The Synthetic Performances of Teochew

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Abstract: Huang (2015) characterizes “Modern Chinese as a language of high analyticity at multiple levels” and demonstrates “a ranking of relative analyticity among the three dialects: Cantonese > Mandarin > TSM”. This paper argues that Teochew (cháoshànhuà, 潮汕話), another variety of Min, different from TSM, shows more synthetic performances than Mandarin. Chomsky’s “productivity” criterion (1970) helps distinguish lexical operations from syntactic ones. In this spirit, this paper will illustrate its arguments from two perspectives -- lexical and syntactic operations. When it comes to lexical operations, analyses on both the semantic changes within the same categories and the categorial shifts will be made. Besides, syntactic discussions on emphatic inflection, bare classifier phrases, verb-object order and other variants of V-movements in Teochew will also be demonstrated. All analyses will be put under the theoretical framework of generative grammar with the help of a cartography approach. For analyses at the lexical layer, this paper adopts Si’s 司富珍 (2012, 2017a, 2017b, 2018) XW structure, trying to capture the synthesis performances of the Teochew lexicon. As for syntactic operations, the split-CP hypothesis of Rizzi (1997, 2001, 2004) and Rizzi and Bocci (2015), the CL-to-D hypothesis of Simpson (2005), the light verb approach of Chomsky (1995) and the split-light verb hypothesis of Si 司富珍 (2018) will be used as references. Through comparative studies with Mandarin, Cantonese and other languages like English, this paper will conclude that Teochew is a dialect with higher synthesis compared with Mandarin.

Keywords: Teochew, Synthesis, Lexicon, Syntax, Cartography

1 Introduction

Traditional linguistic studies tend to classify languages into different types, especially in linguistic typology. Starting from German scholars the Schlegel Brothers in the 19th century, people began to realize that although there are thousands of languages in the world, they actually can be classified into several types, each with distinct characteristics from others. In the first half of the 20th century, another linguist Edward Sapir in his book *Language* (1921),

puts forward another method of language classification – “analytic, synthetic and polysynthetic”. And Huang (2015) analyzes the analytic and synthetic performances of different kinds of languages, mainly on Mandarin Chinese and English, and demonstrates them from the perspective of syntax under the theoretical framework of Principles and Parameters (P&P). Not only does he resummarize the analytic performances of Mandarin Chinese, but also he puts them into a new theoretical framework of Macro-Micro parametric theory. Besides, both synchronic comparisons (Mandarin Chinese vs. English, Mandarin Chinese vs. Taiwanese Southern Min vs. Cantonese) and diachronic comparisons (Mandarin Chinese vs. Old Chinese) are made to illustrate the points that Mandarin Chinese is more analytic than English and the former one is more analytic than Old Chinese. Also, there is a hierarchy of analyticity among Mandarin Chinese, TSM and Cantonese, where TSM shows the most analytic performances and Cantonese the least.

Partly in light of Huang (2015), however, what we want to argue in this paper is that Teochew, another variety of Min, shows more synthetic performances than Mandarin Chinese. Before going deep into this discussion, a brief introduction of Teochew is as follows. Teochew, also known as *cháoshànhuà* (潮汕話), is a variety of Min but its speech community lives in the eastern part of Guangdong Province, China, namely in the cities of Shantou, Chaozhou and Jieyang with the total population of about 10 million people. Besides, the number of overseas Chinese whose mother tongue is Teochew reaches nearly 10 million.

According to Lin 林倫倫 (1997a, 1997b, 1997c), the reasons why Teochew has such an important value of research are as follows -- First, it keeps many phonetic and phonological features of Old Chinese in the period of the Han Dynasty (206 BC-220 AD) and even retains some phonetic and phonological “relics” of Old Chinese used before the period of Qin Dynasty (221 BC-206 BC). Second, there are many words belonging to different historical periods of Old Chinese kept in the Teochew lexicon. These “special” words play essential roles in the research of diachronic Chinese linguistics, especially in the studies of Old Chinese classics. Thus, Teochew is also called “the living fossil of Old Chinese”. Karlgren (1934) even regards Teochew as the most ancient and special dialect in China. These all help support the argument of this paper. According to Huang, Old Chinese usually demonstrates more synthetic features than Mandarin Chinese. Then logically speaking, Teochew, a dialect boasting many characteristics of Old Chinese, should be located lower on the hierarchy of analyticity. In other words, it is more synthetic. In the following parts of this paper, evidence will be provided to support this argument.

2 Methods

First, a clear-cut distinction between the definitions of “analytic” and “synthetic” will be given based on Sapir (1921), Huang (2015) and Li 李富強 (2017). Second, the theoretical background of this article will be introduced with its focus on generative grammar, both from the perspective of lexical operations and syntactic operations. And Chomsky’s (1970) “productivity” criterion is adopted to differentiate these two operations. Besides, when it comes to lexical discussions, Si’s 司富珍 (2012) XW structure is adopted while for the syntactic ones,

Rizzi’s (1997) split-CP hypothesis, Simpson’s (2005) CL-to-D hypothesis and Si’s (2018) split light verb approach are used as references. Then, from the perspectives of both lexicon and syntax, this paper will shed light on the synthetic performances of Teochew with some comparisons with Mandarin and other languages. Primary linguistics data in this section mainly come from previous research like Shao 少光 (1987), Lin 林倫倫 (1991a) and Xu 許澤敏 (1993). Finally, this paper concludes that Teochew is more synthetic than Mandarin and explains the reason why Teochew behaves so differently from TSM, though they are both Min varieties.

3 About “analytic” and “synthetic”

According to Sapir (1921: 127-128), “an analytic language is one that either does not combine concepts into single words at all (Chinese) or does so economically (English, French). In a synthetic language (Latin, Arabic, Finnish), the concepts cluster more thickly, the words are more richly chambered...”. This argument gives us a relatively clear picture of the nature of these two types of language from the perspective of traditional grammar.

Under the theoretical framework of P&P, Huang (2015) provided us with a new explanation or a new standard to distinguish one from another – “...we see that head movement results in synthesis, whereas non-movement preserves lexical analyticity.” Following Huang’s proposal, it is the nature of feature F ([+strong] or [-strong]) that determines which strategy will be taken (“overt head movement (Move)” or “an appropriate matching configuration (Agree), or allow the movement to procrastinate until LF, where it takes place covertly”). And this “movement” standard will be adopted in this article.

Li 李富強 (2017) put forward a formal way to help distinguish analyticity from synthesis. In his view, “Language L is synthetic if and only if the multiple grammatical functions or features [+F1], [+F2], [+F3] are morphologically realized as one single lexical item LI; L is analytic if and only if [+F1], [+F2] and [+F3] are morphologically realized as separate lexical items LI1, LI2, and LI3”.

(1)

Li (2017)

Following the spirit of these three kinds of view, here, an adapted or amended standard is given in this paper to make a difference between analytic languages and synthetic ones. That

is, through Head Movement, if a language L allows multiple grammatical functions or features ([+F1], [+F2], [+F3] ...) to be realized as one single lexical item LI, then L is a synthetic language. If not, L is an analytic one. We will further illustrate this point in the following parts of this paper.

4 Theoretical framework

Since this paper will demonstrate the synthetic performances of Teochew from two perspectives – lexicon and syntax, it is important to differentiate which part of these performances belongs to the lexicon and which part belongs to syntax. In this paper, Chomsky's (1970) "productivity" criterion to distinguish derived nominal from gerundive nominal is adopted. By all means, the operation of gerundive nominal is more productive, or shall we say, more generally; therefore, it belongs to the syntactic domain. The operation of derived nominal is less productive, so it belongs to the lexicon domain. This paper adopts this classification criterion to separate the discussions on syntax from those on the lexicon.

4.1 Lexicon

For the discussions on lexicon operations, the theory adopted is Si's 司富珍 (2012) XW structure theory, which extends the X-bar theory to the morphological level. In the spirit of this theory, the projection principle not only is suitable at the levels of phase and sentence but also can be used at the level of word. Thus the tree diagram of words can be drawn as follows:

(2)

In this structure, W is the abbreviation of “word” while X represents head, ZW complement and YW specifier. According to Si 司富珍 (2012, 2017a, 2017b, 2018), both sentence and word have their functional layer and lexical layer -- for sentence, both CP and TP layers can be seen as functional layers of the sentence while VP the lexical layer. And for word, Si 司富珍 (2017a) puts forward a tree diagram demonstrating the internal structure of word as follows:

(3)

In this tree, F represents “functional head,” and it decides the essential nature of the whole structure. It has a strong functional feature that will trigger the movement of the head X to the head position F. And this theory will be used to give support to the synthetic performances of Teochew from the perspective of lexicon operations.

4.2 Syntax

For the discussions on syntactic operations, considering that one of the aspects we will demonstrate is more related to CP layer, the approach adopted is Rizzi’s (1997, 2001, 2004) split-CP hypothesis, which means that CP can be split into several separate projections -- Force Phrase, Topic Phrase, Focus Phrase and Finiteness Phrase. Rizzi and Bocci (2015) further extends the map of C-layer as follows:

[Force [Top* [Int [Top* [Foc [Top* [Mod [Top* [Qemb [Fin [IP...]]]]]]]]]]]

Although this paper will only use the FocusP in the C-layer, we want to show the high position of “Focus” by showing this complete hierarchical map. As Huang (2015) puts it, “the more grammaticalized, the higher the movement, and the higher degree of synthesis”. What we want to show later in this article is that both V-to-T and T-to-C movement exist in Teochew, and the successive head movement helps support the argument that Teochew is more synthetic than Mandarin Chinese.

Besides, the CL-to-D hypothesis (Simpson 2005) will also be adopted to analyze the synthetic performances of Teochew syntax. According to Simpson’s assumption, “Num and CL are independent functional heads” and “the number one is able to raise out of the regular position of numerals and up to a higher (D) position”. Following this spirit, Huang (2015) puts forward that “in Cantonese, movement of CL not only fills the [one e] position but also opens up the possibility of further moving up to fill an otherwise empty D, as shown below” and assumes that “a DP receives a definite interpretation if D is lexically filled with a CL” (4).

(4)

(Huang 2015)

According to Chomsky’s (1995) light verb approach, which is in the spirit of Larson’s (1988) research on double object construction, in the transitive ergative structure, the position of the subject, verb and object can be seen as follows:

(5)

Later, Huang (1997) and Si 司富珍 (2018) specify the functions of the light verb. This paper adopts Si’s approach of split-vP or light verb field. The well-defined light verb field can be seen as follows.

(6)

According to Si, light verb is rather a general term of light verb field, which boasts a rich hierarchical system, than a single functional head. Based on that, every predicative element has its argument structure, while the argument structure of the whole sentence is the outcome orchestrated by different single argument structures. For this argument structure framework, a shared argument is the critical component. And it is the event structure fragment that helps coordinate different single argument structures.

The last two cartographic maps will also be used in the discussions of Teochew syntax while the former one is used to explain simple sentences and the latter one for complex sentences.

5 Synthetic performances of Teochew lexicon

Before the analyses, considering that the complex phonological system of Teochew will play an important role in our analyses, based on Swatow (Shantou) variety of Teochew, its tone inventory is listed as follows (Table 1):

No.	1	2	3	4	5	6	7	8
Names in Chinese phonology	Yin ping	Yin Shang	Yin qu	Yin Ru	Yang Ping	Yang shang	Yang qu	Yang Ru
Tone	ㄣ (33)	ㄣ (53)	ㄣ (213)	ㄣ (2)	ㄣ (55)	ㄣ (35)	ㄣ (11)	ㄣ (5)
Exa m- ples	Di	低	戴	滴	池	弟	地	碟
	Gia	驚	鏡	揭	行	件	健	屐
	Am	庵	暗	押	涵	頷	陷	盒
	Daŋ	東	黨	凍	嗒	銅	洞	毒

(All examples are from Zhang 張盛裕 (2016))

Table 1: Eight monosyllable tones in Teochew (based on Swatow variety)

5.1 Semantic change within the same categories

Lexical operations related to categories like verb, pronoun and noun will be discussed in this session.

5.1.1 Verb

In Teochew, there is a special way to change the semantic meanings of a verb (either an auxiliary one or a content one) – adding a negative phoneme prefix [m] to negate the original meaning, while native speakers of Mandarin Chinese tend to add a separate negative word *bu* (“no”, 不) or *mei* (“no”, 没) in front of a verb. It is similar to the way English speakers tend to use some prefixes like [un] or [im] to imply the negative meaning of an adjective. We can see it from the following examples (Table 2). Note: For Teochew data, tones are marked with numbers, which can be referred to in Table 1.

Verb	Meaning of the positive word	Mandarin		Teochew	
		Positive	Negative	Positive	Negative
Auxiliary	can	hui	bu hui	oi ⁶	moi ⁶
	want	yao	bu yao	ai ³	mai ³
	need	xu yao	bu xu yao	en ⁷	men ⁷
Auxiliary/ Content	be	shi	bu shi	si ⁶	mi ⁶
	have	you	mei you	u ⁶	mo ⁵ /mu ⁶
Content	fear	pa	bu pa	ui ³	mui ³
	use	yong	bu yong	en ⁸	men ⁸
	open	kai	Guan	kui ¹	mui ¹

Table 2: Formation of antonym in Mandarin and Teochew

Considering that this word-formation strategy of adding the negative prefix cannot be applied to every verb in Teochew¹, which means that it is not that productive, this paper chooses to regard this operation as lexical operations instead of syntactic ones. Adopting Si's XW structure, we could draw a cartographic map for this positive-negative shift of verb:

¹ For example, in Teochew, the same approach cannot apply in other verbs like the content verb *ao*² (“throw up”) and the auxiliary verb *gai*¹ (“should”).

(7)

In this structure, the original form of verb is located at the V head of the lexical layer VW. And at the functional layer FW, there is a functional head realized as the negative prefix [m]. According to Si 司富珍, the strong [+F] feature of F will trigger the movement of the head V at the lower lexical layer to move to F, resulting in the morphological formation of a new verb word with new features. In this case, the formation of an antonym is the outcome produced by the approach of head movement.

Remember what we said as the criterion for judging the synthetic performances of a language – “through Head Movement, if a language L allows multiple grammatical functions or features ([+F1], [+F2], [+F3]...) to be realized as one single lexical item LI, then L is a synthetic language. If not, L is an analytic one”. In this case, we have “Head Movement” and one single lexical item, which is “antonym”, boasting two features -- prefix [M] indicating the negative meaning and original lexical item indicating the basic semantic meaning. Thus, we can safely conclude that verb in Teochew shows more synthetic performances than Mandarin Chinese. After all, this adding negative-prefix approach is much less productive in Mandarin verbs, even though we could see some Mandarin words like 甬 as the contracted form of 不用, meaning “no need or unnecessary”.

5.1.2 Pronoun

In this section, both personal pronoun and possessive pronoun in Teochew will be discussed. And two aspects will be examined. One is about the shift between singular and plural forms of the personal pronoun, while the other one is about the shift between personal pronoun and possessive pronoun.

First, the shift between singular and plural forms of the personal pronoun will be analyzed. We could see the personal pronouns in Teochew in Table 3. Shao 少光 (1987), Lin 林倫倫 (1991a) and Si 司富珍 (2017c) all mention the plural suffix [ŋ] of the personal pronoun in Teochew.

Person	1 st person		2 nd person		3 rd person	
Language	Mandarin	Teochew	Mandarin	Teochew	Mandarin	Teochew
Singular	wo	ua ²	Ni	lə ²	ta	i ¹
Plural	wo men	uaŋ ²	ni men	ləŋ ²	ta men	iŋ ¹

Table 3: Personal pronouns in Mandarin and Teochew

From the table, we see that [ŋ] behaves as a plural suffix when it comes to the shift between singular and plural forms of the personal pronoun in Teochew, like the plural affix [s] or [es] of English noun.

Second, the shift between personal pronoun and possessive pronoun in Teochew can be seen in Table 4. Si 司富珍 (2018) pointed out that in Min dialect, there are two systems of possessive pronouns corresponding to the (in)alienability. Considering that there are some minor differences between different varieties of Min dialect, this paper only considers the most clear-cut performances of possessive pronouns based on the Swatow variety of Teochew.

Person	1 st person		2 nd person		3 rd person	
Language	Mandarin	Teochew	Mandarin	Teochew	Mandarin	Teochew
Singular	wo de	ua ⁶	ni de	lǝ ⁶	ta de	i ⁶
Plural	wo men de	uaŋ ⁶	ni men de	lǝŋ ⁶	ta men de	iŋ ⁶

Table 4: Possessive pronouns in Mandarin and Teochew

Compared with Table 3, we could see that it is the change of tone that causes the shift from personal pronoun to possessive pronoun. This is different from Mandarin, where the possessive marker *de* is used. This changing-tone approach can also be found in Afraan-Oromoo or Galla, an African language. According to Mei 梅德明 (2017: 1225), Oromoo is a tone language with three tones and for Oromoon, tones are grammatical markers of gender, number, case and mood. Therefore, logically speaking, Teochew, as a dialect or language with five more tones, could also adopt this approach.

Given the above two language phenomena, we could assume that both the plural suffix [ŋ] and the operator with the function of changing tone are located at the functional layer FW in Si's 司富珍 XW structure. Here we assume that the basic form of both the plural form of personal pronoun and two forms (singular and plural) of possessive person is the singular form of personal pronoun. Thus we can draw the cartographic map of pronoun (personal pronoun and possessive pronoun) of Teochew as follows:

(i) The plural form of personal pronoun

(8)

(ii) The singular form of possessive pronoun

(9)

(iii) The plural form of possessive pronoun

(10)

As is shown, the original form of the personal/possessive pronoun is located at the head position of *Perpron*. We assume the basic form of possessive pronoun is personal pronoun in that following logic and cognition, the personal pronoun has a more fundamental reference meaning than the possessive pronoun. At the functional layer *FW* there is a functional head *F* realized as a suffix [ŋ] to transform a singular personal pronoun into a plural one or an operator to transform a personal pronoun into a possessive one by changing tone. And the strong [+F] features will trigger the movement of the head *PerPron* at the lower lexical layer to the position of head *F* successively and together they form a new pronoun word with new features.

Here we would like to point out that the derivation process of plural possessive pronoun contains two steps. First the basic forms of personal pronoun need to be pluralized by adding plural suffix [ŋ], and then the possessive form will be formed by changing tone. Therefore,

there are two functional layers in the structural map of the plural possessive pronoun. The reason why the relative hierarchy of these two functional layers is as shown is that “number” is an element closer to a noun or pronoun than “possessiveness”. Because we could easily transfer the possessive relationship of stuff to another person, but it is not that easy to change the number of the stuff we refer to. Just like what Chomsky (1998) put forward, for noun expression or pronoun, “person, number and gender” are their interpretable features because they play roles in semantic interpretation. And according to Lu 陸丙甫 (2015), for both word and sentence formation, elements correlating more with the core are closer to it than other elements. Considering all these, we choose this relative hierarchy of functional layers.

Through the above discussions, we could see that the cartographic map of Teochew pronoun shows both “Head Movement” and “combining multiple features into one lexical item”. Thus, there is no doubt to conclude that Teochew pronoun boasts more synthetic performances than its Mandarin counterpart. Besides, though this operation is productive when it comes to the semantic changes of personal pronoun and possessive pronoun in Teochew, however, this word-formation strategy is limited to pronoun. That is to say, the productivity of this kind of derivation is not high, which makes us regard it as lexical operations instead of syntactic ones for the consideration of the Economy Principle.

5.1.3 Noun

In Teochew there are many affixes of nouns and some of them may share the same features or functions with their counterparts in Mandarin Chinese. Here we will discuss the affixes lao⁶ (老), hue² (伙), gui² (鬼), gia² (仔), thao⁵ (頭), gon¹ (公), phua⁵ (婆) and bo² (母).

Lin 林倫倫 (1991a) regards adding these noun affixes as a way of morphological change of Teochew. And their functions can be seen in Table 5.

Affixes	Functions	Examples	Ok in Mandarin?
lao ⁶	Imply old age	<i>lao⁶ kong¹</i> (“grand grandfather”)	+
hue ²	Pluralize	<i>ha² sen¹ hue²</i> (“students”)	+
gui ²	(1) Imply derogatory sense	<i>giam⁵ sian⁴ gui²</i> (“penny pincher”)	+
	(2) Imply a close relationship	<i>lao⁶ si² gui²</i> (“honesty person”)	+
gia ²	(1) Imply young age	<i>nou⁵ gia²</i> (“little child”)	+
	(2) Imply derogatory sense	<i>ts^ha² gia²</i> (“thief”)	+
	(3) Imply a close relationship	<i>hia¹ di⁶ gia²</i> (“brotherhood”)	+
	(4) Diminutive	<i>goi¹ gia²</i> (“chick”)	+

$t^h ao^5$	(1) Imply a specific place	$ao^6 t^h ao^5$ (“backyard”)	+
	(2) Imply a specific period of time	$tsa^2 t^h ao^5$ (“just now”)	–
	(3) Imply the dross of some matter	$dao^7 t^h ao^5$ (“dross of tofu”)	–
	(4) Imply derogatory sense	$ho^2 tsia^2 t^h ao^5$ (“easy-bullied person”)	–
$goŋ^1$	(1) Imply male gender	$goi^1 goŋ^1$ (“rooster”)	+
	(2) Augmentative	$ua^2 goŋ^1$ (“big bowl”)	–
$p^h ua^5$	(1) Imply derogatory sense	$lo^2 siŋ^5 p^h ua^5$ (“witch”)	+
	(2) Augmentative	$p^h o^5 p^h ua^5$ (“big oyster”)	–
bo^2	(1) Imply female gender	$goi^1 bo^2$ (“hen”)	+
	(2) Augmentative	$k^h uŋ^5 t^h ao^5 bo^2$ (“big fist”)	–

Table 5: Affixes of noun in Teochew

From the table, we could see that different affixes have different functions. Thus, like the structure map of the word-formation process of verbs and pronouns, we can draw one for nouns:

(11)

As is shown, the original form of noun is located at the head position of N. Also, at the functional layer FW there is the head F realized as an affix with a specific function (like we have listed in the above table). And the strong [+F] features will drive the movement of the head N at the lower lexical layer to the position of head F, and together they form a new noun word with new category features. For example, like what is shown in the table, for the noun

*goi*¹, it can be attached to affixes *goŋ*¹ and *bo*² respectively and forms different new semantic meanings without changing its category. Furthermore, both “Head Movement” and “Combining multiple features into one lexical item” are demonstrated, which indicates its synthetic nature.

Some may argue that these same affixes also exist in Mandarin, how can they be evidence to support the argument that Teochew is more synthetic than Mandarin Chinese. The truth is that if we look at Table 5 more carefully, we could find that the same affix has more functions in Teochew than in Mandarin Chinese. For example, the affix *t^hao*⁵ can imply the dross of some matter in Teochew while in Mandarin, it cannot. Besides, *goŋ*¹, *p^hua*⁵ or *bo*² not only can imply “gender” like what they do in Mandarin Chinese, but also can be an augmentative affix which cannot be found in Mandarin. Here, we could compare the gender-indicating noun affixes to those noun affixes of Romance languages like *-e* in French as well as *-o* and *-a* in Spanish. And when it comes to augmentative, we can refer to *mega-* in English and *Riesen-* in German. All of these languages are more synthetic than Mandarin Chinese. In other words, even though Mandarin and Teochew share some noun affixes, the functions of the same affix in Teochew outnumbers those in Mandarin. And usually, noun affixes used in Mandarin can be used in Teochew too. That is to say, both the number and the function of Teochew noun affixes outperform those in Mandarin, which is another evidence supporting that Teochew shows more synthetic performances than Mandarin in noun lexicon. And considering the productivity of these affixes – only limited to nouns, we see this strategy as lexical operations.

5.2 Categorical shift

In this session, we will talk about the categorial shifts between verb and adjective, noun and adjective, onomatopoeia and adjective, noun and verb as well as word and word phrase in Teochew. Based on the research of Shao 少光 (1987), this paper adopts the grammatical phonetic modification approach of Si 司富珍 (2017b) to reclassify these phenomena into three groups -- repetition, adding suffixes and a change of tone.

5.2.1 Repetition

Here, “repetition” refers to the repetition of the same word. In Teochew, this word-formation strategy contributes to the categorial shifts between verb and adjective, and between noun and adjective.

First, repeating a monosyllable verb can form an adjective.

Verb	Adjective
<i>bian</i> ³ (change)	<i>bian</i> ⁵ <i>bian</i> ³ (angry)
<i>k^hao</i> ³ (cry)	<i>k^hao</i> ⁵ <i>k^hao</i> ³ (sad)
<i>ts^hio</i> ³ (smile)	<i>ts^hio</i> ⁵ <i>ts^hio</i> ³ (happy)
<i>bue</i> ¹ (fly)	<i>bue</i> ¹ <i>bue</i> ¹ (extremely quick)

Table 6: Shift between verb and adjective in Teochew

Here, we would like to mention that although some verbs transform into adjectives by repeating itself, their tones change too. And this is a pure phonological-related issue given the complex tone-changing situations in Teochew (more details can see Zhang 張盛裕 (2016: 20-88)). Considering that the situation is hard to be summarized by a universal rule, we will not discuss the tone change here for it is far beyond the scope of discussion.

Second, repeating a monosyllable noun can form an adjective (Table 7):

Noun	Adjective
<i>tʰiɿʔ⁴</i> (iron)	<i>tʰiɿʔ⁵ tʰiɿʔ⁴</i> (hard)
<i>sua¹</i> (sand)	<i>sua¹ sua¹</i> (sandy)
<i>du¹</i> (pig)	<i>du¹ du¹</i> (dull)
<i>huŋ⁵</i> (cloud)	<i>huŋ⁷ huŋ⁵</i> (elusive)

Table 7: Shift between noun and adjective in Teochew

As we could see, the categorial shifts between verb and adjective and between noun and adjective can be realized by repetition. And as Chomsky (1970) indicates that both $[\pm N]$ and $[\pm V]$ are two fundamental features of all categories, we here assume that the basic form of the adjective is a noun or a verb, though an adjective can transform itself into a noun or a verb in a reverse way. Thus, we can draw the structure map of this repetition approach like this:

(12)

Here, we assume that the head F at the functional layer is an operator which triggers something by its strong $[+F]$ feature to move to its position. However, what is worth noticing is that unlike the discussions in Session 5.1 where the derivation process only contributes to semantic changes but not categorial shift, the word-formation process of adjective above leads to categorial shift. Thus, the category of the head at the lexical layer is different from what comes out finally. And both two requirements of synthetic performances are met in these two cases, while this approach cannot be adopted in the same way in Mandarin Chinese. Thus,

Teochew is more synthetic than Mandarin in this case. Besides, because this approach cannot be used in all categorial-shift situations between verb and adjective and between noun and adjective, it belongs to lexical operations.

5.2.2 Adding suffix

In Teochew, *gio*³ is a suffix with a relatively high productivity - adding this suffix behind an onomatopoeia can transform the latter one to an adjective. Specific examples can be seen in Table 8. More examples can be seen in Shao 少光 (1987).

Onomatopoeia	Adjective
<i>hu</i> ¹ <i>hu</i> ¹	<i>hu</i> ¹ <i>hu</i> ¹ <i>gio</i> ³ (windy)
<i>ts</i> ^h <i>i</i> ⁵ <i>ts</i> ^h <i>o</i> ²	<i>ts</i> ^h <i>i</i> ⁵ <i>ts</i> ^h <i>o</i> ² <i>gio</i> ³ (flustered)
<i>gi</i> ¹ <i>tsa</i> ¹	<i>gi</i> ¹ <i>tsa</i> ¹ <i>gio</i> ³ (noisy)
<i>si</i> ² <i>sua</i> ²	<i>si</i> ² <i>sua</i> ² <i>gio</i> ³ (groundless)

Table 8: *Gio*³ in adjective of Teochew

And this phenomenon can also be explained by XW structure. Here, we assume that onomatopoeia is the basic form of this process. And *gio*³ is a suffix located at the head F of the functional layer with its strong [+F] feature triggering the movement of the onomatopoeia at the lexical layer to F in order to form a new adjective.

(13)

In this case, the two criteria of synthesis -- “Head Movement” and “A lexical item with multiple features” are both met. And considering that this strategy can only be applied when it comes to the categorial shift between adjective and onomatopoeia, its productivity is very limited, which should belong to the operations of lexicon instead of syntax. Again, Teochew demonstrates another synthetic performance, which does not exist in Mandarin Chinese.

5.2.3 Change of tone

Changing tone is a common strategy of categorial shift in Teochew. Xu 許澤敏 (1993) and Li 李新魁 (1994: 330) have done some analyses on it. Below are some examples from Li (1994).

- (14) $daŋ^1_daŋ^8_daŋ^3$ (Teochew)
 擔__擔__擔
 Shoulder-V__a-CL__basket-N
shoulder a basket
- (15) $uaʔ^4_uaʔ^8_uaʔ^5$ (Teochew)
 越__越__越
 Walk-V__a-CL__big_step-N
take a big step

We can easily see that changing tone is a strategy of categorial shift in Table 9 where the above examples are readdressed.

	Verb		Classifier		Noun	
	Spelling	Tone	Spelling	Tone	Spelling	Tone
(1)	<i>daŋ</i>	1	<i>daŋ</i>	8	<i>daŋ</i>	3
(2)	<i>uaʔ</i>	4	<i>uaʔ</i>	8	<i>uaʔ</i>	5

Table 9: Changing tone as a strategy of categorial shift in (14) and (15)

Some may argue that 擔 also has two tones in Mandarin Chinese -- its first tone implying its verb category and its fourth tone implying its noun category. However, the classifier function is missing in Mandarin Chinese and the case of 越 cannot be applied in Mandarin at all. Following the approach of XW structure, we can assume that there is an operator as a functional head F with the function of changing tone located at FW. And it triggers the movement of head located at the lower lexical level to F head position. In this case, this approach is more productive in Teochew than Mandarin, which is another evidence of Teochew having more synthetic performances.

Here, we want to bring out another two typical kinds of categorial shift by the approach of changing the tone.

First, about the categorial shift between noun and verb (like *daŋ*¹ and *daŋ*³ in example (14)). Examples in Teochew are listed in Table 10.

The Mandarin counterparts of the first three examples have the same categorial shift phenomenon -- 擔 (verb: *dān*; noun: *dàn*), 釘 (noun: *dīng*; verb: *dìng*) and 散 (noun: *sǎn*; verb: *sàn*). However, in Mandarin, this approach is not as productive as in Teochew.

Noun	Verb
<i>daŋ</i> ³ (basket)	<i>daŋ</i> ¹ (shoulder)
<i>deŋ</i> ¹ (nail)	<i>deŋ</i> ³ (pound)
<i>suaŋ</i> ² (powder)	<i>suaŋ</i> ³ (scatter)
<i>guŋ</i> ¹ (military)	<i>guŋ</i> ² (shoulder)

Table 10: Categorical shift between noun and verb in Teochew

Second, in Teochew, the categorical shift between predicative adjective and attributive adjective can also be achieved by changing tone (Table 11).

Predicative adjective	Attributive adjective
<i>ma</i> ⁸ <i>aŋ</i> ⁵ (be jealous)	<i>ma</i> ⁴ <i>aŋ</i> (jealous)
<i>hi</i> ⁶ <i>laŋ</i> ⁵ (be deaf)	<i>hi</i> ⁶ <i>laŋ</i> (deaf)
<i>ma</i> ⁸ <i>hue</i> ¹ (be blind)	<i>ma</i> ⁴ <i>hue</i> (blind)
<i>ao</i> ⁵ <i>da</i> ¹ (become thirsty)	<i>ao</i> ⁷ <i>da</i> (thirsty)

Table 11: Categorical shift between predicative adjective and attributive adjective in Teochew

Based on the descriptions in Xu 許澤敏 (1993) from the perspective of traditional grammar, when the second syllable of a bisyllable adjective keeps its original tone, the adjective becomes a predicative one, which can be used in a “subject + predicate” construction. However, when the second syllable has a neutral tone, the outcome is an attributive adjective. Considering that it is hard to tell which one, noun or verb, predicative adjective or attributive adjective is the basic form (it is far beyond the scope of discussion of this article in this case), we here keep the category of the lexical layer undecided for the moment. But we could still assume that for the categorical shifts between noun and verb or between predicative adjective and attributive adjective, the head of functional layer is realized as an operator with the function of changing tone. And the outcome of the whole structure is the shift of category, which can be drawn like this:

(16)

And again, the two criteria of synthetic performances are met, and its limited productivity makes this discussion fall into the scope of the lexicon.

6 Synthetic performances in Teochew syntax

As is mentioned above, “productivity” is the criterion used to differentiate those lexical operations from those syntactic ones. In this session, we will discuss four aspects of the synthetic performances of Teochew from the syntactic perspective, while the last three correspond to Huang’s (2015) discussions on Mandarin, Cantonese and Southern Min.

6.1 *Emphatic inflection of verb*

In Teochew, there is a way to emphasize the verb by adding suffixes without changing the category, which can be seen as another kind of synthetic performances of Teochew. However, in this case, it is a syntactic not a lexical operation.

According to Shao 少光 (1987), in Teochew, by adding suffixes to a verb we can emphasize the action or behavior expressed by a verb phrase. And he puts forward a formula that applies to almost all verbs in Teochew:

(17)

Here, we can see examples (Table 12):

Original verb phrase		Verb phrase with emphatic meaning
Without glottal stop	$t^h i^3 t^h iao^7$ (shave off)	$t^h i\eta^3 t^h iao^7$ (SHAVE off)
	$soi^2 t^h iao^7$ (wash off)	$si\eta^2 t^h iao^7$ (WASH off)
With glottal stop	$do\mathcal{P}^4 mi^2$ (cut into pieces)	$di\mathcal{P}^4 mi^2$ (CUT into pieces)
	$t^h a\mathcal{P}^4 k^h ui^l$ (kick away)	$t^h i\mathcal{P}^4 k^h ui^l$ (KICK away)

Table 12: Examples of verb phrases with emphatic meaning

According to Shao, this formula can be applied to almost all verbs in Teochew. That is to say, this strategy is of high productivity. Thus, we assume that this operation is a syntactic one. Furthermore, considering that this strategy is adopted to emphasize something, we assume that it is related to Focus. In the spirit of Rizzi’s split-CP hypothesis, we could assume that there is an operator located at Focus head with the function of morphological change following Lin’s

formula. Its strong [+F] feature triggers the movement of the head T part of which is moved from the head V. We can see this process in (20) by analyzing the cartographic structure of the emphatic sentence *Ua dok liao ne?* (18), showing how it originates from the declarative sentence *Ua dik liao ne?* (19).

- (18) Ua_dok_liao_ne?. (Teochew)
 我__剁__了__肉
 I_cut_PERF_meat
 I cut the meat. (past tense)

- (19) Ua_dik_liao_ne?. (Teochew)
 我__剁__了__肉
 I_CUT_PERF_meat
 I CUT the meat. (past tense)

As we can see, the verb *dok* first merges with its DP argument *ne?* to form the V' *dok ne?*. Then it merges with its external argument *ua* to form the VP *ua dok nek*. At this step, the Theta Criterion is satisfied. Then the verb *dok* is raised to adjoin to the strong tense affix in T *liao*, forming the T' *dok+liao ua ne?*. And both the [EPP] feature of T and the Case Filter trigger DP *ua* to [Spec, T], forming the resulting structure *ua dok+liao ne?*. According to our assumption, there is an operator as a Focus head with the function of morphological change and it triggers the movement of T *dok+liao*. According to Lin's phonological formula, the operator changes *dok+liao* to *dik+liao*. And the resulting structure of Focus' is *dik+liao ua ne?*. Then again, because of the [EPP] feature of Focus head, DP *ua* is triggered to move to [Spec, Focus]. Thus, the final form of the sentence is *Ua dik+liao ne?* with emphasis on the verb *dik*.

In this case, we can see that the surface form of verb has both the lexical meaning and emphasis effect. Besides, this process also has successive head movement. And this operation cannot be applied in Mandarin. And as Huang (2015) puts it, “the more grammaticalized, the higher the movement, and the higher degree of synthesis”. Considering the high position of Focus head in Rizzi’s split-CP hypothesis, we can conclude that Teochew is more synthetic than Mandarin in this case, not to mention that Huang (2015) pointed out that there are only V-to-V and V-to-v movements in Mandarin. Here, we can see V-to-T-to-C (Focus) movement in this case in Teochew. What is more, because this operation can be applied in almost all verbs in Teochew, its high productivity makes it a synthetic performance of Teochew syntax.

6.2 Bare classifier phrases

Huang (2015) also pointed out that BCP is allowed in Mandarin only in the environment of a governing verb or preposition while in Cantonese, it is allowed in both subject and object position; TSM does not allow any BCP at all

However, here, we want to put forward that maybe due to the influence of Cantonese, Teochew as the only variety of Min in Guangdong Province also allows BCP (Bare classifier phrase) in both subject (see (21)) and object position (see (22)).

- (21) Bun_tsə_ho_ts^hu bi. (Teochew)
 本__書__很__有趣
 CL_book_very_interesting
The book is very interesting.

- (22) Ua_sio_boi_bun_tsə. (Teochew)
 我__想__買__本__書
 I_want_buy_CL_book
I want to but a book.

According to Huang (2015), the distribution of a BCP in Chinese dialects as follows (a, b, and c). Here, we add the analyses of BCP in Teochew as *d*.

(23) The distribution of a BCP in Chinese dialects

- a. Mandarin: *(subject) V/P^{ok}(object)
- b. Cantonese: ^{ok}(subject) V/P^{ok}(object)
- c. TSM: *(subject) V/P *(object)
- d. Teochew: ^{ok}(subject) V/P^{ok}(object)

(Huang 2015)

As we can see, Teochew and Cantonese share many similarities in the case of bare classifier phrases. Following the analyzing pattern of Huang, we can draw the cartographic map of *bun tsə* as follows:

(24)

Following Simpson (2005) and Huang (2015), in Teochew, the empty category at Num position is filled by the classifier raising into it and then the D head is filled by the same classifier at the Num position. And in this case, both two requirements of synthesis – “Head Movement” and “Multiple features in one lexical item” – are met again. Considering that in Mandarin the empty category at Num position only “triggers Agree with CL”, in this case, Teochew is more synthetic than Mandarin Chinese.

6.3 Verb-object word order

According to Huang (2015), Cantonese is almost strictly SVO while Mandarin is ok with both SVO and SOV (the object is focalized) order; TSM strictly uses SOV order. Here, what we want to mention is that Teochew has the same characteristics with Mandarin. We can see it as follows.

- (25) a. wǒ__bù__xǐhuān__zhè__běn__shū. (Mandarin)
 我__不__喜歡__這__本__書
 I_not_like_this_CL_book
 I don't like this book.

- b. wǒ__zhè__běn__shū__bù__xǐhuān. (Mandarin)
 我__這__本__書__不__喜歡
 I_this_CL_book_not_like
 I don't like this book.

(Huang 2015)

- (26) a. Ua_m_hihua_bun_tsə. (Teochew)
 我__不__喜歡__本__書
 I_not_like_CL_book
 I don't like this book.

- b. Ua_bun_tsə_m_hihua. (Teochew)
 我__本__書__不__喜歡
 I_CL_book_not_like
I don't like this book.

As we can see, both SVO and SOV order are acceptable in Teochew. If we adopt Chomsky's (1995) light verb approach like Huang (2015) did – “We can characterize these differences in terms of whether V-movement across a definite object (in Spec of VP) is obligatory, optional or blocked – a pattern that again reflects their relative analyticity” – we can draw the cartographic map of this verb-object word order as follows.

(27)

As we can see, for Cantonese, a language located high on the hierarchy of synthesis, this obligatory V-movement leads to its SVO order while for TSM, a language located low on the hierarchy of synthesis, this blocked V-movement explains its preference of SOV order. However, maybe due to the same reason that Teochew is deeply influenced by Cantonese and it carries some characteristics of Cantonese, its synthetic and analytic performances “reach a balance”; therefore, it has the same performances as Mandarin in this optional V-movement, allowing both SVO and SOV order.

6.4 Other variations in V-movement

Huang (2015) mentions three variations about V-movement in Mandarin Chinese and here we will elaborate their Teochew counterparts one by one.

6.5 *Dao ... qu le* and *Qu ... le*

According to Huang (2015), (28b) “represents the synthetic form” while (28a) “the analytic form” and “the synthetic form is obtained when a light null predicative replace *dao* and triggers movement of *qu*”.

- (28) a. tā __dào__ běijīng __qù__ le. (Mandarin)
 他 __到__ 北京 __去__ 了
 He __toward__ Beijing __go__ PERF/FP
He went to Beijing.

- b. tā __qù__ běijīng __le. (Mandarin)
 他 __去__ 北京 __了
 He __go__ Beijing __PERF/FP.
 = (9a)

(Huang 2015)

Here, what we want to point out is that the first option is not widely accepted by Teochew native speakers while the second option is more natural in Teochew. We can see it from the following sentence:

- (29) a. ?I __gao__ ba? gia __k^hu__ o. (Teochew)
 他 __到__ 北京 __去__ 了
 He __toward__ Beijing __go__ PERF/FP
He went to Beijing.

- b. I __k^hu__ ba? gia __o. (Teochew)
 他 __去__ 北京 __了
 He __go__ Beijing __PERF/FP
He went to Beijing.

Since (29b) is more acceptable to native speakers, following Huang's spirit, we can see it as a synthetic performance of Teochew. And in this case, both "Head movement" and "Multiple features in one lexical item" are met again.

6.5.1 Causative incorporation

Cheng et al. (1997) elaborated different performances of resultative verb compounds in Mandarin Chinese, TSM and Cantonese and analyzes this issue as "the question of how close of the representation of such a compound should reflect its meanings". They concluded that different from Cantonese and Mandarin which form the causative RVC in the lexicon, TSM forms it in the syntax and this is part of TSM's overall "analytic" nature.

According to them, "postverbal objects of causative constructions in Taiwanese cannot be definite". But here what we want to point out is that the post verbal objects of causative constructions can be both definite or indefinite in Teochew, which again may be due to the influence of Mandarin and especially Cantonese. Here we can translate the examples from the paper of Cheng et al. into Teochew as follows.

- (30) a. *Tsit __tsan__ taitsi __gian__ tsau __i/hit__ e __lang__ a. (TSM)
 Tsi __gia__ su __gia__ tsao __i/i__ gai __naŋ__ o. (Teochew)

這__件__事__驚__跑__他/那__個__人__了
 This __CL__ matter __scare __away __him/that __CL __person __PERF
This matter scared off him/that person.

- b. Tsit __tsan __taitsi __gian __tsau __be tsio __lang __a. (TSM)
 Tsi __gia __su __gia __tsao __boi tsio __nan __o. (Teochew)
 這__件__事__驚__跑__不__少__人__了
 This __CL __matter __scare __away __him/that __person __PERF
This matter scared off quite a few people.

As we can see, both causative constructions are allowed in Teochew, same as that in Mandarin and Cantonese. And that means that it does not share the so-called “analytic nature” with TSM (see Huang (2015)). Here taking (30a) as an example, we can adopt Si’s 司富珍 split light verb approach to analyze its synthetic performance more clearly.

(31)

As we can see, the Head *gia tsao* moves from its original location to the positions of different light verbs – from lower layer light verb field to upper layer light verb field, and finally becomes the main verb of this causative sentence. Considering the height of head movement and multiple features merging into one lexical item, it is easy to see its synthetic nature. And in this case, Teochew has the same synthetic performance as Mandarin.

6.5.2 Distribution of aspectual suffixes

According to Huang (2015), different from Mandarin that uses a limited number of aspectual suffixes, TSM expresses aspect by lexical auxiliaries preceding the verb. Here, we want to argue that aspectual suffixes also exist in the literary system of Teochew.

One unique characteristic of Teochew is that there are two language systems – literary and colloquial (*Wénbáiyìdú*, 文白異讀). And people tend to mix the usage of these two systems in daily life. Lin 林倫倫 (1991b), Li 李新魁 (1994: 312-314) and Zhang 張盛裕 (2016: 89-125) have done some detailed research on it. What we want to point out here is that the aspectual suffixes in Mandarin have their counterparts in Teochew too, which also function as suffixes instead of lexical auxiliaries. See Table 13.

Aspectual suffixes	Mandarin	Teochew
Durative	zhe	dio?
Perfective	le	liao
Experiential	guo	gue

Table 13: Aspectual suffixes in Mandarin and Teochew

All the above aspectual suffixes exist in the literary system of Teochew while in the colloquial system, people tend to use preverbal auxiliaries *lo* and *u* respectively to indicate the progressive and perfective aspects. Considering the following structural map, we can say that the literary system of Teochew is more “analytic” while its colloquial system is more “synthetic”.

(32)

7 Conclusions and discussions

Using “productivity” as a criterion to differentiate lexical operations from the syntactic ones in Teochew, we analyze the synthetic performances of Teochew while comparing it with Mandarin (mainly) as well as other languages and we can summarize them in Table 14.

As we can see, most of the word-formation strategies we discussed above cannot be applied in Mandarin. Even if they can, some of them are less productive in Mandarin. Considering that in all cases, lexical ones or syntactic ones, Teochew meets two criteria we put forward to test the synthesis of a language, “Through Head Movement, if a language L allows multiple grammatical functions or features ([+F1], [+F2], [+F3]...) to be realized as one single lexical

Operation	Classification	Category	Approach	Synthetic criteria		Ok in Mandarin?
				Multiple functions	Move	
Lexicon	Semantic changes within the same category	Verb	Adding negative prefix [m]	+	+	-
		Pronoun	Plural form of perpron: adding plural suffix [ŋ]	+	+	-
			Singular form of posspron: changing tone	+	+	-
			Plural form of posspron: adding plural suffix [ŋ] and changing tone	+	+	-
	Categorical Shift	Noun	Adding suffixes	+	+	+ (less productive)
		Verb & Adjective	Repetition	+	+	-
		Noun & Adjective		+	+	-
		Onomatopoeia & Adjective	Adding suffix <i>gio</i> ³	+	+	-
		Noun & Verb & Classifier	Changing tone	+	+	-
		Noun & Verb		+	+	+ (less productive)
		Word & Word Phrase		+	+	-
Syntax	Emphatic inflection	Verb	Changing the phonetic components after the original consonant	+	+	-
	Bare classifier phrase	Classifier & Numeral & Determiner	Empty category at the D Head and Num Head triggering the movement of CL head	+	+	- (only in object position)
	Verb-object order	Verb & Noun	Light verb at v Head triggering the movement of V head	+	+	+ (same)
	Qu/Ke...le/ou	Verb	A light null predicative triggers movement of verb	+	+	+ (less productive)
	Causative S		Light verb triggers movement	+	+	+ (same)
	Aspectual suffix		Verb-to-Aspect movement	+	+	+ (same)

Table 14: The synthetic performances of Teochew

item LI, then L is a synthetic language. If not, L is an analytic one.” We can safely conclude that Teochew is more synthetic than Mandarin.

As for the reason why both TSM and Teochew belong to Min dialect, but they show different positions in the hierarchy of synthesis, we assume that there are two reasons. One is that Teochew is the only variety of Min in Guangdong Province, where Cantonese is an acrolect language. Because of the inter-speech-community communication and spread of media (Lin 林倫倫 1994), it is logical to assume that Teochew is deeply influenced by Cantonese, a highly synthetic language according to Huang (2015). The second reason is that like what we said in the “Introduction” section, Teochew keeps many phonetic, phonological and lexical features of Old Chinese, some of which can be traced back to the Han Dynasty (206 BC-220 AD) even Qin Dynasty (221 BC-206 BC) (Lin 林倫倫, 1997a, 1997b, 1997c). Therefore, like what Huang (2015) said, “OC and MnC language developed from considerable synthesis to high analyticity, peaking at Late Middle Chinese...”, it is easy to conclude that a language or dialect with such a long history demonstrates many synthesis performances.

Although we have concluded that Teochew is more synthetic than Mandarin and further supplement the synthesis hierarchy — “(Cantonese, Teochew) > Mandarin > TSM”. Further research is needed to be done on the synthetic comparisons between Cantonese and Teochew and here we assume that Cantonese is more synthetic than Teochew. On the one hand, Cantonese also has a very long developmental history — both Yuan 袁家驊 (1960) and Hashimoto (1972) have done some research on its historical background; on the other hand, it has a more complex phonetic and phonological system than Teochew. For example, it has one more tone than Teochew. Considering that this paper gives phonetic and phonological elements important roles in synthetic performances, it is reasonable to draw such a conclusion. However, further research is needed to figure it out.

Acknowledgments

This paper benefited greatly from the helpful suggestions given by Prof. Fuzhen Si 司富珍 and the research team Linguistics at Wudaokou Station (理論語言學五道口站) at Beijing Language and Culture University (北京語言大學). It is my great honor to study and work with these lovely and nice people for two years. Among them, Dr. Rui Gong 龔銳 and Dr. Fuqiang Li 李富強 inspired me a lot when I was writing this paper, which I really appreciate. And congratulations on the establishment of Department of Linguistics at BLCU! The first result of this research was presented at the International Workshop on Syntactic Analyticity and Grammatical Parameters (IWSAGP) in Beijing on June 20-21, 2018. Prof. C. T. James Huang 黃正德 and Dr. Xuhui Hu 胡旭輝 also gave some insightful comments in that workshop. Besides, two anonymous reviewers also provided their constructive comments and suggestions. The HK PolyU-PKU Research Centre on Chinese helps me a lot on the reformatting and refining of this paper. Here I would like to express my heartfelt gratitude to them. And all remaining errors are, of course, my own.

Availability of data and material Most linguistic data can be found in the literature mentioned in the References and some of them are based on the intuitions of the author whose mother tongue is Teochew.

Author’s contributions Through using cartography approach, based on the primary linguistic data and in the spirit of Huang’s analyticity and synthesis theory, we reanalyze the synthetic

performances of Teochew and come to the conclusion that Teochew is more synthetic than Mandarin, thus further complement the synthetic hierarchy put forward by Huang as “(Cantonese, Teochew) > Mandarin > TSM.” All authors read and approved the final manuscript.

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