect behaves as causal how, it can freely appear in the syntactic circumstances where *dim* cannot (see (32)-(36) and (38)-(42)). Why does *lang* in Nanchang Dialect perform differently from *dim* in Cantonese? Postulate we accept the wh-word lexical structure hypothesis initiated by Di Sciallo (2005), thus we can explain the syntactic behavior of *lang* in such a way. The variable in a wh-word needs to go under feature checking with the restrictor first, after that, the variable then get feature checked with the operator. The influence from the operator to the variable is to restrict the variable’s choices of the restrictors (See footnote 4). Being an operator, *dim* restricts its restrictors into the only choice between *jie* and *yang*. However, the real value contributor of the variable is the combination of the variable and its restrictor. Hence, when the wh-word with *dim* as its operator needs to be used to ask manner, the variable would choose *yang* as its restrictor; when the wh-word needs to be used to ask cause, the variable would choose *jie* as its restrictor. In this way, when semantic conditions demand asking causes, the wh-word with *dim* as its operator would choose *jie* as its restrictor. Thus, we do not need to leave the restrictor null since there is a restrictor available for the requirement, so with an empty restrictor, *dim* functioning as a cause how is strictly restricted.

In Nanchang Dialect, *lang* as an operator, only has one manner restrictor *yang* as its choice, when this wh-word is used to ask causes, there is no proper restrictors to merge with and value the variable. So when asking causes, the restrictor of *lang* has to be empty.

In fact, there are wh-words specialized in asking causes no matter in Mandarin Chinese, Cantonese or Nanchang Dialect, for instance, *weishenme* in Mandarin Chinese, *zumie* in Cantonese, *weixili* in Nanchang Dialect. Thus, the how-why alternation always get restricted syntactically. Tsai (2007) concludes the rules of adjuncts adjoining to VP and IP: wh-adjuncts adjoining to VP perform as manner how while wh-adjuncts adjoining to IP perform as causal how. When the manner how *dim* in Cantonese acts as a causal how, with an available choice of a restrictor *jie*, *dim* does not need to perform as the causal how with an empty restrictor. However, since there is no matching restrictor for *lang* as a causal how, this wh-word has to be bare to function as a causal how. The same goes to *zenme* in Mandarin Chinese, so the wh-word with the operator *zen* can choose *me* and *meyang* as its restrictors. *zenme* can behave as both manner how and causal how while *zenmeyang* can only behave as manner how. A bare *zen* is rarely used in cause asking context since *zen* and *me* are tightly combined.⁴ Different from *zen*, *lang* in Nanchang Dialect can appear barely.

⁴ The usage of *zen* alone is highly restricted, like preceding negative *bu* in (i) and preceding auxiliary *hui* in (ii). *zenbu* and *zenhui* are both prosodic words in Prosody. Just as Lü(1985) indicated, the *zen* in (i) and (ii) do not ask causes,

The similarities and differences among the hows and whys in these languages are shown in Figure 2 below:

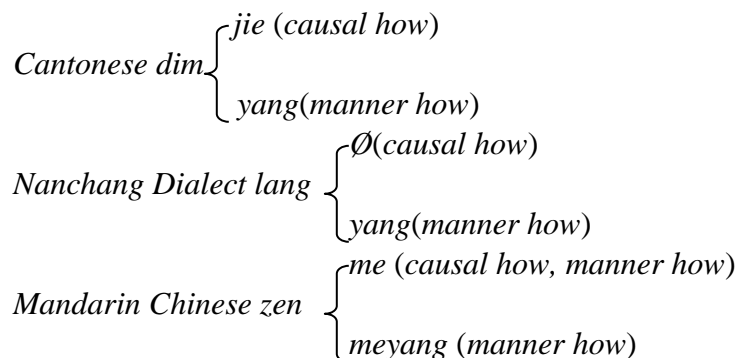


FIGURE 2. Restrictor distribution of hows and whys.

5. Concluding remarks. Based on our analysis above, we try to explain the differences of how-why alternation among *dim* wh-word family in Cantonese, *lang* wh-word family in Nanchang Dialect and *zen* wh-word family in Mandarin Chinese. As the operator, *dim* can choose *jie* to be its restrictor when acting as causal how, thus *dim* can not perform as causal how with an empty restrictor. Nevertheless, there is no proper restrictors for choice when *lang* enters into causal how environment. That is why *lang* barely performs as causal how. As it goes to *zen* in Mandarin Chinese, it cannot appear independently (see footnote5). Then it must merge with the restrictor *me* to behave as both manner and causal how, and behave as manner how only when it merges with the restrictor *meyang*.

But another question rises after we solve the problem in this way. If there is an available restrictor *yang* to choose, why can the operator *lang* still perform as a manner how with an empty restrictor? If we contribute this dilemma to phonetic ellipsis, then why cannot *dimgaai* phonetically ellipse its restrictor *gaai* when used as causal how. We believe that this is due to the default syntactic location of manner how. According to the research of Tsai (2007), in the projection map between semantics and syntax, manner how is located in a relatively lower layer while causal how is relatively higher, shown in Table 2.

TABLE2. Projection map of hows and whys

| <i>Wh-word</i> | <i>Precedes Modals</i> | <i>Between Modals and Verbs</i> | <i>After Verbs(de construction)</i> |
|-------------------|------------------------|---------------------------------|-------------------------------------|
| <i>IP Adverbs</i> | <i>cause</i> | - | - |
| <i>VP Adverbs</i> | - | <i>manner</i> | <i>result</i> |

while make this clause into a rhetorical question.

- (i) Ta zen bu shangxin ne?
He how not happy Particle
'How doesn't he happy?'
- (ii) Yi ge lixing de ren zen hui zuo zhe zhong shi?
A CI rational person how would do this CI thing
'How would a rational person do such a thing?'

Thus when *dimjoeng* and *langyang* are located in their unmarked syntactic positions, they can undergo phonetic ellipsis. Restrictors like *yang* bear concrete lexical meanings, so they can highly restrict their operators. We find out that the lower the syntactic position is, the more obligatory *yang*'s appearance is, for example, after particle *de*, “*ni guo de zen(me)*(yang)?*” in Mandarin Chinese and “*nen guo de lang*(yang)?*” in Nanchang Dialect. When the *wh*-word shows between modals and VP as a manner how, the appearance of the restrictor *yang* is not as obligatory as in a lower layer. *zenme* (*yang*) in Mandarin Chinese in (61), *lang* (*yang*) in Nanchang Dialect in (62), and *dim(joeng)* in Cantonese in (63) can all enter into this syntactic layer to perform as manner how.

- (61) *Ni hui zenme(yang) chuli zhe jian shi?*
You would how deal this Cl matter
 ‘How would you deal with this matter?’
- (62) *Nen fui lang(yang) wu?*
You would how do
 ‘How would you do?’
- (63) *Keoi wui dim (joeng) zau?*
He would how leave?
 ‘How would he leave?’

When how climbs into a higher layer FP(short for function phrase) to ask causes, the restrictor *yang* cannot get accessed to FP, so *yang* cannot merge with *zen* to ask causes. In Cantonese, the restrictor *jie*, rather than *yang* can enter into this FP layer, then the operator *dim* merges with *jie* as it enters into FP to act as causal how. As noted above, the restrictor *yang* in *dimjoeng* can undergo phonetic ellipsis in unmarked syntactic position. Concerning from the grammaticality of “*Keoi dim wui zau*” and “*Keoi dimgaai wui zau*”, we can discover that there is also a similar “gray area” between *dim* and *dimgaai*, see (64). In most conditions, the appearance of *jie* is obligatory, for instance (65)-(69).

- (64) *Keoi dim (gaai) wui/hoji/nanggau zau?*
He how would/could/can leave
 ‘How would/could/can he leave?’
- (65) *Keoi dim *(gaai) sengjat/housiu sai ce?*
He how always/rarely clean car
 ‘How come does he always/often/rarely clean the car?’
- (66) *Keoi dim *(gaai) neigo sihau/hei nei dou sai ce?*
He how this time/at here clean car
 ‘How come does he clean the car at this time/at here?’
- (67) *Keoi dim *(gaai) m/mou sai ce?*
He how not/not clean car
 ‘How come does not he clean the car?’
- (68) *Keoi dim *(gaai) ham co?*
He how cry Asp
 ‘How has he cried?’

- (69) *Keoi dim *(gaai) gam lek?*
He how so clever
 ‘How come is he so clever?’

We should note that “*Keoi dim wui zau*” and “*Keoi dimgaai wui zau*” in (64) are similar in semantics but show some difference in pragmatics. “*Keoi dimgaai wui zau*” purely asks for causes, but “*Keoi dim wui zau*” expresses more surprised tone of the speaker. Concerning about the ungrammatical of (71), in contrast with (70), the *dim* in (70) is no longer the phonetic ellipsis of *dimjoeng*. We indicate this is the marginal syntactic location where *jie* can appear. Since *dim* precedes the words expressing possibilities to express the negation of the speaker pragmatically, *dim* thus can appear barely in this kind of context. So “*Keoi dim wui zau*” and “*Keoi dimgaai wui zau*” are acceptable.

- (70) *Keoi dim (gaai) wui zau?*
He how would/could/can leave
 ‘How would/could/can he leave?’
- (71) **Keoi dimjoeing wui zau?*
He how would/could/can leave
 ‘How would/could/can he leave?’

When we look into the situation in Nanchang Dialect, as we have mentioned above, the restrictor *yang*’s appearance is no longer obligatory when *langyang* perform as the manner how. Thus when the operator *lang* climbs into the higher FP, the restrictor *yang* is not able to climb up with its operator, but the operator *lang* has no other restrictor to choose, and then *lang* appears barely into FP to function as the causal how in Nanchang Dialect.

Seeing from the restricting capability of the restrictor and its relationship with the operator, we highlight some points as follows:

First, some different dialects seem to share the same restrictors, but in fact the same restrictor may function distinctly in different dialects. Such as *yang*, a widely used restrictor, according to Yin (2008), in Northeast Mandarin there are two wh-words *za* and *zayang*. When functioning as manner how, *yang* can merge with *lang* in Nanchang Dialect, *dim* in Cantonese, but not with *za* in Northeast Mandarin, please compare (72) and (73). So the grammatical range of *yang* in Northeast Mandarin is smaller than that in Nanchang Dialect and Cantonese.

- (72) **Ni zai shuili shi zayang you de?*
You in water be how swim DE
 ‘How do you swim in the water?’
- (73) *Ni zai shuili shi za you de?*
You in water is how swim DE
 ‘How do you swim in the water?’

Second, the relative independence between some operators and restrictors has reduced and some clues of merging have shown up, such as *langge* ‘how’ in Chongqin Dialect, different from *langyang* in Nanchang Dialect and *dimjoeng* in Cantonese, the operator and

restrictor in these wh-words cannot be split apart, or change their meanings after splitting apart. According to Feng (2009), the breviary rules of Chinese wh-words in history can be concluded in accord with our viewpoint of wh-word lexical structure: a new bi-syllable wh-word is always at first formed by a non-interrogative constituent and an original wh-word. After this new wh-word has formed, its restrictor would always fuse with the operator and thus this wh-word undergo breviary. What got changed in the new wh-word is mostly the constituent inherited from the original wh-word. Take *hewu* ‘what’ as an example, the traces of its historical changes are as follows:

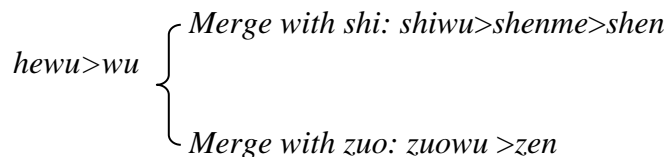


FIGURE 3. Historical changes of *hewu*.

Feng (2009) convinces that from the trace we can see the wh-word *hewu* is at first a new wh-word formed by an original wh-word *he* and an non-interrogative constituent *wu*. After Wei and Jin Dynasty, *hewu* developed into a real wh-word with *he* being its operator and *wu* its restrictor. At that time, the lexical meaning of *wu* was bleached; Then *hewu* further underwent morphological changes by breviary as *wu*. At the eve of Modern Chinese, the wh-word *wu* merged with *shi* and *zuo* to form the constituent *shiwu* and *zuowu* respectively, Then these two constituents became two wh-words as *shi* and *zuo* lost their original lexical meanings. At last the two wh-words abbreviated as *shen* and *zen* following the same trace.

The above facts indicate that in Chinese the operator and restrictor of a wh-word always undergo fusion, so the reason why the subpart of some wh-words cannot appear independently like *zenme* and *langge* is the tight relationship between operator and restrictor. In this kind of wh-words the semantic meanings of their restrictors are often vacuous, thus the restricting function is weak. Therefore, in wh-words like *zenme* in Mandarin Chinese, the operator and the restrictor connect tightly and the appearance of the restrictor is obligatory (see footnote 5).

The tightness degree of the connection between the operator and the restrictor would influence the syntactic behavior of the wh-word, which is proven by another piece of fact. According to our research on native speakers, *zen* in Mandarin Chinese, *dim* in Cantonese and *lang* in Nanchang Dialect all cannot appear barely before the subject, not even *me* in Xiaogan Dialect of Jianghuai Mandarin and *za* in Middle Area Mandarin and Northeast Mandarin. Nevertheless, other bi-syllable wh-words can be used before the subject to ask for causes. This phenomenon shows that only those wh-words which are morphologically intact can act as causal how before the subject. Shao (1996) indicates *zenme* in Mandarin Chinese can appear in two positions before the subject of a clause; one is before the subject inside the clause, the other is at the beginning of the speech outside the clause.⁵ We find

⁵ Shao (1996) reveals there are two situations when *zenme* is at the beginning of the clause: one is when *zenme* is truly in the initial position of the clause, under this condition *zenme* cannot be deleted and can move to the middle of the clause as the adverbial, such as (i); the other is when *zenme* is located at the start of the speech outside the clause, thus *zenme* can be deleted and cannot move into the clause as its adverbial, and a pause is demanded obligatorily after *zenme* in tone, like (ii).

out that the position preceding the subject demands higher requirements from the wh-word, monosyllable wh-words cannot meet the requirements because they have only operators in their lexical structure and their restrictors are left null. In comparison, bi-syllable wh-words with a complete lexical structure can occur before subject more smoothly.

Acknowledgment. This work is partially supported by National Social Science Funds of China *Interface Studies on Syntax-semantics of wh-words in Chinese*. (NSSF:11BYY077). Du Zejun should be thanked for her help us in judgment of grammaticality of Cantonese sentences. The authors also gratefully acknowledge the helpful comments and suggestions of the reviewers, which have improved the presentation.

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- (i) Baba, zenme Lu Dahai hai zai zher dengzhe yao jian nin ne?
 Father, how Lu Dahai still at here wait Asp to see you Particle
 ‘Father, how come is Lu Dahai still waiting here to see you?’
 - (ii) Sifeng, zenme, ni bu shufu ma?
 Sifeng, how, you not comfortable Particle
 ‘Sifeng, how come, are you not comfortable?’