Clausal Noun-Modifying Constructions in Sino-Tibetan Languages

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0. Introduction

Work by Matsumoto (1988a-b, 1997) on Japanese has shown that the traditionally assumed characteristics of relative clauses do not hold in Japanese, that the distinction between relative clause and noun complement does not explain all of the uses of the relevant forms found in Japanese, and that a single morphosyntactic construction (a finite clause modifying a head noun) in Japanese is generally used to convey meanings in English expressed not only by relative clauses and noun complements, but also by infinitival, gerundive, adjectival, and participial forms, often involving prepositions, e.g. *steps to follow, the smell of frying rice, the year after applying, beautiful sky,* and *the change from buying groceries.*

In English the distinction between relative clause and noun complement is that in the relative clause construction an argument of the relative clause (whether overt or assumed) is coreferential with the head noun, whereas in the noun complement construction this is not the case. Semantically a relative clause either helps the hearer identify the referent of the head noun (restrictive—e.g. *the boy who walked in)* or adds pertinent information about the referent of the head noun (non-restrictive—e.g. *my brother, who just got back from Chicago),* whereas the head of a noun complement simply is a characterization of the modifying clause, e.g. *the fact that he is president* characterizes *that he is president* as a fact. In English these two seem structurally similar, but manifest different morphosyntactic behaviour: the head of a noun complement can be dropped, but the head of a relative clause cannot, and only the relative clause can take a relative pronoun.

In contrast to the traditional definitions, Matsumoto (1988a-b, 1997) found many cases in Japanese where the semantic function of a clausal noun modifying construction is that of a restrictive relative clause, yet the head noun is not an argument of the modifying clause, as in (1) (Matsumoto 1997: 20):

(1)   [[hutor-anai]$_{RC}$ okasi]$_{NP}$ wa   nai   kasira.
     gain.weight-not   sweets   TOP   NEG   wonder
     '(I) wonder if there aren't any sweets (even though ( ) eats which) ( ) doesn't gain weight.'

It has been suggested (Matsumoto 1989, Comrie 1996, 1998a-b) that the Japanese type is found more generally in Asian languages and elsewhere. The present paper will present naturally occurring clausal noun modifying constructions found in Mandarin

Chinese, as a representative of the Sino-Tibetan family,[1] to show that Chinese also manifests many of the same phenomena found in Japanese, adding further evidence to efforts to expand the typology of clausal noun modifying constructions.

Chinese is often taken as a prime example of an isolating language. Most relation marking takes the form of particles rather than affixes or inflections. Possibly relevant to the facts that are presented below, Chinese has been argued to not have grammaticalized the sort of pivot constructions normally associated with grammatical relations. That is, it has been argued to not have any particular alignment, as there are no grammatical relations, and the clause pattern is simply topic-comment (Chao 1968, Lü 1979, LaPolla 1993, 1995, 2009; LaPolla & Poa 2005, 2006). We will first talk more generally about structures found in Sino-Tibetan languages, and then focus on Modern Mandarin Chinese.

1. Sino-Tibetan

Historically, as argued in LaPolla 2008b, the earliest Sino-Tibetan clausal noun modifying constructions simply had a modifying clause directly modifying a noun, as in (2) from the *Shang Shu,* the earliest Chinese history:

(2)　敷前人受命《尚書·周書·大誥》
　　　fu　　　　　[[qianren　shou]$_{MOD}$　ming]$_{NP}$
　　　transmit　　forbearer receive　　order
　　　'Transmit the order received by Zhou Gong'

In this structure there is no marking of nominalization, so the modifying clause has the same form as a main clause. This sort of structure, with a main-clause form and no marking of nominalization, is still used in many modern Sino-Tibetan languages, as in the Rawang example in (3):[2]

(3)　*"Vnv̄ng" wā bǿng dènī dèyaq gǿ wēdǿnī lá:ngìē.*　　　　　(LaPolla & Poa 2001:41)
　　　[[vnv̄ng　wā]$_{MOD}$ **bǿng**]$_{NP}$ dènī　dèyaq　gǿ　wē-dǿ　　nī　lv́ng-ì-ē
　　　　Anang　say　　name　　today tonight also　that-ADV　just　use-1pl-N.PAST
　　　'The name called "Anang", in like manner we still use today.'

Here the clause *Vnv̄ng wā* 'called Anang' directly modifies the head noun *bǿng* 'name'.

Aside from this structure, in some languages in the Sino-Tibetan family another sort of construction developed where a demonstrative pronoun appears between the

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[1] In my work on Tibeto-Burman languages, such as Rawang and Qiang, I have not found any language that patterns the way English does in this regard. The languages I am familiar with pattern more like Chinese.
[2] Rawang is a Tibeto-Burman language spoken in Kachin State, Myanmar. All data is from natural texts. Abbreviations used: CL classifier; dem.pro demonstrative pronoun; NOM nominalizer; N.PAST non-past.

modifying clause and the head noun, as in the Old Chinese (from the same book as ex. (2)) and Rawang examples in (4) and (5), respectively:[3]

(4)　乃命建候樹屏，在我後之人。《 尚書·康王之誥》
　　　zai　　wo　hou　zhi　　　ren
　　　be.at　1sg　back　dem.pro　person
　　　'my descendants (lit.: those who are behind me)'

(5)　*Gvzà luq wē í rvt, "wàngcè" wā wē bǿng vbáē.*　　　　　(LaPolla & Poa 2001:47)
　　　gvzà　luq　　wē　í-rvt　　　　[[wàng-cè wā wē]_{MOD} bǿng]_{NP}　vbá-ē
　　　many　enough　NOM　be-because　many-son say NOM　name　　include-N.PAST
　　　'Since they were many, they were called by the name "(Sangza) Wangce".'

In (5) we have a very similar structure to that in (3), again using the verb 'called': *Wàngcè wā wē* 'that called Wangce' and again modifying the head *bǿng* 'name', although in this case the distal demonstrative pronoun *wē* appears at the end of the modifying clause. The demonstrative pronoun *wē* in (5) clearly has a nominalising function, as when it is added to a clause as in this example, the clause with *wē* can be used alone as a referring expression. Because of this, it is glossed "NOM" here. The use of the distal demonstrative pronoun *zhi* in Old Chinese in (4) is not clearly that of a nominalizer (although it is very clearly a nominalizer in other contexts), so *zhi* has not been glossed here as a nominalizer.

3. Modern Mandarin
Although it is often considered that the modern Mandarin form *de,* as in (6) and (7), below, simply relaced the older form *zhi* (e.g. Liu 2008), the constructions are different, as with *de* the modifying clause is much more clearly nominalized, and can be used as a referring expression on its own. As the modifying clause is a nominal, the structure is then [nominal/modifier-nominal/modified]. This makes it actually a noun compound, and this may be part of the explanation for the facts we will present below.

A clause with *de* can often be used alone and still be a complete referring expression with the same meaning as when it modifies a noun (compare (6) and (7)), whereas this was not the case with *zhi.*

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[3] Another construction that developed in many Sino-Tibetan languages is where one or more general nouns, such as 'person', used frequently as the head noun of a relative clause, bleached into a nominalizer, and then that nominalized clause is used to modify a noun. See LaPolla 2008a, 2008b for discussion and examples. In such cases the type of nominalizer that develops can constrain the interpretation of the head noun, such as in Qiang (LaPolla with Huang 2003), where the word for 'person' grammaticalized into a nominalizer, and when such nominalized clauses are used to modify another nominal, the referent of that nominal must be animate; or it can constrain the relationship between the modifying clause and the head noun, such as in Rawang (LaPolla 2008a), where for example the nominalizer *-ra* (< *shvra* 'place') constrains the interpretation to the head being the place of the action of the nominalised clause.

(6)　坐在我後面的人 http://tw.knowledge.yahoo.com/question/question?qid=1612031307463
　　　[[zuo zai　wo　houmian　de]~MOD~ ren]~NP~
　　　　sit　be.at　1sg　back　　　NOM　　person
　　　'the person sitting behind me'

(7)　站在我後面的是台灣人民 http://www.youtube.com/watch?v=iB2gZ5Zt4o0
　　　[zhan zai　wo　houmian　de]~NP~　shi　　Taiwan　renmin
　　　　stand be.at　1sg　back　　　NOM　　COPULA Taiwan　people
　　　'The (ones) who are standing behind me are the Taiwan people'

In these examples it might be argued that the modified noun corefers with a "gapped" argument of the modifying clause,[4] but as there are no obligatory arguments in Chinese, it would be hard to argue for a "gap" in the modifying clause. Also, much as in Japanese, the same structure in Chinese also can be used when the head of the structure clearly does not corefer with an argument of the modifying clause, as in (8)-(12):

(8)　在每年地價稅開徵四十日前（即9月22日前），逾期申請者，<u>自申請的次年期開始適用</u>。　http://www.kctax.gov.tw/tw/tax/LVT01.aspx
　　　zi　　　[[shenqing de]~MOD~ ci　　　nianqi]~NP~ kaishi shiyong
　　　from　　apply　　NOM　　next　　year　　　start　use
　　　'(it will be) effective starting in the year after applying.'

(9)　a. 有人以前<u>買菜的零錢</u>，都會分給孩子，現在投竹筒，可以讓孩子一起來付出。
　　　　http://www.newdaai.tv/?id=49496&view=print
　　　　[[mai cai　　　　de]~MOD~　lingqian]~NP~
　　　　　buy vegetable NOM　　　　change
　　　　'change (left over after) buying groceries'[5]

　　　b. 她会将<u>买菜的零钱</u>都放在一个小钱包里，需要买菜时，全部由陈万华取钱买菜。
　　　　http://www.js.xinhuanet.com/xin_wen_zhong_xin/2012-06/18/content_25407465.htm
　　　　[[mai cai　　　　de]~MOD~　lingqian]~NP~
　　　　　buy vegetable NOM　　　　change
　　　　'change for buying groceries'

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[4] I avoid using terminology from old transformational generative grammar, such as "relativisation on the subject" or "relativisation on the object". There is only the one construction, and the construction does not necessarily relate clearly to other forms, such as main clauses, in the way imagined in transformationalist approaches.

[5] In a different context, such as (9b), this could mean 'the change to buy groceries with', but that is not what it was used to mean in the context in which (9a) appeared. This is from a Buddhist web site where they are trying to get people to donate more money. The full translation is 'Some people, before, they would take the money left over from buying groceries and give it to the children, now they put it into the collection box, this way they can have the children donate together'. The context for (9b) is 'She put her money for vegetables in a small wallet, and when vegetables needed to be bought, Chen Wanhua would take money to buy the vegetables.'

(10) 很快，室内响起了炒饭的声音。   http://www.zwwx.com/book/10/10815/3146586.html
hen kuai, shi nei xiang-qi [[chao fan de]$_{MOD}$ shengyin]$_{NP}$
very fast room inside sound-up stir.fry rice NOM sound
'Very quickly the sound of (someone) frying rice came from inside the room'

(11) 好吃又不会胖的甜点 http://yule.tv.tom.com/App_User_Video.php?video_id=21702
[[haochi you bu hui pang de]$_{MOD}$ tiandian]$_{NP}$
   tasty also not can fat NOM sweets
'sweets that (when you eat them they) won't make (you) fat'

(12) 不用洗手的自动马桶 http://nimb.blogbus.com/logs/52825568.html
[[bu yong xi shou de]$_{MOD}$ zidong matong]$_{NP}$
 NEG use wash hand NOM automatic toilet
'a toilet which (after having used it one) doesn't need to wash (one's) hands'

In these examples, the modifying clause could be used alone, but could have many different referents depending on the context. For example, in (8) *shenqing de* could refer to the person who applied or the papers used for applying, and many other things. Here the element modified is '(the) next year', and so that constrains the interpretation of the modifying clause to the act of the application. The same is true of the other examples. The modifier constrains the interpretation of the modified element, but at the same time the modified element also constrains the interpretation of the modifying clause.

To show how varied the relationships can be, compare the following examples, all with the same expression, 能寫的 *neng xie de* [able write NOM] in terms of the interpretation of the referent of the modifying clause, the interpretation of the referent of the modified element (when there is one), and that of the combined form:

(13) 後面能寫的紙都不浪費 http://www.youtube.com/watch?v=V5DHRvnv_7M
[[houmian neng xie de]$_{MOD}$ zhi]$_{NP}$ bu langfei
   back able write NOM paper NEG waste
'paper on which you can write on the back'

(14) 想找枝能寫的筆 http://www.managertoday.com.tw/?p=2483
xiang zhao [zhi [neng xie de]$_{MOD}$ bi]$_{NP}$
think look.for CL able write NOM pen
'(I) want to find a pen (which) can write' (or 'which one can write with')

(15) 能寫的人，有福了！ http://www.dk101.com/Discuz/viewthread.php?tid=93094
[[neng xie de]$_{MOD}$ ren]$_{NP}$, you fu le
 able write NOM person have blessing CSM
'People who can write, you are in luck!'

(16) 不能寫的人 http://tw.knowledge.yahoo.com/question/question?qid=1510092303862
    [[bu   neng   xie   de]_MOD ren]_NP
      NEG able   write NOM person
    'people that (you) cannot write about'[6]

(17) 能說又能寫的能力 www.evis.com.tw/YOHAN_2012.pdf
    [[neng   shuo neng xie   de]_MOD   nengli]_NP
      able   speak able write NOM   ability
    'ability to speak and write (well)'

 (18) 學習英文，可以說是全民運動，可是真正學的好英文，<u>能說又能寫的</u>，實在少之又少。 http://save-coco.blogspot.com/2012/01/blog-post_05.html
    [neng   shuo   you neng xie   de]_NP
      able   speak   also able write   NOM
    '(Learning English can be said to be a national movement, but those who can learn it well,) <u>who can speak and write</u> (English well actually are very few)'

(19) 將目前手中有的資料<u>能寫的就寫吧</u> http://zh.wikipedia.org/wiki/User:Irwin
    [neng   xie   de]_NP jiu xie   ba
      able   write NOM   then write SUGGESTION
    '(Take the materials you have in hand now,) <u>just write the (materials) that (you) can write</u>'

The same structure in different contexts can be interpreted differently, as can be seen in comparing (15) with (16) and (18) with (19), as well as (9a-b). When there is a head sometimes the real world nature of the head is a clue as to it's relationship to the modifying clause, so if we compare, for example (13) and (14), it is only our understanding of the nature of 'paper' vs. 'pen' that tells us whether the referent of the modifying clause is what is written on or what is used to write.[7] But even this is not fully deterministic, as the head is also open to many sorts of interpretations, as we can see from comparing (15) and (16).

4. Discussion
These modifying clauses are structurally compound constructions, the same structure as, for example, in *muzhuo* 'wood(en) table', where the first element restricts the sense of the second element, but because the first element in the construction under discussion here is a clause, it has often been talked about as a relative clause.

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[6] This was from a discussion about a teacher asking the students to write about someone they wanted to thank, but then saying they couldn't write about their parents or teacher or the usual people one would think of. The author then said 'Think of all the people you meet during the day, then subtract <u>(the people) you can't write about</u> and that is the people you should thank'.

[7] (13) has *houmian* 'back' as part of the modifying clause, but used alone it would not necessarily refer to the back of paper. For example, the back end of a pen can also be called the *houmian*, and the phrase *houmian neng xie de* is often used to mean '(things that) can be written later'.

Once we start looking at the uses of this construction, we find that there are many possibilities in terms of the understanding of the referent of the clause and the relationship between the clause and the head. The structure does not constrain the interpretation of the relationship between the modifying clause and the head. So in the framework of LaPolla 2003, we would say that languages with this sort of construction have not grammaticalized constraints on the identification of the relationship between the modifying clause and the head noun. Another way to say this is that the construction does not constrain the role of the modified noun relative to the modifying clause.

As Matsumoto 2010 shows for Japanese, the sense of the modifying clause also helps the addressee infer the correct interpretation of the head noun. Because of this, Matsumoto (2007), working in Frame Semantics, argues that the construction involves the integration of two semantic frames, that of the head noun and that of the modifying clause. The intersection of elements of these two frames gives the overall construction its meaning. From the point of view of LaPolla 2003, I would say simply that the modifying clause helps constrain the interpretation of the referent of the head noun, and at the same time the head noun (if there is one) helps constrain the interpretation of the modifying clause.

Given the many possible uses of this construction, rather than trying to artificially divide the possibilities into one or the other choice in the traditional dichotomy of relative clause and noun complement, and also trying to determine strict subcategorization frames or argument structures and relations, in Chinese we can simply follow a constructionist approach[8] and recognize a single clausal noun modifying construction, which posits only a relationship between the modifying clause and the head. In Mandarin these two parts are both referring expressions, and so can be used alone or together. One of the core insights of Construction Grammar is that the overall construction has meaning beyond the sum of the parts. It is the two elements (the modifying clause and the head) being together in the construction and in a particular context that allows the particular interpretation of the relation between the two and the interpretation of the referent. (As in Gestalt psychology, perception of the features of some experience is heavily influenced by perception of the whole.)

In modern Mandarin Chinese the nature of the modifying clause plus head construction is actually a nominal-nominal compound, and this might explain the lack of constraints on the interpretation, like in noun-noun compounds in English (see Downing 1977, Kay and Zimmer 1978, Levi 1978, Finin 1980). This is not the case in Japanese, though, so it cannot be the explanation in that language, and possibly is not the explanation in Chinese as well. In looking for correlations elsewhere in the grammar, we might say that this is another aspect of the fact that Chinese does not constrain the interpretation of the identification of referents and their roles in discourse as much or in the same way as, for example, English. So for example, as argued in LaPolla 1993, LaPolla & Poa 2006,

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[8] See Croft 2001, to appear, on a useful constructionist approach, and LaPolla 2011 and LaPolla, Kratochvíl, & Coupe 2011 for other applications.

Mandarin Chinese does not have pivot constructions of the type associated with "subject", that is, where there is a restricted neturalization of roles for the purpose of referent tracking (see LaPolla 2006). That fact seems to be operative in the case of these modifying clauses as well, as they also don't restrict the role of the referent of the head noun relative to the modifying clause.

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