Definiteness Agreement and the Chinese DP

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This paper reflects on how and why agreement systems may arise, maintain themselves and ultimately go into decay, and suggests that Mandarin Chinese relative clause/possessive *de* is a 'bleached' determiner instantiating one possible endpoint/outcome in the historical development of a system of definiteness agreement. Comparing Chinese with Hebrew, Buginese and other languages which show earlier stages of definiteness concord, it is suggested that Chinese shows an interesting deviation from more common patterns of determiner grammaticalization with the re-deployment rather than simple loss of the determiner *de* after its earlier hypothetical definiteness has disappeared. Synchronically the paper also attempts to show how an analysis of *de* as an enclitic determiner in D^0 is able to explain a variety of current syntactic patterns in the language.

Key words: definiteness agreement, Mandarin Chinese, grammaticalization, determiner

1. Agreement phenomena in natural language

Agreement systems essentially encode a repetition or doubling of information with some specification of a linguistic element (e.g. gender, number or even interrogativity) being mirrored in a second element present within a particular syntactic unit. In some instances the doubling effect is clearly visible, as for example when plural agreement on a verb matches plural marking on its subject as in German (1). In other cases agreement marking on one element may correspond to an *inherent* specification on a second element, as when an adjective reflects the inherent gender of the noun it modifies in examples such as Spanish (2):

(1) Kinder   weinen
     child-PL   cry-PL
     'Children cry.'

(2) cada   mujer   hermosa
     each   woman   beautiful-FEM
     'every beautiful woman'

Such classic agreement systems are commonly taken to result from the grammaticalization and collapsing of complex forms. Verbal agreement for example is often suggested to arise when independent pronouns undergo reanalysis as inflectional affixes after a transitional intermediate period as clitic pronouns. In a well-known paper Givon (1979) argues that the reanalysis of topic-comment structures as subject-predicate forms is a very common source for verbal agreement, schematically as represented in (3):

(3) a. John   he   left
         TOPIC   SUBJECT   VERB
         'John, he left.'
     a'. John   he-left
         SUBJECT   3SG.MS-VERB
         'John left.'

Another instance of reanalysis and the collapsing of two forms is seen in the creation of possessor agreement in Mongolian as reported in Comrie (1980). In Classical Mongolian it was possible for a possessor to either precede or follow the possessed noun as in (4), this corresponding to a difference in relative emphasis. Later on the two positional occurrences of the possessor are attested to surface simultaneously, with the post-N form having grammaticalized to a suffix, so resulting in the repetition of the possessor information and a new agreement system, as in (5):

(4) a. minu   morin
         my   horse
     a'. morin   minu
         horse   my   Comrie (1980)

(5) minu   morin-m
     my   horse-1SG   Comrie (1980)

Having thus arisen as the result of historical change, agreement patterns may then sometimes appear to serve a useful purpose in a language. In a number of languages with rich verbal inflection such as Italian or Swahili it is possible to omit an overt subject from a finite clause, the reference of such a subject being largely recoverable from the agreement information on the verb. However, elsewhere it may seem that the existence of agreement systems really contributes very little to an increase in intelligibility. In English the identity of the subject is primarily a function of word order and its preverbal position; the occurrence of a 3SG subject agreement marking '-s' in

present tense forms neither licenses the subject to be omitted nor really assists in the identification of the subject. Similarly in strings with inflected determiners, adjectives and nouns in German, it would seem that agreement information about number, gender and case is repeated for no obvious gain in understanding:

(6) der   alte   Mann

     the.NOM.MS.SG   old.NOM.MS.SG   man

     'the old man'

In Italian (and Swahili etc), agreement coding on the verb occurs even where the subject is lexically present and identified by its position in word order; again the repetition of this agreement information encoding the identity of the subject would seem to be redundant when the subject is also overtly present and might be expected not to occur. Such is in fact the case in languages such as Breton, where one finds that either a lexical subject occurs and the verb is uninflected for person/number agreement, or that the subject is null and the verb is fully inflected for agreement. Breton thus economically encodes agreement only when this serves a purpose, and actually disallows it when this would not give rise to additional effects:

(7) Al   levr   a   lenne   ar   baotred

    the   book   PRT   read.IMP   the   boys

    'The boys were reading the book.'

(8) Al   levr   a   lennent   *(ar   baotred)

    the   book   PRT   read.IMP.3.PL   the   boys

    'They/*the boys were reading the book.'   (Stump 1989)

Generally then agreement might often appear to be a rather redundant repetition of information arising via historical re-analysis. As such one might expect that it should disappear if serving no purpose in a language, and the gradual erosion of once rich verbal (and nominal) agreement in English is indeed an example of this.

When considering Chinese in relation to agreement phenomena, possibly the clearest approximation to more familiar agreement systems is the use of classifiers with nouns, this being by and large equivalent to gender systems in Indo-European languages and to noun-class marking in Bantu. Reflection on the large number of East Asian classifier-languages indicates that classifiers generally come to be used first with numbers and numerically-quantified expressions and then may optionally spread elsewhere in a language. In Chinese, Thai and Viet (but not Japanese or Indonesian) classifiers now occur with demonstratives; if the classifier+demonstrative forms in time

collapse into a single unit, this will clearly give rise to an inflectional agreement system parallel to that found in Indo-European, where determiners and demonstratives agree in gender with their modifying noun. In Thai the use of classifiers has spread further to adjectives, so that the inherent class of the noun may (optionally) be repeated as agreement on both an adjective and a demonstrative:

(9) phuuying   khon-kae   khon-nii
    woman   CL-old   CL-this
    'this old woman'

The observation that classifiers originate with numerically-quantified expressions may possibly be related to the fact that such expressions very frequently correspond to *new* information introduced into a discourse.[1] In languages such as Chinese, Thai and Viet with large amounts of mono-syllabic homophones, it is possible that the classifier used with new discourse referents serves to indicate more clearly which of several alternate homophones is actually being used. Sequences such as (10) from Middle Chinese show that although a classifier occurs in the initial reference to a new NP with a numeral, it may be dropped in subsequent uses even where the numeral is maintained. This would then seem to indicate that, in its initial stages at least, classifiers may be used as disambiguating devices for novel NPs:

(10) you   da-jiang   er-ren. Er   jiang…
     be   great-general   2-CL   2   general
     'There were two great generals. The two generals…'   (Schafer 1948)[2]

Although it is therefore possible to detect certain functional application in the use of classifiers as nominal agreement markers, it is nevertheless true that generally the doubling effect inherent in grammaticalized agreement phenomena appears to be redundant and unnecessary, in Gabelentz' (1891) grisly terms such elements being 'mummified' forms 'lingering on without life as preserved corpses' (Hopper and Traugott 1993:20). More recently Chomsky (1995) suggests that most agreement phenomena are largely "uninterpretable" (at LF) and hence should not receive any

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[1] It can be observed that after an NP quantified by a numeral has been first introduced as new information, it may subsequently be referred back to often *without* repeating the numeral, i.e. numbers occur most commonly in the *first* introductory reference to an NP:
    (i) Then I saw three men. The men/they walked up and greeted me.
[2] Bisang (1997) notes that a second early use of classifiers, especially in Chinese, may have been to reflect an increased respect for certain referents/valuable objects.

special mental representation in universal clausal structure. Somewhat prior to this Kuroda (1988) similarly proposed that the occurrence of agreement in a language is really rather arbitrary and certainly not essential, being present in English but not in Japanese-type languages. Ultimately then one might expect that where there are two elements both encoding the same specificational information (i.e. agreeing with each other) due to some earlier grammaticalization and re-analysis, then such repetition of information should only be tolerated so long as there is some functional advantage to this; where there ceases to be such a gain, it is to be expected that one of the pair of elements should go into to decline and then disappear or mutate. Clear examples of this can be given from the pattern of negation agreement/concord found in both French and earlier forms of English. In both French and English negation was formerly indicated by a single element *ne*. In French this was later reinforced by a series of emphatic object markers including the word *pas* 'step' specifically with verbs of motion. Over a period of centuries *pas* became the specialized emphatic negation marker for all verbs and eventually turned into the primary neutral marker of negation. As a result of this, the original negation marker *ne* redundantly came to encode negation a second time in the clause and now is fast disappearing from colloquial speech. The doubling of information is consequently subject to eventual elimination wherever it occurs without additional gain.

1.1 Definiteness agreement

In this paper I would like to suggest that Chinese plausibly instantiates the development of a cross-linguistically common pattern of *definiteness agreement*. Definiteness agreement patterns are essentially found in two basic forms. The first of these is where a determiner co-occurs with a demonstrative as e.g. in Spanish, Hebrew, Romanian, Albanian, Buginese and various other languages. Consistently it is found that in such cases it is only the *definite* determiner which may occur and not any indefinite equivalent. It would therefore seem that the determiner has to agree in definiteness specification with the +definite value of any demonstrative which is present, as illustrated in (11) from Spanish:

(11) a. el   libro   este
        the   book   that
        'That book'
    a'.*un   libro   este
        a   book   that

The second common occurrence of definiteness agreement is where adjectives appear accompanied by a determiner, this doubling the presence of a determiner with the actual noun. Again if the definite determiner appears with the noun, one can only select a definite determiner with the adjective--the determiners must agree in their +definite specification. (12) below is from Modern Greek (Androutsopoulou 1996):

(12) to   meghalo   to   ghermaniko   to   piano
     the   big   the   German   the   piano
     'The big German piano'

(13) *ena   meghalo   to   piano
     a   big   the   piano

As noted before, if it is assumed that repetition of a specification such as definiteness should eventually be eliminated if not serving any other function, it is expected that the doubling of the definiteness specification of the DPs here will disappear if it is not put to other functional use. In this light one may note that concurrently a pattern more common than (11a) in Spanish is *not* to repeat the definiteness value and to simply make use of a single demonstrative as in (14):

(14) este   hombre
     this   man

In Greek and similar languages, there is also the possibility of *bare* adjectival modification without the use of the determiner on every adjective; one can therefore see the elimination of agreement redundancy here as well, though the issue is complicated by the fact that use of the determiner allows for greater freedom in stacking adjectives and so still brings a functional gain (see section 4 below).

With regard to Chinese, the aim of this paper is to suggest that a system of definiteness agreement similar to that illustrated above may indeed have effectively once existed in the language due to the co-occurrence of multiple determiners and demonstratives, but that Chinese has now essentially eliminated this redundant doubling, critically not via loss but by a further change in the function of the elements involved. In the sections which follow, the paper will present a variety of data and argumentation suggesting that the modificational element *de* found in relative clauses, possessor structures and nominalizations and previously glossed simply as a 'particle' should actually be analyzed as a *determiner*, one which has over time undergone severe bleaching and virtual loss of its +definite specification. Where *de* and demonstratives now co-occur as in (15) there is then (by hypothesis) no longer the redundant doubling

of definiteness values as *de* is suggested to have become a neutral general determiner fully underspecified for the parameter of definiteness and one which is therefore compatible with either definite or indefinite quantifiers. In short Chinese is hypothesized to have gone through a stage which might be labeled as one encoding definiteness agreement (as in Hebrew, Greek etc), but has subsequently emerged with a rather different adaptation of this earlier uneconomical state:

(15) [ta   mai]   de   nei-ben-shu
    he   buy   DE   that-CL-book
    'that book he bought'

2. The cross-linguistic paradigm of *de*-marking

The element *de* which constitutes the essential focus of this paper is the Mandarin Chinese morpheme which occurs in relative clauses such as (15), with adjectives and PPs as in (16) and (17) (these being taken here to be further instances of relative clauses), in possession structures such as (18) and clause-finally as in (19):[3]

(16) hao   de   shu
    good   DE   book
    'good books'

(17) zai Beijing   de   ren
    in Beijing   DE   people
    'people in Beijing'

(18) wo   de   shu
    I   DE   book
    'my book'

(19) wo zuotian   lai   de
    I   yesterday   come   DE
    'I arrived yesterday.'

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[3] While there are other elements pronounced *de* in Mandarin, e.g. 'potential' *de* (*kan-de-jian* 'able to see'), adverbial/descriptive *de (ta zou de hen kuai* 'he ran very fast') and resultative *de* (*ta qi ma qi de hen lei* 'he rode the horse until he got very tired'), it is only the particular set of environments/occurrences in (15)-(19) which are realized by the same morpheme in other dialects of Chinese (e.g. Cantonese and Shanghainese) and equivalent potential, adverbial and resultative morphemes have different instantiations. We therefore do not consider potential, adverbial and resultative *de* to be part of the same paradigm.

Interestingly elements with a parallel distribution are also found in many other languages of Eastern Asia, as has often been observed (Matisoff 1972, Paris 1979, Kitagawa and Ross 1982), for example in Japanese, Burmese and various other languages of the Tibeto-Burman group. In Japanese the morpheme *no* is observed to occur in possessive structures as in (20), clause-finally in (21), in headless relative clauses/clefts such as (22), and in relative clauses produced by children as in (23) (though not appearing in adult Japanese in this way):

(20) Taro   no   hon
     Taro   NO   book
     'Taro's book'

(21) kinoo   kita   no
     yesterday   came   NO
     '(I) came yesterday.'

(22) katta   no   -wa   hon   desu
     bought   NO   TOP   book   is
     'What I bought was a book.'

(23) ohana   motteru   no   wanwa
     flower   holding   NO   doggie
     'the doggie (which is) holding the flower'   (Murasugi 1997)

In Burmese one also finds the same basic paradigm repeated, both in colloquial and in literary forms. In the literary style the element *thii* occurs clause-finally, both with matrix and embedded clauses, and the same element carrying a creaky tone appears marking relative clauses (and with adjectives, PPs etc, sub-cases of relative clauses). Possession structures are marked with the morpheme *i*, but this element is significantly found to be in free variation with *thii* sentence- or clause-finally indicating that it is indeed part of the basic paradigm. All of the Mandarin/Japanese pattern consequently appears to re-occur:

(24) U-Win-Win   laa   thii/i
     U-Win-Win   come   DE
     'U-Win-Win came.'

(25) U-Win-Win   i   sa-ouq
     U-Win-Win   DE   book
     'U-Win-Win's book'

(26) ca-naw weh thii sa-ouq
     I   buy DE book
     'the book I bought'

(27) twee ya thii wun-tha ba thii
     meet get DE be-pleased POL DE
     '(I) am pleased to meet you.'

Because of the fact that *de* and its equivalents in Japanese and Tibeto-Burman are commonly seen to combine with clauses and resulting in nominal phrases which allow for case-marking, *de* and its relatives in other neighboring languages have frequently been referred to as *nominalizers* (Matisoff 1972, Paris 1979, Kitagawa and Ross 1982, Herring 1991). Though such a classification would intuitively seem to be on the right general lines, it is frequently not made clear what a 'nominalizer' is formally taken to be (and in this sense the term "nominalizer" is somewhat similar to the general and rather uninformative label 'particle'). For example, it is not made clear whether one is to understand the application of DE[4] to apply in the *lexicon* to some syntactic category converting it to the category N, or whether DE is an independent lexical element of some particular type applying within the syntactic component. The first option can in fact most certainly be discounted; DE cannot be analyzed as a derivational affix converting the syntactic category of an X^0 element to N^0 for the simple reason that DE is an element which attaches to *phrasal* rather than word-level categories. If one considers only Japanese, Burmese and other Tibeto-Burman languages, because of their SOV word order DE is found to occur adjacent to (following) the verb and so might possibly be imagined to be a verbal suffix (examples 21-24, 26, 27); however SVO Chinese clearly shows DE following objects in relative clauses and sentence-finally, as for example in (28) and (29):

(28) [mai nei-ben-shu]   de   ren
     buy that-CL-book DE   person
     'the person who bought that book'

(29) wo (shi) zuotian mai nei-ben-shu de
     I (be) yesterday buy that-CL-book DE
     'I bought that book yesterday.'

DE can therefore not be analyzed as attaching to the verb and must be taken to combine

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[4] DE in capitals will now be used to represent not only Mandarin *de* but Japanese *no*, Burmese *thii* and all other instantiations of this element in related languages.

with a *phrasal* unit, hence necessarily in the syntactic component after such phrases/clauses have been constructed. Further reason to believe that DE is not a derivational formative converting other syntactic categories into N^0 nominal elements is that DE clearly combines with elements that are nominal already--i.e. DE is found attached to NP possessors in the "genitive" construction (18, 20, 25). This would seem to indicate that DE is not of type N^0.[5]

The simplest analysis for DE might then really appear to be the assumption that DE is indeed a determiner of category D^0, combining with and selecting a clausal category in the syntax to produce a DP which may then be case-marked and function as a DP argument.[6]

There is also a set of interesting additional evidence present in Burmese and Japanese which can be argued to indicate that the analysis of DE as a determiner is in fact correct. In addition to the paradigm of environments in which DE standardly occurs in Chinese, Japanese and Burmese (i.e. clause-finally, in relative clauses, in possessives, with adjectives etc), in literary Burmese, classical Japanese and the Japanese spoken in Kyushu, DE (*thii* in Burmese, *no* in Japanese) also occurs as a *subject-marker*, as illustrated in (30)-(33) (examples 31-33 come from Shibatani 1990):

(30) U-Win-Win-thii   laa   pa   thii
      U-Win-Win-DE   come   POL   DE
      'U-Win-Win came.'

(31) Tei-no   ogotta koto-o   iuta to   iute   warawashita zo
      emperor-DE boasting thing-ACC said that saying laugh-HON   EMPH
      'The emperor laughed saying that (someone) had said such a boastful thing!'

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[5] A third reason to reject any suggestion that *de* converts bare words to N^0 types in the lexicon relates to ordering restrictions on adjectival strings. Bare adjectives must always be adjacent to the noun and must follow adjectives suffixed by *de* as (i) and (ii) show:
(i) hei-de   xiao   shu   (ii) *xiao   hei-de   shu
     black-DE   small   book   small   black-DE book
This may be explained if one makes the natural assumption that bare adjectives are word-level Adj^0 elements which need to adjoin to other word-level elements; they must hence always be adjacent to N^0 (or another bare Adj^0 adjoining to N^0). Positioning an Adj-de sequence between a bare adjective and the noun seems to block the possibility of such adjunction. The obvious conclusion to be drawn from this is that *de* does not simply convert Adjectives into simple N^0 elements via 'nominalization' but creates a phrase-level projection which then blocks adjunction between genuine word-level categories.

[6] Precisely how this results in the surface word order attested will be discussed in section 4. Section 4 will furthermore show that a Kayne (1994)-style analysis of possessive structures in Chinese is able to maintain a uniform account of DE as a determiner selecting a CP.

(32) sensei-no   korareta
      teacher-DE   came-HON
      'The teacher has come.'

(33) jidoosha-no kuru   zo!
      car-DE   come   EMPH
      'The car is coming!'

The fact that DE occurs as a subject-marker independently in *both* Burmese and Japanese might seem to suggest that there must be some natural connection between these subject-markers and the "nominalizing" element marking relative clauses and possessors. I would like to suggest that this additional part of the paradigm which might initially seem to be rather puzzling can in fact be neatly explained if one accepts the analysis of DE as a determiner and relates it to two other common patterns of grammaticalization.

The first of these is that determiners most frequently develop from *demonstratives*. This is attested in Indo-European where French determiners *le* and *la* are known to derive from the Latin demonstratives *il-le* and *il-la*[7] (see e.g. Vincent 1997) and German where determiners such as *de*r (MS.SG.NOM) derive from the MS.SG.NOM demonstrative form *dieser* via a typical process of reduction. English *the* is similarly related to the demonstratives *this/that*, and Greenberg (1978) also discusses the demonstrative-determiner relation in numerous African languages. Determiners are generally assumed to develop from demonstratives via loss of the deictic force present in standard demonstratives and their subsequent application to generic and abstract noun-types and possible use in "indirect anaphoric contexts" of the sort illustrated in (34) below:

(34) A couple came into the bar.   The/*that man was dressed in black.

The second relevant process of grammaticalization is that demonstratives are also hypothesized to develop into *subject-markers* and *nominative-case* elements. The most prevalent theory concerning the development of Proto-Indo-European nominative case is precisely that it developed from the Proto-Indo-European demonstrative **-so* (Theodora Bynon p.c.). Here one might wonder why it should be that demonstratives would turn into subject-markers and what the relevant developmental connection could be. A plausible explanation I believe is that subject DPs in many languages are

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[7] The initial part of *il-le/il-la* became the French 3SG.MS nominative pronoun 'he' (another instantiation of D^0). *Le/la* also became employed as (clitic) object pronouns.

constrained to be *definite*, and as demonstratives themselves encode a clear definite specification, it might indeed be rather natural that demonstratives should come to be used to mark subjects in such languages.

The observation of such paths of grammaticalization now allow one to attempt an explanation of the otherwise odd co-occurrence of DE both as a "nominalizer" and as a subject-marker in Burmese and Japanese. It can be hypothesized that both the "nominalizer" use of DE and its use as a subject-marker are the result of simultaneous grammaticalization in two directions from a single original *demonstrative* source--on the one hand the ancestor demonstrative would have developed into a subject-marker, and on the other into a determiner as schematized in (35):

(35)　　　　　　　　　　Demonstrative

Determiner　　　　　　　　　Subject-Marker
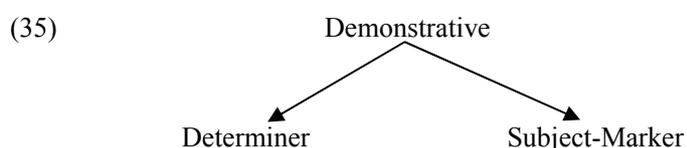
Such a path of development is both inherently plausible and would appear to be the only obvious way to relate these two otherwise unconnectable uses of a single morpheme. What is now interesting to note is that in literary Burmese one can in fact still find a demonstrative which instantiates the hypothetical source element in (35). Specifically in literary Burmese there is a demonstrative which is pronounced in the same way as the "determiner" DE form *thii* and the subject-marker *thii* as shown in (36):

(36) thii　　sa-ouq
　　　this　　book

The existence of such a demonstrative linking the "determiner"-form and the subject-marker provides strong support for the hypothesized sequence of development, which in turn supports the main suggestion here that Chinese *de* and its equivalents in other neighboring languages are indeed determiners which have undergone bleaching of their definiteness value. Otherwise put, the only way that one can make good sense of the patterning observed is if one assumes that the Burmese element *thii* is a determiner, and as Burmese *thii* essentially has a parallel function and distribution to Chinese *de*, this providing strong indirect support for the *de*-as-determiner hypothesis. Cross-linguistic comparison then adds extra weight to the determiner analysis of *de* already made plausible on the grounds of its 'nominalization' function.

Finally there is also significant Chinese-internal evidence for the demonstrative origins of *de*. Although one cannot be fully sure about the early history of *de*, it is widely speculated that *de* in fact developed from the earlier classical Chinese element

zhi which had a distribution largely parallel with modern Chinese *de*. What is important in this connection is that in addition to functions similar to modern Chinese *de*, *zhi* is known to have also occurred as a clear demonstrative as in (37) below noted in Pulleyblank (1995):

(37) zhi   er   chong you   he   zhi
      these two   worm   again what know
      'And what do these two worms know?'   (Zhuangzi 1.10)

The fact that *de* can then arguably be traced back to a demonstrative source within Chinese itself then adds increased credibility to the assumption that *de* is an element of type D^0 derived from an early demonstrative source.[8] [9]

3. Layering, loss and change

Greenberg (1978) suggests that cross-linguistically there are a number of common stages in the grammaticalization of determiners from demonstrative sources (as is now suggested here for Mandarin *de*). During the course of such a process and when original demonstratives begin to lose their deictic force it is often found that languages redevelop a new set of demonstratives to compensate for the loss of those which have developed into pure determiners. One frequently testified source of new demonstrative elements is in fact the *combination* of the old demonstrative (which has developed into a determiner) and a new deictic element. Considering Japanese, this path of development might seem to add further support to the analysis put forward here--the

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[8] It can be noted that other Tibeto-Burman languages also provide evidence of a demonstrative origin for elements functioning in a way similar to Chinese *de*--see here Herring (1991) on Lotha and the suggestion that the *de*-like element *-o* in Lotha might have as its source a demonstrative pronoun cognate with the Angami definite article *-u*.

[9] Matisoff (1991) suggests that the source of Lahu *ve* which is largely equivalent to Mandarin *de* might actually come from a variant of a form 'which originally seems to have had a highly abstract copular meaning.' p.393. This does not however necessarily mean that a demonstrative origin is actually impossible to imagine--Li and Thompson (1977) suggest that the Chinese copula *shi* may have developed from an early demonstrative via a process of re-analysis. It is possible therefore that an early demonstrative in Proto-Tibeto-Burman could similarly have resulted in a copula form and also turned into a "nominalizing" determiner *ve* in another development. In such a view *ve* would only be indirectly related to the copula form, sharing a common ancestor, just as the "nominalizer" and subject-marker in Burmese would share a common source.

element in Japanese corresponding to Mandarin *de* is *no*, and *no* is significantly also found occurring as part of the modern demonstrative series illustrated in (38), exactly as might be predicted if it originally was a determiner developed from a demonstrative and came to be recycled for the creation of a new demonstrative set combined with purely deictic affixes:

(38) ko-no   so-no   a-no
     this   that (near listener)   that (away from listener)
     ko-chira so-chira   a-chira
     here   there (near listener)   there (away from listener)

If elements such as Mandarin *de* and Japanese *no* are analyzed as determiners in D^0, it is clear that new demonstratives must originate from some other position within the DP. Observing the common occurrence of demonstratives in low adjective-like positions in many languages, it is not unreasonable to posit that new demonstratives develop like certain quantificational adjectives, in positions similar to other descriptive adjectives, then getting attracted to the initial D^0 position if no determiner fills this position, i.e. showing an alternating order between a high and low position as in Spanish (39) from Giusti (1997):

(39) **<u>la</u>**   reaccion   alemana   **<u>esa</u>**   a   las   criticas
     <u>the</u>   reaction   German   **<u>this</u>** to   the   criticisms
     'this German reaction to the criticisms.'

(40) **<u>esa</u>**   reaccion   alemana   a   las   criticas
     <u>this</u> reaction   German   to   the   criticisms
     'this German reaction to the criticisms.'

The co-occurrence of old and new re-newing forms together as in (39) is typologically referred to as "layering", and is typically found where the element employed to renew some function is located in a position different from that occupied by the older element. This can be illustrated again with the doubling of old and new negation elements in French and English. As mentioned in section 1, a series of objects were employed in French to emphasize the negation represented by *ne* and over time the most common of these *pas* '(a) step' was mentally reanalyzed as being the neutral main encoding of negation. These two elements of negation now co-occur (although *ne* is ever more commonly deleted in colloquial French) and so represent a layered doubling of negation in different positions in the clause:

(41) Jean ne   va   pas   au   marche.
     Jean NEG goes NEG to-the market
     'Jean does not go to the market.'

The layering present here and in (39) with both a determiner and a demonstrative encoding definiteness can otherwise be labelled agreement--negative agreement in (41) and definiteness agreement in (39) (noting that it would *not* be possible to substitute an indefinite determiner for the definite determiner in (39)--the determiner must 'agree' in definiteness value with the demonstrative). This "agreement" is a result of the co-occurrence of two elements within a single syntactic unit, each essentially encoding the same single specification, and due to an overlap in historical development with one element gradually replacing the other.

According to Greenberg, new determiner elements formed from demonstratives may later develop further and actually lose their definiteness, in African languages such elements frequently becoming first just general "generic" articles used to mark both specific-definite and generic NPs, and then turning into simple markers of nothing more than nominality (as e.g. the well-known noun-class markers present in Bantu languages). Where such determiners lose their definiteness value this may be compensated for by the use of (new) demonstratives to specify the definiteness of an NP, or alternatively it is possible that a language develops other means to encode definiteness on its NP types. For example, it is well-documented that languages with developed *aspectual* marking frequently may not have any determiner system, the Slavic languages in particular showing that aspectual alternations are often sufficient to indicate whether a particular NP should be interpreted as being definite or not. German also for a long time relied on the interaction of verbal aspect and (genitive) case to distinguish definite from indefinite NPs, and when this dual system went into decline, German began to develop a new determiner system from demonstratives to compensate for the increased ambiguity (see Abraham 1997). Wu (1996) also suggests that Chinese makes use of *word order* to an extent to indicate (in)-definiteness.

If a determiner system consequently goes into decay, Greenberg notes that it may then either simply disappear or *persist in some other basic function*. The suggestion of this paper is that the Mandarin element *de* is indeed a determiner which has undergone near full bleaching of its definiteness specification. In such a sense it is suggested to be similar to the English C^0 element 'that', once a demonstrative now grammaticalized into a different second function--that of introducing a clause as a complementizer. Although 'that' as demonstrative continues to have a clear +definite value, in its function as a complementizer all signs of definiteness have disappeared and 'that' may be used to introduce not only factive (i.e. clausally definite) clauses but also unrealized

complement clauses of verbs such as 'suggest' and 'imagine':[10]

> (42) a. I suggest that you leave early.
>   a'. I imagine that this may well be ok.

As a determiner by hypothesis no longer carrying a clear definiteness specification, the continued strong presence of *de* in the language must be justified by some kind of functional purpose. The function which might seem to be constant and always associated with *de* is to introduce some kind of predication on a nominal, this being particularly clear in cases with relative clauses, adjectives and prepositional phrases linked by *de* to the following noun, but also arguably so in instances of clause-final *de* (Simpson and Wu 1998) and possession structures (examined in section 4).[11] The role of introducing some predication onto a following noun/NP can then be argued to be the justifying raison d'etre for the existence of *de* (and its equivalents in other languages), and provides a plausible account for why a determiner devoid of definiteness might remain on in a language rather than disappearing as is found to occur elsewhere.

The suggestion that a "determiner" is critically involved in creating a

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[10] In its role as complementizer, 'that' might seem to be strikingly similar to the analysis of *de* put forward here, i.e. an ex-demonstrative bleached of definiteness now used to 'nominalize' a clause.

[11] Although the suggestion is that *de* and its counterparts are basically emptied of definiteness, both *de* and Japanese *no* still show certain detectable residues of former definiteness/specificity values. For example, Muromatsu (1995) points out that sequences of numerically-quantified NPs with *no* are interpreted as being definite-specific, while those without *no* are non-specific-indefinite:

(i)   san-nin <u>no</u>   tomodachi-o   matte   imasu
      3-CL   DE   friend-ACC   waiting   be
      'I'm waiting for three (particular) friends.'

(ii) ?? tomodachi-o san-nin matte   imasu
         friend-ACC   3-CL   waiting   be

(iii) ?? san-nin <u>no</u>-hisho-o   sagashite   imasu
         3-CL   DE-secretary-ACC   looking-for   be

(iv) hisho-o   san-nin sagashite   imasu
      secretary-ACC   3-CL   looking-for   be
      'I'm looking for three secretaries (no specific secretaries in mind).'

Also *de* and *no* are not in fact fully direct equivalents of the "nominalizers" found in Tibeto-Burman. When used sentence-finally *de* and *no* include a factivity or guarantee of the content of the clause which is absent from the bare *thii* or *deh* forms in Burmese for example (see Simpson and Wu 1998). This would seem to indicate that *de* and *no* are not yet transparent elements totally devoid of earlier definiteness.

predication-type relation is syntactically further elaborated on in section 4. Here however it can be noted that such an idea is strongly plausible on general cross-linguistic grounds. While it has often been noted that Tibeto-Burman languages might seem to need to convert adjectival elements into nominals in order to allow modification of other nominals, and hence that "nominalization" with some *de*-equivalent element is necessary for adjectival modification, the precise syntactic mechanism employed in such "nominalization" can be observed more clearly in languages such as Modern Greek, Hebrew, Romanian, Albanian and Buginese, all of which employ clear *determiners* with adjectives when combining them with nominals:

(43)   ha-bayit   ha-gadol   Hebrew
        the-house   the-big
        'the big house' (Giusti 1997)

(44)   to   kalo   to   vivlio   Modern Greek
        the   good   the   book
        'the good book' (Androutsopoulou 1996)

(45)   djal-i   i-mire   Albanian
        boy-the   the-good
        'the good boy' (Giusti 1997)

(46)   iaro   buku-e   malotonng-e lima-e   Buginese
        those book-the black-the   five-the
        'those five black books' (Nishiyama 1997)

It can therefore be argued that the Tibeto-Burman "nominalization" of adjectives for the purposes of modifying other nouns is actually rather common across quite unrelated languages and is indeed effected by the category of determiner.

Buginese (47) furthermore shows the same determiner is used to form a relative clause modifier to a noun:

(47)   buku   lima-e   [uvlii]-e   iaro
        book   five-the   1SG.buy-the   that
        'those five books which I bought'

The use of determiners to form relative clauses is also found in a variety of other languages, for example Lakhota (48), Diegueno (49) and Tzeltal (50):

(48) Mary owiza wa kage ki he ophewathu
 Mary quilt a make the that I.buy
 'Mary bought that quilt I made.' (Williamson 1987)

(49) tanay awa: awu:w-pu-l ciyawx
 yesterday house 1SG.saw-the-in 1SG.FUT.sing
 'I will sing in the house I saw yesterday.' (Keenan 1985)

(50) te winike te mac'a la smah te Ziake
 the man the who PAST hit the Ziak
 'the man who Ziak hit' (Keenan 1985)

Determiners would then appear to be made use of rather frequently when predicative-type elements such as adjectives and relative clauses are combined with nouns. The essential important difference between Chinese, Japanese and Burmese on the one hand and Greek, Hebrew and Buginese on the other is that the determiner elements in the latter languages may also appear alone with a noun without any modifying adjective or relative clause:

(51) *de shu/*shu de
 DE book/book DE

(52) ha bayit (Hebrew)
 the house

(53) buku-e (Buginese)
 book-the

(54) to vivlio (Greek)
 the book

This is arguably because the determiners in these languages still maintain a clear function of specifying *definiteness* of the noun they occur with, unlike Mandarin *de* which (by hypothesis) is bleached of any definiteness and now may *only* occur to introduce a modification of the head-noun. This situation hypothesized for Mandarin *de* is similar in ways to the occurrence of bleached verbal agreement markers in various Melanesian and Creole languages and even in varieties of spoken French, where what clearly originated as a masculine singular pronoun *il* and later became a cliticized/prefixed marker of 3SG.MS agreement has now become quite generalized and bleached of its masculine specification, freely combining with feminine subjects:

(55) Ma femme   il   est   venu
       my wife   AGR   has   come
       'My wife has come.' (Lambrecht 1981)

Having no real masculine agreement specification left *il* (or *i* as it is frequently found in French-based creoles) arguably remains only to mediate and establish a predication relation between the subject and the verb. The parallel with *de* is then rather clear to see--both elements by hypothesis previously carried some particular specification (definiteness, +masculine respectively) which may have been repeated elsewhere--in the DP by a demonstrative or in the IP by the subject--this resulting in the appearance of definiteness and verbal agreement. Both elements are then suggested to have undergone bleaching and loss of this original specification and now remain on solely in order to establish a predication relation of some sort.

In sum then, *de* has here been suggested to be a determiner whose existence in the language is no longer justified by any contribution of definiteness to the DP, but solely by a secondary function it has assumed, that of introducing a predication/modification on the NP, a role which is critically also performed by genuinely +definite determiners in a variety of quite unconnected languages from Europe, Asia, Australia and the Americas.

4. *De* in synchronic syntax

In this last section, I would like to consider aspects of word order in contemporary Chinese and indicate how the *de*-as-determiner hypothesis fits with general ideas on NP/DP structure, illustrating how suggestions made here may indeed allow for an explanation of various relative ordering phenomena inside the Chinese NP/DP.

Thus far a number of arguments have been presented in support of the suggestion that *de* is a determiner, an element of type D^0. Commitment to a standard analysis of DP-internal structure might then lead one to expect that *de* would surface in an initial position in the DP, which is not exactly what one finds, so the question arises as to how one may account for the actual word order observed. Here I would like to suggest that much of the otherwise puzzling organization of the DP in Chinese may be accounted for if *de* is analysed as an enclitic determiner which attracts an element leftwards to its Specifier for phonological support, combining this with the analysis of relative clauses and possession structures put forward in Kayne (1994).

The possibility that *de* is such an enclitic is neither unreasonable nor without independent support when one considers the determiners found in a variety of other languages. Prosodically *de* clearly attaches to the constituent to its left and pause

intonation may only occur after *de* and not immediately before it; it would then seem to be an element phonologically dependent on the constituent to its left. The suggestion that this constituent is actually attracted and moved to its surface position to the left of *de* however requires some further motivation and support. This can be found in a brief look at other languages in which definite determiners clearly are enclitics and where the most plausible and widely accepted analysis is that an element is attracted to the left of the determiner to provide it with phonological support. Swedish, Romanian, Buginese, Mokilese and also English all provide good examples of just such a process.

Giusti (1997) argues convincingly that the definite determiner in Romanian attracts an element to its left for support; this may either be the noun-head itself as in (56a) or otherwise an adjective as in (56a'):

(56) a.   baiat$_i$ - ul   acesta   frumos   t$_i$
boy   the   this   nice
'this nice boy'

a'.   frumos$_i$ - ul   t$_i$ baiat
nice   the   boy
'the nice boy'

The indefinite determiner by way of contrast is not an enclitic and does not attract any element to this pre-D^0 position. (57) therefore represents the noun-head and adjective in their base-generated positions and supports the view that they have been moved in (56a/a'):

(57) un   frumos   baiat
a   nice   boy

Swedish, Buginese and Mokilese also provide evidence of enclitic definite determiners which attract some element to a position to the left of the determiner. Being fairly regular head-initial SVO languages, the expected DP-internal order is D^0 - (Adj) - N^0, and while this is indeed the order found when demonstratives and indefinite determiners occur in D^0, the definite determiner by way of contrast appears post-nominally and phonologically attached to the noun, and elements such as PPs follow this phonological unit: (see e.g. Chomsky 1975)

(58) flicka   -n   (PP)
girl   the   (PP)
'the girl'

In Mokilese, the definite determiner actually encliticizes to the whole string of noun+adjectives as in (59), Androutsopoulou (1996) providing arguments that the entire post-D^0 sequence is raised up leftwards to SpecDP:

(59) [mwok sol   pwu:wu:]-sso
     cup black   round   -the
     'the black round cup'

Buginese also shows a final enclitic definite determiner, which contrasts with an independent demonstrative which is not constrained to cliticize to any category:

(60) iaro   lima   buku   malotong-e
     that   five   book   black   -the
     'those five black books'

Finally English also exhibits a similar phenomenon with the D^0-like quantifier element 'all'. When 'all' occurs with full NPs such NPs may either follow 'all' in regular complement-of-D^0 position or alternatively raise to a position to the left of 'all', by common hypothesis SpecDP/QP, as in (61). However, when the complement of 'all' is a pronoun, the pronoun is actually forced to raise leftwards and may not remain to the right of 'all', i.e. movement and encliticization is forced in (62):[12]
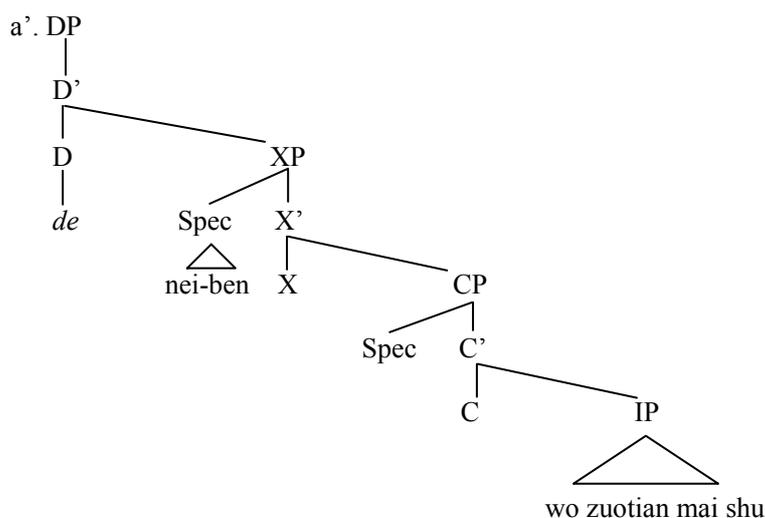
(61) a.   all [the children]
     a'.   [the children]$_i$ all t_i

(62) a.   *all they/we/you
     a'.   they/we/you$_i$ all t_i

The suggestion that Mandarin *de* is an element of this type can now be integrated into the theory of relativization and possession proposed in Kayne (1994). (63) below represents the basic underlying order one may assume for a DP incorporating a relative clause, with the determiner element *de* initial, followed by numerals/demonstratives and

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[12] Greenberg (1978) also notes that many African languages have definiteness markers which originated from independent demonstratives but which now are dependent suffixes/enclitics. Additionally various Romance languages show definite determiners cliticizing to prepositions (e.g. French a + le → au, Spanish a + el → al). It would consequently seem to be quite a common property of determiners that they develop into affixal inflectional elements via an intermediary stage as clitics.

then a CP clause, this being the structure that Kayne would argue actually underlies DP-relative clause structures in all languages at a certain level of abstraction:

(63) a. [DP [D de   [(nei) liang-ben   [CP [IP wo zuotian mai shu]]]]
           DE   (those) two-CL   I yesterday buy book

a'. DP
    |
    D'
   / \
  D   XP
  | / \
  de Spec X'
     /\   / \
  nei-ben X   CP
            /   \
          Spec   C'
                / \
               C   IP
                   /\
              wo zuotian mai shu

The demonstrative-classifier pair is treated as an XP-unit base-generated in the Specifier of a head located below D^0, following argumentation made earlier on (the identity of this head is not made explicit in (63a') and is simply left labelled XP).[13]

From the underlying structure (63), the NP to be relativized then raises to SpecCP as in (64):

(64) a. [DP [D de   [(nei-)liang-ben   [CP shu$_i$ [IP wo zuotian mai t$_i$]]]]

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[13] When a demonstrative-classifier unit occurs in a position *preceding* a relative clause, I assume that this is the result of movement of the demonstrative-classifier XP-unit to the Specifier of a head higher than DP. This head may either be the Q head which selects for DPs, as in English: [QP all [DP the men]], also allowing certain other quantifiers such as universals in Chinese (*[nei-ben/mei-ben]$_i$ [wo zuotian mai]-de t$_i$ shu* 'that/every book I bought yesterday', or it may be a head which is associated with the deictic location of the DP relative to the speaker (noting that Huang 1982 indeed suggests that an initial demonstrative might seem to result in a stronger deictic interpretation than one following a relative clause).

a'. DP
     |
     D'
    / \
   D   XP
   de / \
    Spec X'
   /\   / \
  nei-ben X   CP
          / \
       Spec   C'
        | / \
       shu C   IP
               wo zuotian mai t
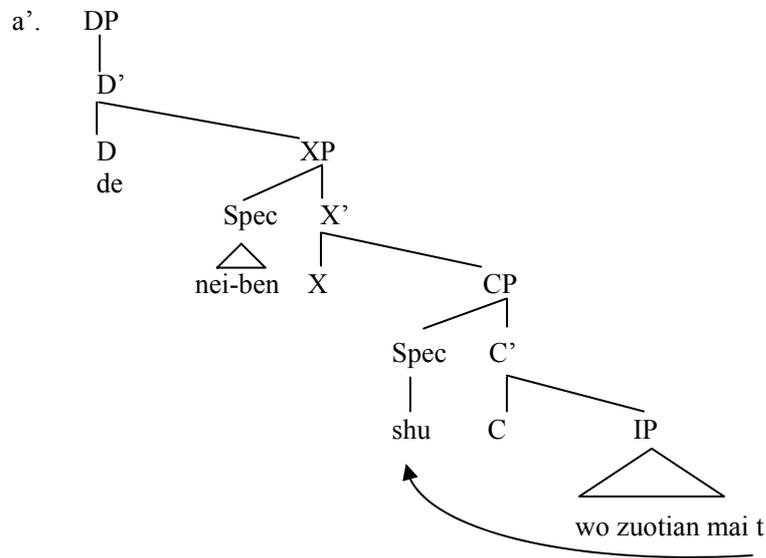
(64) is essentially exactly how the English relative clause structure (65) would be derived:

(65) [$_{DP}$ [$_D$ the   [two [$_{CP}$ [books]$_i$ [$_{IP}$ I bought t$_i$ yesterday]]]]]

Chinese however can be suggested to take the structure in (64)/(65) one stage further and raise the IP to SpecDP as in (66). It has been suggested above that this last move is triggered by particular phonological properties of the enclitic determiner *de* which requires some leftward element to cliticize to.[14] The result is the surface PF form attested in (66):

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[14] It might be asked why *de* does not attract the subject DP *wo* (or the demonstrative-classifier unit *nei-ben*) for phonological support instead of the larger IP. Here an answer may be given which relates to the observation that clitics are cross-linguistically well-known to vary considerably in their choice of phonological hosts. Whereas certain clitics may allow attachment to a wide variety of hosts, others appear to be very selective and target only a single specific type of host (as e.g. the pronominal clitics in Romance languages). Chinese *de* can be suggested to be highly selective in this latter way and only target/attract a clausal IP constituent. In the Minimalist model of syntax this may be achieved by assuming that *de* is base-generated with strong *v*-features which are satisfied when a clause headed by an element with *v*-features is attracted to the Specifier of DP (it can also be noted that movement of the full IP rather than just the I^0/V^0 carrying the *v*-features may be forced by the Head Movement Constraint--head-movement of I^0/V^0 alone might well be impossible across the intervening C^0 head).

(66) a. [$_{DP}$ [$_{IP}$ wo zuotian mai t$_i$]$_m$ [$_D$ de [(nei-)liang-ben [$_{CP}$ shu$_i$ t$_m$]]]]

a'.
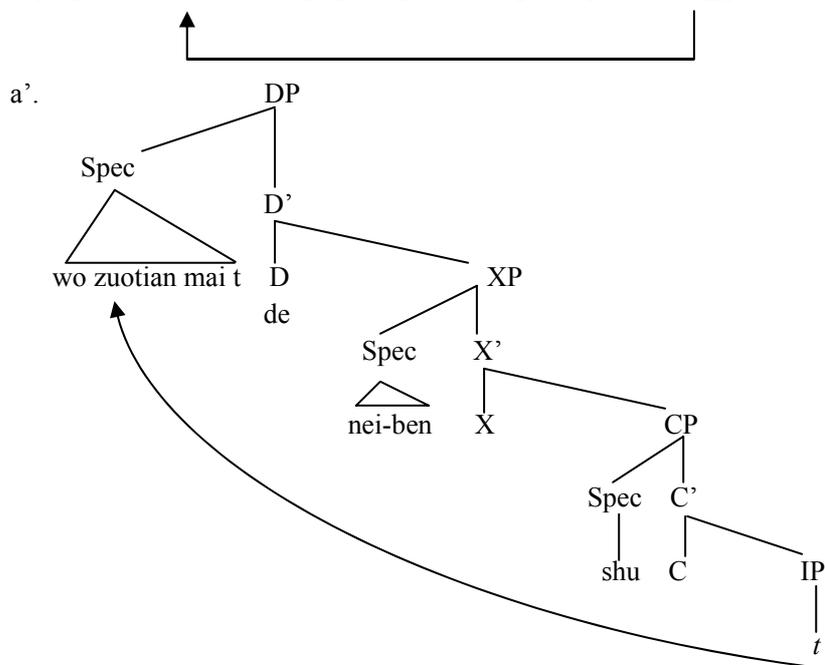
DPs in which two occurrences of *de* are found may be formed cyclically as in the steps indicated below. First the sequence [lü de huaping] 'green DE vase' is formed as in (67a-a'') and then this is embedded in a second relative clause type structure deriving the surface form *xiao de lü de huaping* 'small DE green DE vase' in steps (68a-a''). In (68a-a'') the bracketing internal to the string [lü de huaping] shown in (67c) is omitted:

(67) a.   [$_{DP}$ de   [$_{CP}$ [$_{IP}$ huaping lü]]]
            DE   vase   green

a'.   [$_{DP}$ de   [$_{CP}$ huaping$_i$ [$_{IP}$ t$_i$ lü]]]

a''.   [$_{DP}$ [$_{IP}$ t$_i$ lü]$_m$ [$_D$ de   [$_{CP}$ huaping$_i$ t$_m$]]

(68) a.   [$_{DP}$ de [$_{CP}$ [$_{IP}$ [lü de huaping]   xiao]]]

a'.   [$_{DP}$ de [$_{CP}$ [lü de huaping]$_k$ [$_{IP}$ t$_k$ xiao]]]

a''.   [$_{DP}$ [$_{IP}$ t$_k$ xiao]$_h$ de [$_{CP}$ [lü de huaping]$_k$ t$_h$]]

Adjectival modifier expressions with *de* are consequently here taken to be formed in the same as way as relative clauses (the same is assumed to be true for modifying PPs followed by *de*, e.g. *zai Beijing de ren* 'people who are in Beijing'). It is of course possible to combine adjectives directly with nouns without the use of *de* as in (69):

(69) a.　　xiao　　lü　　　huaping
　　　　　　small　　green　　vase
　　a'.　hao　yuan　　panzi
　　　　　good　round　　plate

However, in the spirit of Sproat and Shih (1991) one may take this type of modification relation to be syntactically encoded in a rather different way, most probably by means of head-adjunction/incorporation and not via any relative clause structure in which the adjective is predicated of an NP subject (as is the case with *de* forms). Sproat and Shih note that there are certain interesting differences between the two types of adjectival modification. First of all, certain adjectives which may not function as predicative adjectives may also not be used in Adj-*de* forms, e.g. *qian* 'former', *wei* 'fake', indicating that adj-de forms most probably do involve some form of predication relation rather than simple modification:

(70) a.　　* qian-de　　　　zongtong
　　　　　　former-DE　　　president
　　　　　　'*the president who is/was former'
　　a'.　* zhei-ge　　zongtong　qian
　　　　　　this-CL　　president　former
　　　　　　'*This president is/was former.'
　　a''.　qian　　　　zongtong
　　　　　　former　　president
　　　　　　'the/a former president'

(71) a.　　* wei-de　　　yao
　　　　　　fake-DE　　medicine
　　　　intended: 'medicine which is fake'
　　a'.　* nei-fu　　yao　　　　wei
　　　　　　this-CL　medicine　　fake
　　　　intended: 'This medicine is fake.'
　　a''.　wei　　yao
　　　　　　fake　medicine
　　　　　　'fake medicine'

Secondly, direct adjectival modification appears to be subject to semantically-based ordering restrictions which seem to be almost universal across languages, whereas adj-*de* modification is not subject to any such restrictions. In this sense the use of *de*-forms does indeed still serve a useful purpose, allowing greater freedom in the ordering of multiple modifier strings. (72a/a') should be compared with (69a/a') above and also (73) where parallel adj-*de* forms are fine:

(72) a. *lü   xiao   huaping
          green   small   vase
     a'. *yuan   hao   panzi
          round   good   plate

(73) a. lü-de   xiao-de   huaping
          green-DE   small-DE   vase
     a'. yuan-de   hao-de   panzi
          round-DE   good-DE   plate

Interestingly it appears that entirely similar contrasts exist in Modern Greek--Androutsopoulou (1996) reports that bare adjectival strings are strictly ordered in the same way that they are in Chinese, English etc, but that adjectives which are introduced with a *determiner* enjoy a much greater freedom in ordering, just as in Mandarin, this adding further support to the *de*-as-determiner hypothesis.[15]

Finally, it is possible to analyze possessor structures in a similar way, again adopting the essentials of Kayne's (1994) analysis of possession as resulting from a predication relation established between the possessor and the possessee in either a

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[15] Tsao (1997) presents an interesting discussion of relative ordering phenomena with stacked Chinese modifiers and suggests, among other orderings, that relative clauses are always required to precede *de*-embedded adjectives, contra the general freedom of adj-de sequences noted by Sproat and Shih. One example given is (i/ii):
(i) [ni zuotian mai]-de   guizhong-de   liwu
    you yesterday buy-DE   expensive-DE   present
(ii) *guizhong-de   [ni zuotian mai]-de   liwu
There may however be additional complicating factors involved here and it is possibly not any adjective-relative-clause distinction which is relevant; informants indicate that if a demonstrative is added in to (ii) it becomes much more acceptable. This would seem to indicate that the first modifying element must provide some positive definiteness specification or else a default *in*definite interpretation is automatically made:
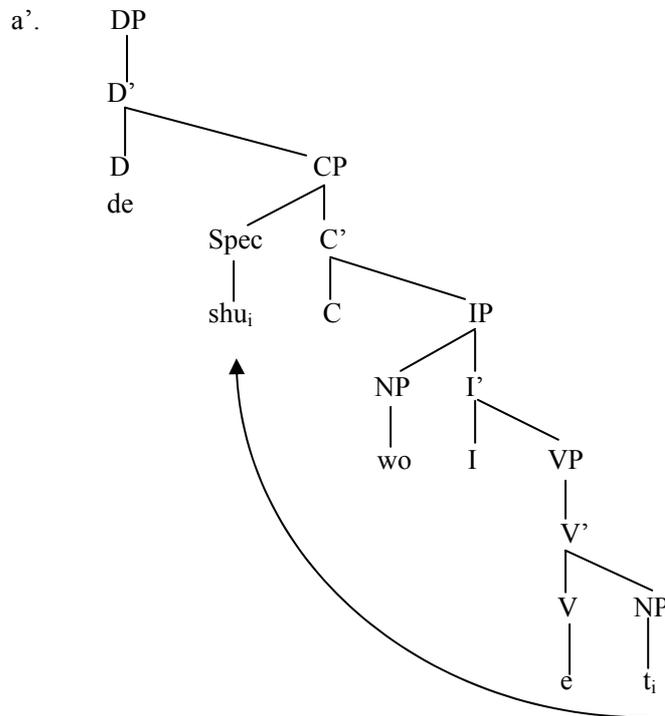(iii) nei-ge   guizhong-de   [ni zuotian mai]-de   liwu
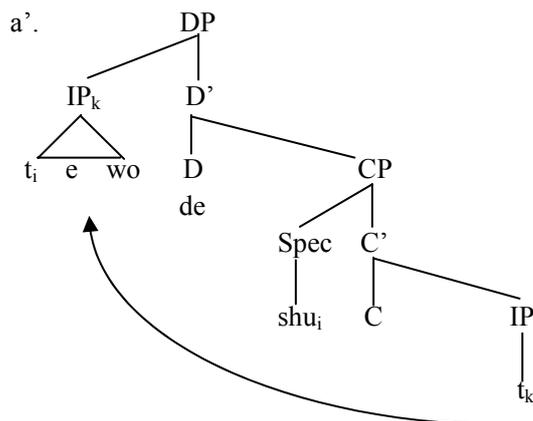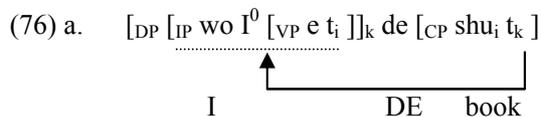   that-CL   expensive-DE   you yesterday buy-DE   present

small-clause structure or within an IP headed by a null verb expressing a possession relation, underlyingly as in (74):

(74) $[_{DP}$ de $[_{CP} [_{IP}$ wo $I^0 [_{VP}$ e shu]]
          DE   I   book

As the element *e* in (74) is suggested to represent a phonetically null verb of possession equivalent to English 'have', the IP in (74) has the simple propositional meaning: 'I have (a) book'. This can then be argued to be converted into the surface form: '*wo de shu*' by exactly the same process that occurs in the formation of other relative clauses. First the head-noun *shu* 'book' is raised to SpecCP as in (75), and then the IP clause is raised higher to SpecDP as in (76):

(75) a. $[_{DP}$ de $[_{CP}$ shu$_i$ $[_{IP}$ wo $I^0 [_{VP}$ e t$_i$]]

          DE   book   I

a'.

(76) a.　　$[_{DP} [_{IP}$ wo $I^0 [_{VP}$ e $t_i]]_k$ de $[_{CP}$ shu$_i$ $t_k]$

　　　　　　　　I　　　　　　DE　　book

a'.

$$
\begin{array}{c}
\text{DP} \\
\diagup \quad \diagdown \\
\text{IP}_k \quad \text{D'}
\end{array}
$$

　　IP$_k$　D'

　t$_i$　e　wo　D　　　CP

　　　　　　de　Spec　C'

　　　　　　　shu$_i$　C　　IP

　　　　　　　　　　　　t$_k$

The interpretation encoded in the structure created in (76) is then essentially that of a relative clause form: 'the book which I have' and all that is argued to be "absent" from such sequences is a phonetically pronounced form of a verb of possession.[16]

　　In sum then, the suggestion that *de* is an enclitic determiner with properties similar to those found in a variety of other languages together with analyses of relativization and possession along lines proposed in Kayne (1994) permits a rather straightforward

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[16] It is an interesting question why a null verb of possession should be licensed in relative clauses but not elsewhere--i.e. *you* 'have' cannot be dropped from simple sequences such as: '*wo *(you) shu*' 'I have a book'. Possibly this might have something to do with the pattern of copula-drop. Because it is possible to drop the copula *shi* in certain environments (e.g.: '*Wo (shi) Zhongguo-ren, ta (shi) Yingguo-ren*' 'I am a Chinese, he is an English person.') this might be taken to result in a default interpretative instruction to the effect that in any sentence consisting of just two nominals and no verb, the missing verbal element should be interpreted as the copula. Such a constraint would block any other type of phonetically null verb (such as a null variant of *you*) in regular clauses. In relative clauses however it is extremely uncommon to find the copula used to link the head noun to another nominal, vis: *?? '[_shi Zhongguo-ren]-de ren'* 'the person who is a Chinese person' or: *?? '[_shi yisheng]-de ren'* 'the person who is the doctor'. Normally one simply uses the term describing the referent on its own: *'nei-ge Zhongguo-ren'* 'that/the Chinese person'/'yisheng' 'the doctor'. Consequently, if it is possible that the interpretative instruction on null verbs equating them automatically with the copula might not apply to relative clauses, this might allow for a null verb linking the relative clause noun-head and another NP/DP inside the relative clause to be interpreted as a verb of possession.

account of the surface orderings found in Chinese DPs which simultaneously has the advantage that it posits a fully regular D^0-head-initial structure underlying what has otherwise been described as an exceptionally head-final type structure.

5. Concluding remarks

This paper began with a general discussion of the phenomenon of agreement. The position was taken that agreement systems typically arise where some original set of forms undergoes a process of decay and reduction and is doubled and renewed by a second set of forms with a similar specification type. The doubling of such information is in many cases essentially redundant and uneconomical and consequently expected to disappear if not put to other significant use. "Definiteness agreement" standardly occurs where an original determiner system tolerates doubling by demonstratives or occurs multiply encoded on adjectives and relative clauses, and is actually found in many of the world's languages, frequently representing an intermittent stage in an ongoing process of determiner decay. Here it was suggested that Chinese (and other languages of the Tibeto-Burman group plus Japanese) may be argued to instantiate an advanced stage of such a process of decay, with the element *de* being analyzed as a determiner potentially doubled by newer demonstratives in lower DP-internal positions. It was suggested that bleaching of some earlier definiteness value associated with *de* has neared completion so that definiteness agreement is actually no longer attested in Chinese, this in contrast with Hebrew, Modern Greek and Buginese where determiner elements used in ways entirely parallel to *de* do still maintain a definiteness specification. A variety of cross-linguistic patterns were suggested to add support for the view of *de* as a bleached determiner, and in section 4 it was shown how an extension of such an analysis of *de* could then be used to argue for a fully regular underlying structure for DPs in Chinese. The paper also suggested that the continued existence of *de* as a determiner with no (or very little) contribution to the definiteness specification of a DP could be attributed to its critical use in the mediation of predicative-type nominal modification, such a relation elsewhere in other languages also effected by determiners which continue to carry a definiteness specification as well (e.g. Buginese, Romanian etc).

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