The morphosyntax and semantics of Adjective Classifiers

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1 Introduction

- This talk presents an analysis of adjective classifiers, illustrated in (1)

- (What we are calling) 'adjective classifiers' (A.CL) are classifiers that occur with certain adjectives, *in addition to a numeral classifier* (CL)

- Adjective classifiers are classifiers in the sense they have the same form as numeral classifiers, and 'agree' with the noun that the adjective modifies

(1)   a. Hi sa **diao** lou ho dun***(-diao).**
           that three CL   road very long-A.CL
           'Those three roads are (very) long.'

        b. Hi sa **ts'uan** amliang ho dun***(-ts'uan).**
           that three CL   necklace very long-A.CL
           'Those three necklaces are (very) long.'

        c. Hi sa **bai** suame   ho dun***(-bai).**
           that three CL mountain ranges very long-A.CL
           'Those three mountain ranges are (very) long.'   *Shantou Teochew, Southern Min*

- Classifiers on adjectives have received little attention cross-linguistically (Aikhenvald, 2000), but in a series of recent projects on adjective classifiers, we have shown that:

    - Adjective classifiers are systematically attested across the SE China language area (Biggs and Luo, 2021) (see also Liu (2010) for important discussion of Taiwanese Southern Min)
    - Adjective-classifier morphosyntax has distinct properties from gender morphosyntax (Biggs and Luo, 2020)

- In this talk we concentrate on the semantic properties of adjective classifiers in Shantou Teochew (1) (an understudied variety of Teochew (Southern Min)), and the contribution of the classifier to the functional properties of the adjective

- Our goals are to:

    - Introduce adjective classifiers
    - Show that adjective classifiers have important lexical semantic properties in common with their numeral classifier counterparts, and propose an analysis
    - Set out how the syntactic and semantic properties of adjective classifiers interact with the interpretation of the adjective

2   Brief background: adjective classifiers and the category adjective

- In Shantou Teochew, adjective classifiers appear on ten adjectives, which make up the entire inventory of the dimension/shape property concept class ('dimension' in the sense of Dixon, 1982)

    - 'Big' and 'small'
    - Dimension: *dun/do* 'long/short', *gui/oi* 'tall/small'
    - Shape: *saga/ bang/ yi/ toyi* 'triangular/ square/ round/ oval')
    - No other adjectives, in any context

(2)   a.   Dua/ dun/ gui/ saga*(**-go)**   gai   tun
           Big/ long/ tall/ triangle-A.CL N.MOD candy
           'Big/ long/ tall/ triangular candy'

      b.   Sim/ ts'ubi/ ang/ sio(*-**go)** gai   tun
           New/ cute/   red/ hot-A.CL N.MOD candy
           'New/ cute/ red/ hot candy'

- Adjective classifiers seem to occur only on dimension adjectives in Chinese languages; Shantou Teochew has a particularly high number of adjectives requiring an adjective classifier

Language	Big/small	Other size/shape	Which?	Non-size/shape
Shantou Teochew	✓	✓	long, short, tall, small, round, square, triangle, oval	×
Hui'an	✓	✓	deep, shallow, wide, narrow, long, short, thick, thin	×
Taiwanese Southern Min	✓	✓	deep, shallow, long, wide	×
Chaozhou Teochew	✓	×	-	×
Jieyang Teochew	✓	×	-	×
Cantonese (Yue)	✓	×	-	×
Shanghainese (Wu)	×	×	-	×
Changzhou (Wu)	×	×	-	×
Mandarin	×	×	-	×
(Pattaya) Thai	✓	×	-	✓ (color)

- In Shantou Teochew, the adjective classifier is obligatory with the relevant set of adjectives across syntactic contexts

(3) a. Dua*(**-go**) gai   kigiu
    big-A.CL N.MOD balloon
    'Big balloon'   (Positive attributive)

   b. Ru   dua*(**-go**) gai   kigiu
    more big-A.CL N.MOD balloon
    'Bigger balloon'   (Comparative attributive)

   c. Tsue dua*(**-go**) gai   kigiu
    most big-A.CL N.MOD balloon
    'Biggest balloon'   (Superlative attributive)

(4) a. Hi go kigiu   ho   dua*(**-go**).
    that CL balloon very big-A.CL
    'That balloon is (very) big.'   (Positive predicative)

   b. Tsi go kigiu   bi   hi go kigiu   (ru) dua*(**-go**).
    this CL balloon than that CL balloon more big-A.CL
    'This balloon is bigger than that one.'   (Comparative predicative)

   c. Tsi go kigiu   tsue dua*(**-go**).
    this CL balloon most big-A.CL
    'This balloon is the biggest.'   (Superlative predicative)

- The [adjective-classifier] adjectives have the same syntactic distribution as simple, classifer-less adjectives (3), and pass all tests for adjective-hood, and no tests for any other category, e.g.

  – [Adjective-classifier] adjectives are grammatical with degree modifiers like *huisio* 'very'

  – Degree modifiers like *huisio* 'very' are ungrammatical with verbs and nouns

(5) Huisio ts'ubi.   a. *Huisio ts'io.   b. *Huisio dabougia.
   Very   cute   very   smile   very   boy
   'Very cute.'   (Adj)   Intended: 'Very smile.' (V)   Intended: 'Very boy.'   (N)

(6) Huisio soi-**tsia** (gai   niao)
   very   small-CL N.MOD cat
   'Very small (cat).'

- In Shantou Teochew, only adjectives can occur as the measure in the *ru-* comparative; neither verbs nor nouns can occur as the measure in the *ru* comparative

(7) a. Tsi tsia niao bi   hi tsia niao ru   ts'ubi.
    this CL cat   than that CL cat   more cute
    'This cat is cuter than that one.'   (Adj)

   b. *Tsi tsia niao bi   hi   tsia niao ru   ts'io.
    this CL cat   than that CL cat   more smile
    Intended: 'This cat smiles more than that one.'   (V)

   c. *Tsi tsia niao bi   hi   tsia niao hihua ru   hue.
    this CL cat   than that CL cat   like   more flower
    Intended: 'This cat likes flowers more than that one.'   (N)

(8) Tsi tsia niao bi   hi   tsia niao ru   dua-tsia.
     this CL cat   than that CL cat   more big-A.CL
     'This cat is bigger than that one.'

- See Appendix 1 for further tests of adjective-hood

3   Adjective classifiers as "classifiers"

- In this section we compare and contrast the syntactic and semantic properties of adjective classifiers relative to numeral classifiers

3.1   Adjective classifiers are not numeral classifiers

- Shantou Teochew is a typical example of a numeral classifier language

- Numeral classifiers are items that serve to measure or count an entity; syntactically, they relate nouns (N) to numerals (Num) and/or definiteness/ specificity (D)

- Shantou Teochew is a typical example of an obligatory numeral classifier language: numerals require a classifier when modifying a noun (9a)

- Classifiers can also occur with nouns independent of numerals: [classifier+noun] phrases are specific, while bare nouns are non-specific[1] (Luo, 2021)

(9) a. Sa   *(gai) niao   b. Gai niao   c. Niao
        Three CL   cat   CL cat   cat
        'Three cats'   'Cat' (specific)   'Cat' (non-specific)

- Numeral classifiers only occur within the extended noun phrase; in contrast, adjective classifiers are obligatory on the adjective in all syntactic contexts

- Adjective classifiers, in contrast to numeral classifiers, do not syntactically or semantically interact with Num/D

  – Adjective classifiers do not satisfy the requirement that numerals combine with a classifier (10a) (contrast (9a))

  – An [adjective-classifier+noun] phrase (without a nominal classifier) is non-specific (10b), like the bare noun in (9c)

(10) a. Sa   *(go) bang-**go**   gai   houtsia.
         three CL   square-A.CL N.MOD umbrella
         'Three square umbrellas.'
      b. Bang-**go**   gai   houtsia
         Square-A.CL N.MOD umbrella
         'A square umbrella.'   (Non-specific noun)

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[1]i.e. Shantou Teochew is a 'bare classifier language', in the sense of (Cheng and Sybesma, 1999; Simpson et al., 2011).

3.2 Why call adjective classifiers "classifiers"?

- Adjective classifiers are "classifiers" in the sense that they are drawn from the same classifier inventory as numeral classifiers, with the same morphological form, and the same lexical semantics (see below)

- Typical of Sinitic numeral classifier systems, the Shantou Teochew classifier inventory is rich, with roughly 200 items in common use (Zhou, 1976)[2]

- The seven major types identified in traditional grammars (Zhu, 2008, [1982]) are:

Classifier types	Subtype	Classifier example	Noun example
General/ default		*go/gai* (only two)	people, thought, book
Dimension	1D	*diao*	rope, road, stream
	2D	*dio*	paper, billboard, photo
	3D	*tsia*	car, cat, table
	Containers	*sio* ('box')	toys, apples
Standard measure		*ts'io* (1/3 of 10 meters)	
Partitive/indefinite		*diam/ts'o* (only two)	
Type		*lui/tseng/yo* (only three)	
Event noun		*ts'i* ('time')	running, exam, dinner
Derived ("temporary")		*sin*	clothes

- In Shantou Teochew, adjective classifiers can only be dimension or default classifiers (which happen to comprise the majority of (and most frequently used) classifiers)

3.3 A mixed approach to adjective classifiers: Evidence from "agreement" effects

- It is well known that choice ('agreement') of numeral classifier is complex, determined by the interaction of (at least) three properties

  - Noun class (sortal classifiers must agree with the class of the noun)
  - Syntactico-semantic properties of the modified item (e.g. in the numeral domain, choice between sortal vs. measure shows sensitivity to what is counted)

- This Section shows that adjective classifiers show the same inter-play of these conditions

- Variability in classifier choice sheds light on the rich and varied semantic information associated with the adjective classifier

3.3.1 Noun class agreement

- First, choice of adjective classifier depends on ("agrees with") the class of Nouns, just like numeral classifiers

- For example, Shantou Teochew has a highly productive diminutive *gia*

- The diminutive requires a specific classifier (*lia?*), that may be distinct from the classifier required by the unmodified noun

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[2]An estimate consistent with other estimates for Southern Min varieties (Zhou, 2015).

(11) a. **tsia** dua-**tsia** gai goi
CL big-A.CL N.MOD chicken
'the big chicken'

    b. **lia?** dua-**lia?** gai goi-gia
CL big-A.CL N.MOD chicken-DIM
'the big baby chicken.'

(12) a. **ba?** dua-**ba?** gai tsio
CL big-A.CL N.MOD stone
'the big stone'

    b. **lia?** dua-**lia?** gai tsio-gia
CL big-A.CL N.MOD stone-DIM
'the big little stone'

- Noun class information includes conventionalized properties associated with the noun class (in addition to the basic dimensional information outlined above)

  - *tsia* is a 3D classifier used for certain animals, furniture, vehicles, and people (11a)
  - *ba?* is a 3D classifier used for tough natural materials, such as stone and bamboo (12a)
  - *lia?* is a 3D classifier used for small objects, such as sand and pearls (11b)-(12b)

- We propose that the rich expressive meaning associated with noun classification on adjective classifiers involves conventional implicature (following a proposal for numeral classifiers in Japanese (McCready, 2009) and Malay (Nomoto, 2013))

- Conventional implicatures, in the sense of Potts (2005), are a type of pragmatic content, that:

  - is entailed by linguistic forms (lexical expressions and constructions)
  - but which is distinct from the regular at-issue content of the sentence

- Adjective classifier noun class agreement information passes classic tests for conventional implicatures[3], including e.g., adjective classifier noun classification information projects from under negation and modals (in contrast to the lexical meaning of the adjective)

(13) a. Sise?-tsio, hi gai amliang moi dun-ts'uan.
fact-on that CL necklace NEG long-A.CL
'Actually, that necklace isn't long.'

    b. Hi gai amliang koleng ho dun-ts'uan.
that CL necklace possible very long-A.CL
'It is possible that that necklace is long.'

3.3.2 Grammatical aspects of adjective classifier lexical meaning

- There is also a (semantic) selectional relationship between the adjective and the classifier, restricting the set of possible combinations

classifier	big, small	long, short	tall, small	square, triangular, oval, round
default	✓	✓	✓	✓
$1D_{horizontal}$	✓	✓	✕	✕
$1D_{vertical}$	✓	✕	✓	✕
2D	✓	✕	✕	✓
3D	✓	✕	✕	✕
container	✓	✕	✕	✕

Selectivity between adjectives and adjective classifiers

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[3]For example, like other conventional implicatures, adjective classifier noun class information: (i) does not affect the truth value of the utterance, (ii) is scopeless, escaping from negation and modal operators, (iii) cannot be bound in *if*-clauses, etc.

- The size/shape adjectives select particular classes of classifier (see summary in Table)

  - Long/short: Only horizontal 1D classifiers
  - Tall/small: Only vertical 1D classifiers
  - Shapes (square, triangular, round, oval): Only 2D classifiers
  - 3D classifiers are ungrammatical

(14) a. Do-**diao**/(*-dio)   gai   yi
          short-A.CL$_{1D-horizontal}$/-A.CL$_{2D}$ N.MOD chair
          'Short chair'

     b. Bang-**dio**/(*-diao)   gai   yi
          square-A.CL$_{2D}$/-A.CL$_{1D-horizontal}$ N.MOD chair
          'Square chair'

- If the classifier type required by the adjective is incompatible with the class of the noun, the default/ general classifier is used

Big/small

- *Big* and *small* occur with all types of adjective classifier

- With the default classifier, *big* and *small* have a general meaning of *big*/ *small*

(15) a. Dua-**go**   gai   lodideng
          big-A.CL$_{Gen}$ N.MOD lamp
          'Big lamp'

     b. Dua-**go**   gai   lou
          big-A.CL$_{Gen}$ N.MOD road
          'Big road'

     c. Dua-**go**   gai   tsua
          big-A.CL$_{Gen}$ N.MOD paper
          'Big paper'

- With a dimensional classifier, the dimension (1D/2D/3D) of the classifier specifies the dimension against which *big* and *small* should be evaluated

  - In (16c), *big* describes the width and length of the paper
  - In (15c), *big* not only means 'large in size', it indicates the paper is thick (height/depth), possibly heavy, etc.

(16) a. Dua-**tai**   gai   lodideng
          big-A.CL$_{1D-height}$ N.MOD lamp
          'Big (with respect to height, i.e. tall) lamp'

     b. Dua-**diao**   gai   lou
          big-A.CL$_{1D-Length}$ N.MOD road
          'Big (with respect to length, i.e. long) road'

c. Dua-**dio**   gai   tsua
   big-A.CL$_{2D}$ N.MOD paper
   'Big (with respect to [length x width], i.e. large) paper'

<u>Size/shape dimensional meaning</u>

- Only size/shape lexical meanings require the adjective classifier

- In the absence of a classifier, *dua* 'big' and *sio* 'small' typically have an age interpretation

(17) Yi   ho   dua(*-gai)/ sio(*-gai).
      3SG very big-A.CL/   smallA.CL
      'She is old/young.'

- Similarly when *dua* 'big' and *sio* 'small' are intensifiers, the adjective classifier is ungrammatical

(18) a. dua(*-go) huang   c. dua(*-go) mue hengsi
          big-A.CL wind   big-A.CL make form
          'strong wind'   'act in a dramatic way'

      b. soi(*-go) hue   d. soi(*-go)   hiang ts'ai
          small-A.CL fire   small-A.CL show talent
          'weak fire'   'show a bit of skill'

- While the compositional interaction between the classifier and adjective requires a closer look (see below), the semantic-selectional relationships just outlined indicate that dimensional properties/features are an active part of adjective classifier grammar, e.g.:

(19) a. Adj.CL[+1D$_{horizontal}$]
      b. Adj.CL[+1D$_{vertical}$]
      c. Adj.CL[+2D]
      d. Adj.CL[+3D]
      e. Adj.CL[+Dimension]

3.4 Summary

- Adjective classifiers lack the syntax and semantics of numeral classifiers relating to definiteness/number

- However, adjective classifiers have lexical semantic and 'agreement' properties in common with numeral classifiers

- We have identified a mixed set of properties associated with adjective classifiers, including grammatically active content and conventionalized information associated with noun classification

4   Adjective classifiers and adjective meaning

- This Section turns to the relationship between the adjective classifier and the adjective

- We propose that adjective classifiers have the effect of specifying an (explicit) comparison class for the adjective that it combines with

- Comparison classes (CCs) are typically understood as sets that affect the interpretation of the positive form of a gradable adjective (Cresswell, 1976; Klein, 1980; Higginbotham, 1985), and can be explicitly specified with a *for*-phrase in English

    - The comparison class relativizes the standard of comparison of the adjective (here, e.g. the height one has to have in order to count as tall for an Olympic gymnast is less than the height one needs in order to count as tall for women, or people in general)[4]

(20)   a. Jordan is tall (for an Olympic gymnast). $\neq$ Jordan is tall.

- Evidence that adjective classifiers in Shantou Teochew serve to specify a comparison class comes from manipulating classifier-noun combinations that have conventionalized interpretations, illustrated again in (21) for numeral classifiers

    - *gai* is a general/default classifier, and is the typical classifier used for individuals (humans)
    - *tsia* is a 3D classifier used for animals, furniture, vehicles, and people. In the context of people, the modified person is understood to be tall and strong, and engaged in a specific set of sports, notably basketball or baseball (but not (e.g.) table tennis or badminton)

(21)   a. Hi **gai** nang.
           that CL person
           'that person'

        b. Hi **tsia/*gai** nagiu-undonguan.
           that CL   basketball-player
           'that basketball-player'

        c. Hi **tsia** nang.
           that CL person
           'that person' (implies the person is tall, strong, and a basketball or baseball player)   (Numeral classifiers)

- When adjective classifiers are varied in this manner, the effect is to vary the standard of comparison according to which the adjective is interpreted

(22)   a. Dua-**gai** gai   nang
           big-A.CL N.MOD person
           'A tall and strong person (compared to typical people)'

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[4]Kennedy (2007) develops an influential analysis in which comparison class is determined by Domain Restriction. He proposes that the calculation of the comparison standard is sensitive to the domain of measure function. The domain of the measure function is restricted by the comparison class, so that the measure function can be well-defined only for members in the set denoted by the comparison class. The positive form of a gradable adjective is given as follows, where **s** is a context-sensitive function from measure function to degree, providing a comparison standard, and **g** is the adjective phrase.

(1) $[[\,_{Deg}\,pos\,]] = \lambda g.\lambda x.g(x) \geq$ **s**(g)

(2)   a. $[[\,_{Deg}\,pos\,[\,_{AP}\,\text{tall}\,]\,]] = \lambda x.\textbf{tall}(x) \geq \textbf{s}\,(\textbf{tall})$ (Covert comparison class)
        b. $[[\,_{Deg}\,pos\,[\,_{AP}\,\text{tall}\,[\,_{PP}\,\text{for a gymnast}\,]\,]\,]]$
        $= \lambda x.[\lambda y: \textbf{gymnast}(y).\ \textbf{tall}(y)]\,(x) \geq \textbf{s}\,(\,[\lambda y: \textbf{gymnast}(y).\ \textbf{tall}(y)]\,)$ (Overt comparison class)

    b. Dua-**tsia** gai   nang
       big-A.CL N.MOD person
       'A tall and strong person (compared to taller, stronger people, implied to be basketball or baseball
       players)'   (Adjective classifiers)

- The comparative effect is clear under negation:

(23)   Yi moi dua-**tsia,** yi ho dua-**gai.**
      3SG NEG big-A.CL, 3SG very big-A.CL
      'He's not tall (for a basketball player), but he's tall (for typical people).'

- The following provides an additional example, in which the size of the flower is relativized to different types of objects:

    – *lia?*: 3D, small objects; (24a) says the flower is big relative to a set of very small objects

    – *pao*: 3D, flowers; (24b) says the flower is big relative to common flowers

    – *tsang*: 3D, large objects in nature, e.g. bushes, trees; (24c) says the flower is big relative to big objects like trees

(24)   a. Dua-**lia?** gai   hue
       big-A.CL N.MOD flower
       'a big flower'

    b. Dua-**pao** gai   hue
       big-A.CL N.MOD flower
       'a big flower'

    c. Dua-**tsang** gai   hue
       big-A.CL N.MOD flower
       'a big flower'

- We conclude that the contribution of the adjective classifier to the interpretation of the adjective in Shantou Teochew is to specify the comparison class against which the positive gradable adjective is interpreted (like English *for*-phrases)

5 Conclusions and next steps

- In this talk we have introduced a selection of syntactic and semantic properties of adjective classifiers in Shantou Teochew

- We have argued that adjective classifiers have the same form and lexical meanings as numeral classifiers, but lack the number-related syntactic and semantic properties of numeral classifiers

- We have shown that the lexical semantic properties of adjective classifiers have consequences for the interpretation of the adjective, notably (obligatorily) explicitly specifying a comparison class relative to which the adjective is evaluated

- In current work we are examining the implications of this conclusion, including evidence that adjective-classifier adjectives (whose comparison class is obligatory) have different semantic properties to classifier-less adjectives (whose comparison class may be implicit)

Incompatibility with measure modification

- For example, adjectives with a classifier have the striking property that they can never co-occur with measure modification, in contrast to other, classifier-less gradable adjectives

(25) a. *Yi gui-gai   no-mi.
         he tall-A.CL two-meters
         Intended: 'He is 2 meters tall.'

      b. Hi   diao ho   ts'im no mi.
         that CL   river deep two meter
         'That river is two meters deep.'

- McKinney-Bock (2013) has similarly observed that measure modification is ungrammatical with explicit (overt) comparison class modification in English:[5]

(26) a. John is tall for a man.   (*for*-phrase)
      b. John is six feet tall.   (Measure phrase)
      c. *John is six feet tall for a man.   (*Measure phrase + *for*-phrase)

Comparatives with an overt standard of comparison

- We have also observed that adjective classifiers are ungrammatical in comparatives, where there is an explicit standard of comparison (i.e. where the standard is specified by one of the nouns)

(27) a. Hu bi   he   dua(*-go/gai).
         fish than shrimp big-A.CL
         'Fish are bigger than shrimp.' ('fish' and 'shrimp' uses different nominal CL)

      b. Lou bi   huets'ia dun(*-go/gai).
         road than train   long-A.CL
         'Roads are longer than trains.' ('road' and 'train' uses different nominal CL)

- Notably, the default classifier is not grammatical (further indicating that the classifier contributes to the semantics of the adjective, and is not a requirement of the noun)

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[5]The effect is suggested to provide evidence for an analysis in which *for*-phrases modifies a degree head, rather than the adjective head itself.

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Appendix 1: Additional adjective tests for Shantou Teochew

Adjective diagnostic: Emphatic *oi*

- In Shantou Teochew, when adjectives follow *oi* (lit. 'able') the adjective is focused (emphasized)

    – Verbs that follow *oi* do not have the focused reading

    – Nouns are ungrammatical following *oi*

(28)   a. Hi   tsia niao oi   ts'ubi.
           that CL   cat   able cute
           'That cat is CUTE.'   (Adj)

       b. Tsi tsia niao oi   ts'io.
           this CL   cat   able smile
           'This cat can smile.' (NOT 'This cat SMILES.')   (V)

       c. *Hi tsia niao hihuan oi   hue.
           that CL   cat   like   able flower
           'That cat likes flowers.'   (N)

- [A-A.CL] following *oi* has the focus reading

(29)   Hi   diao lou oi   dun-diao.
       that CL   road able long-A.CL
       'That road is LONG.'

Adjective diagnostic: Reduplication semantics

- Reduplicated adjectives (Adj-Adj) are associated with infant-directed speech/ baby talk, with an intensive semantics

    – VV reduplication expresses tentativity

    – NN reduplication expresses individuation (but is highly restricted)

(30)   a. Ts'ubi∼ts'ubi gai   gao
           cute∼cute   N.MOD dog
           '(Extremely) cute dog' (baby talk)   (Adj)

       b. Pi∼pi
           smell∼smell
           'Try to smell'   (V)

       c. Nang∼nang
           people∼people
           'Every person'   (N)

- [A-A.CL] reduplication has the baby talk/intensive interpretation

(31)   Soi-tsia∼soi-tsia   gai   gao
       small-A.CL∼small-A.CL N.MOD dog
       '(Extremely) small dog.' (baby talk)

Appendix 2: The (morpho)syntax of adjective classifiers

- In Shantou Teochew, the syntax of the [Adjective-classifier] patterns with simple, classifer-less adjectives, i.e. it patterns with (bi-morphemic) Adjective heads (and not phrases)

    - A simple adjective structure: $[Adj\text{-}CL]_{Adj}$
    - The classifier does not (e.g.) embed an elided nominal $[Adj\text{-}Cl(\text{-}NP_{null})]$

- In Shantou Teochew, heads (X^o) (including disyllabic heads) reduplicate

    - Adjectival reduplication occurs in infant-directed speech, with a weak intensification interpretation; the classifier in [adjective+classifier] obligatorily reduplicates as part of the adjective, with reduplicated adjective semantics (32)
    - Compounds and phrases (XP) cannot reduplicate (33)

(32)   a.   ts'ubi∼ts'ubi   ∼cute, '(very) cute'
        b.   yi-go∼yi-go   ∼round-A.CL, '(very) round'

(33)   a.   *sim-ts'iu∼sim-ts'iu   ∼new-hand, intended: '(very) inexperienced'
        b.   *ts'ia-sio∼ts'ia-sio   ∼fire-hot, intended: '(very) fire hot'   (Compound reduplication)

(34)   *sio-tsui∼sio-tsui   ∼hot-water   (XP reduplication)

- Shantou Teochew has causal resultative compounds: [Subject X_1 X_2 Object]. X_1 describes the manner/means of the complex event, while X_2 names the result

(35)   a.   Yi   tsoi-dun   hi   diao so.
             3SG cut-broken that CL   rope
             'She cut that rope broken.'
        b.   Yi   pa-dziudzun   hi   go ti.
             3SG pound-smooth that CL steel
             'He pounded that steel smooth.'

- [adjective+classifier] can occur as X_2

(36)   a.   Yi   tsoi-do-diao   hi   diao so.
             3SG cut-short-A.CL that CL   rope
             'He cuts that rope short.'
        b.   Yi   pa-yi-go   hi   go ti.
             3SG pound-round-A.CL that CL steel
             'She pounded that steel round.'

- Adjective compounds and phrases (XP) cannot occur as the resultative predicate

(37)   a.   *Yi dim-ts'ia-sio hi   wa mi.
             3SG cook-fire-hot that CL noodles
             Intended: 'She cooked the noodles fire hot.'
        b.   *Yi tu-ts'im-nam   hi   mim ts'io.
             3SG paint-deep-blue that CL   wall
             Intended: 'She painted the wall deep-blue.'
        c.   *Yi tsoi-[ho do] hi   diao so.
             3SG cut-very short that CL   rope
             Intended: 'She cut that rope very short.'

Appendix 3: Gradable shape

- The shape vocabulary of Shantou Teochew totals four lexical items: 'round/square/triangular/oval'

- The shape adjectives pattern with gradable adjectives

- In Shantou Teochew, *seho* 'beautiful' is gradable, while *tsotseng* 'extinct' is non-gradable

- Diagnostics include grammaticality with degree modifier *huisio* 'very', and grammaticality with comparatives, marked by *ru* 'more'

(38)   a.   Tsi   pao hue   huisio seho.
             This CL   flower very   beautiful
             'This flower is very beautiful.'

         b.   Tsi   pao hue   (ru)   seho.
             This CL   flower more beautiful
             'This flower is more beautiful.'

(39)   a.   *Tsi tseng hue   huisio tsotseng.
             This CL   flower very   extinct
             Intended: 'This kind of flower is very extinct.'

         b.   *Tsi tseng hue   (ru)   tsotseng.
             This CL   flower more extinct
             Intended: 'This kind of flower is more extinct.'

- The four shape adjectives (which require the adjective classifier) triangular, square, oval, and round pattern with gradable adjectives

(40)   a.   Tsi   go buntuan huisio saga-go.
             This CL rice-ball very   triangular-A.CL
             'This rice ball is very triangular.'

         b.   Tsi   go buntuan (ru)   saga-go.
             This CL rice-ball more triangular-A.CL
             'This rice ball is more triangular.'

         c.   Tsi   go buntuan bi   hi   go buntuan (ru)   saga-go.
             This CL rice-ball than that CL rice-ball more triangular-A.CL
             'This rice ball is more triangular than that one.'

- Please ask us about further diagnostics!