

## Empty Determiners and Nominalisation in Chinese, Korean and Japanese.

Andrew Simpson (paper presented at the 1998 USC Symposium on E. Asian languages)

### **Part 1: Introduction + the paradigm + UCI/Taiwan paper**

This talk is essentially about grammaticalization and the morphemes de, no, and kes in Chinese, Japanese and Korean; de, no and kes seem to share a striking similarity in their distribution in nominal expressions but they also show a number of quite clear differences. The aim of the first part of the talk is then basically an attempt to see how one could relate these elements in a way which will capture both the similarities and the differences in their respective behaviour. The second part of the talk considers the same morphemes further, and focusses particularly on the interaction between nominal and clausal functional heads arguing for a variety of re-analysis in all three languages.

First of all I want to begin by establishing and making clear the clear parallels in distribution found with de, no and kes. To begin with **Mandarin Chinese** one finds the element de occurring in regular Relative Clauses as in (1):

- (1)     wo mai de shu  
          I buy DE book  
          the book I bought

in headless Relatives like (2),                   also sentence-finally with a copula in cleft-like constructions such as (3):

- (3)     wo shi zuotian lai de  
          I BE yesterday came DE  
          It was yesterday that I arrived.

and in a genitive-like function indicating possession, as seen in example (3):

- (4)     wo de shu  
          I DE book  
          my book

In **Japanese** the morpheme no similarly occurs in a genitive-function – example (5):

- (5)     Taro no hon  
          Taro No book  
          Taroo's book

It also occurs with a copula in a sentence-final cleft-like form as illustrated in (6):

- (6)     kinoo kita no desu  
          yesterday came NO BE  
          I came *yesterday* – or: It was yesterday that I came.

no is then also found in Internally-Headed Relative Clauses such as (7), as well as in children's Relative Clauses such as (8), but not in regular adult Relatives. Finally, it is also found as a fairly clear nominalizer in examples such as (9):

- (9) [Taroo-ga tsuita]-no-o shiranai  
I didn't know that Taroo had arrived.

and in pseudo-cleft sentences such as (10):

- (10) katta no wa hon desu  
What I bought was a book.

Turning now to **Korean**, the element kes similarly occurs in Head-Internal Relative Clauses, Children's Relative Clauses though not regular adult Relatives, Pseudo-cleft sentences, and as a clausal nominalizer. This is illustrated in (11) through (16) with kes occurring in essentially the same position as Mandarin Chinese de and Japanese no do. Although a different morpheme occurs in the Korean genitive construction, kes does occur in an S-final pattern with the copula in a way which is similar to the S-final copula patterns in Chinese and Japanese; this is illustrated in (17) and (18):

- |   |  |
|---|--|
| <p>(17) Yong-guk-ulo ttona-ss-ul-ke-eyo<br/>England-to left-IRR-KES-BE<br/>'He must have left for England.'</p> | <p>(18) mek-ul-kes-ieyo<br/>eat-IRR-KES-BE<br/>'He will probably eat.'</p> |
|---|--|

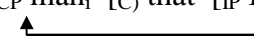
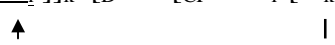
It can also be added that the basic patterning here is fully repeated in Burmese, a Tibeto-Burman language typologically very close to Japanese and Korean.

So, given the rather striking similarity in distribution of these elements, I would like to set out to explore first of all what their syntactic status is, and secondly how they might be related, in the sense of instantiating similar or parallel syntactic types.

In order to do this, I will start with the forms in Mandarin Chinese and attempt to give in brief the main points of argumentation of a paper presented last year in UC Irvine where I wanted to conclude that Chinese de was a Determiner, and then come back to see what this might mean for the elements in Japanese and Korean which appear to share much of the same distribution as Chinese de; I will try to show here and later how the typological differences between SVO Chinese and SOV Japanese and Korean, far from being divisive and distracting can actually be turned to good advantage and used a constant source of additional useful contrastive information in the investigation of a single basic theme.

### UCI – Chinese

So, I originally started to consider the status of de from a consideration of relative clauses and the Kaynean analysis of relativization. If one does assume a Kayne-type approach, then in the spirit of Jean-Roger's work/Vergnaud 1985, the head-noun N raises to SpecCP and in languages with descriptively head-final relative clauses such as Chinese, Japanese and Korean, the IP then raises forward to SpecDP, as in the abstract 'Amharic' form in (20):

- (19) [DP the [CP man<sub>i</sub> [C] that [IP I met t<sub>i</sub> ]]]  

- (20) [DP [IP I met t<sub>i</sub> ]]<sub>k</sub> [D the [CP man<sub>i</sub> [ t<sub>k</sub> ] ] ] 'Amharic'  


Now, Kayne notes that a number of languages with N-final relatives seem to show a ‘relativizer’ occurring between the verb and the final head-noun, as abstractly in (21):

(22) I met REL (the) man

Although such elements have commonly been labelled Complementizers, in a Kaynean approach this is not possible as the only positions which could in fact be analyzed as potentially containing a Complementizer are those indicated with the hash-signs in (22) - finally if the C is stranded when the IP raises, or initially if it were to be possible to raise just C’ and strand the N in a final SpecCP position as might appear to be the case optionally in Amharic:

(22) # I met REL (the) man #

Kayne therefore suggests that the relativizer in cases such as (22) is in fact a verbal-inflectional element rather than a complementizer. Such an analysis is not implausible because languages with N-final relative clauses are consistently found to be verb-final languages and so the verb in the relative clause will always occur adjacent to the ‘relativizer’. Chinese however provides a striking exception here – Chinese is typologically extremely marked in being the only documented VO language anywhere to have N-final relatives, and significantly Chinese also has a relativizer element in the position preceding the relativized head-noun – the element de as in (23):

(23) [ \_ qu Beijing ] de ren  
 go Beijing DE person  
 ‘the person who went to Beijing’

So, positing a Kaynean derivation with movement of ren ‘person’ to SpecCP and then IP-fronting as in (24) and (25), one ends up with de occurring in a position which cannot be a Complementizer position for Kayne, (26) showing again where Complementizers are expected to show up:

(24) [ de [CP ren<sub>i</sub> [IP t<sub>i</sub> qu Beijing ]]]  
 DE person go Beijing  
 ↑  
 (25) [[IP t<sub>i</sub> qu Beijing ]<sub>k</sub> [ de [CP ren<sub>i</sub>] t<sub>k</sub> ]]  
 go Beijing DE person

(26) # qu Beijing de ren #

Now, importantly because Chinese is exceptionally a language with N-final relatives which is also V-O in its basic word order, the element de does *not* necessarily occur adjacent to the verb but is potentially separated from it by the object, and so it is not possible to analyze de as a verbal inflectional element. The only possibility that would seem available is to assume that de must be a Determiner in D, as shown in (27):

(27) [ DP [IP t<sub>i</sub> qu Beijing ]<sub>k</sub> [D de [CP ren<sub>i</sub>] t<sub>k</sub> ]]

This conclusion is surprising for a number of reasons – first of all the element de doesn't appear to have any obvious definiteness specification, occurring in indefinite DPs such as (28) as well as in fully definite DPs:

- (28) yi-wei [gang lai Zhongguo] de ren  
 one-CL just come China DE person  
 'a person/someone who has just come to China'

Secondly, it is possible for there to be multiple occurrences of de in a single DP, as illustrated in (29):

- (29) [hen you qian]-de [zhu zai Chelsea]-de ren  
 [very have money]-DE live in Chelsea DE person  
 'people who are rich and who live in Chelsea'

Thirdly, de freely co-occurs with other Demonstratives, which one might expect to occupy the D-position, as in (30):

- (30) nei-ben [wo zuotian mai]-de shu  
 that CL I yesterday buy DE book  
 'that book I bought yesterday'

Finally it is not possible for de to simply co-occur with just a head-noun, which is rather unexpected if de were to be a Determiner as Determiners elsewhere clearly do combine regularly with just a bare NP:

- (31) a. \*de ren b. \*ren-de  
 DE person person-DE

Following this, instead of concluding immediately that a Kaynean analysis of relative clauses in Chinese was impossible and that the Kaynean approach in general was therefore flawed, I tried to show how these types of properties are in fact quite often absent from much more regular Determiner-types. To begin with, it is found that the definiteness specification of a determiner may be suspended under certain circumstances and therefore that a constant and clear definiteness specification is not a necessary property of determiners in general. This is seen in the Albanian and Hebrew examples in (32) and (33) where a definite determiner occurs with an indefinite reading, in Albanian introducing an adjective, in Hebrew a participial relative:

- (32) nje djale i mire *Albanian*  
 a boy the good  
 'a good boy'

- (33) 'ish ha-kore 'iton ba-rexov hu meragel  
 man the-reading newspaper in.the.street is spy  
 'A man reading a newspaper in the street is a spy.' (Siloni 1995)

Secondly, concerning the occurrence of Demonstratives, it is found that Determiners in a wide range of languages do in fact appear together with Demonstratives and that the absence of Demonstrative-Determiner pairs in English is therefore no reason to reject an analysis of

de as some kind of a Determiner. Many languages indicate that a Demonstrative may in fact be base-generated low down inside a DP and then only optionally raise to D in the absence of a Determiner filling this position. The examples of exactly this in (34) through (36) are from Spanish and Romanian:

(34) **la** reaccion alemana **esa** a las criticas  
 the reaction German that to the criticisms  
 ‘that/the German reaction to the criticisms.’

(35) **esa** reaccion alemana a las criticas  
 that reaction German to the criticisms  
 ‘that/the German reaction to the criticisms.’

(36) a. baiat<sub>i</sub>-**ul** **acesta** frumos t<sub>i</sub> *Romanian* (Grosu 1988)  
 boy - the this nice  
 ‘this nice boy’

b. **acest**<sub>i</sub> t<sub>i</sub> frumos baiat  
 this nice boy

Thirdly, it is found that there may be multiple Determiners in a single DP in a number of languages, so this again is not a reason to object to a Determiner analysis of de. Hebrew and Modern Greek are just two languages allowing for this, as shown in (37) and (38):

(37) ha-bayit ha-gadol *Hebrew*  
 the-house the-big  
 ‘the big house’

(38) afto to oreo to vivlio *Greek*  
 this the good the book  
 ‘this good book’

Furthermore, Chinese shares with Modern Greek the property that when adjectival-like elements are introduced with de rather than occurring bare, they may escape the otherwise rather rigid neutral ordering that bare adjective strings are subject to, so the use of de in this area seems to directly parallel the use of Determiners in Modern Greek.

(39) a. xiao lη huaping b. \*lη xiao huaping  
 small green vase green small vase

(40) a. xiao-de lη-de huaping b. lη-de xiao-de huaping  
 small-DE green-DE vase green-DE small-DE vase

Concerning the fourth problem mentioned just now, that de may not occur simply with just a following NP in contrast to other more standard Determiner-types, this I suggested might be understood better once it is first noted that clear Determiners in other languages are seen to sub-categorize optionally for clauses such as CPs. Example (41) shows the Spanish Determiner el selecting for a clausal CP complement rather than an NP:

(41) [el [<sub>CP</sub> que Juan haya ganado el concurso]] garantiza nuestro triunfo  
 the that Juan has won the competition guarantees our triumph

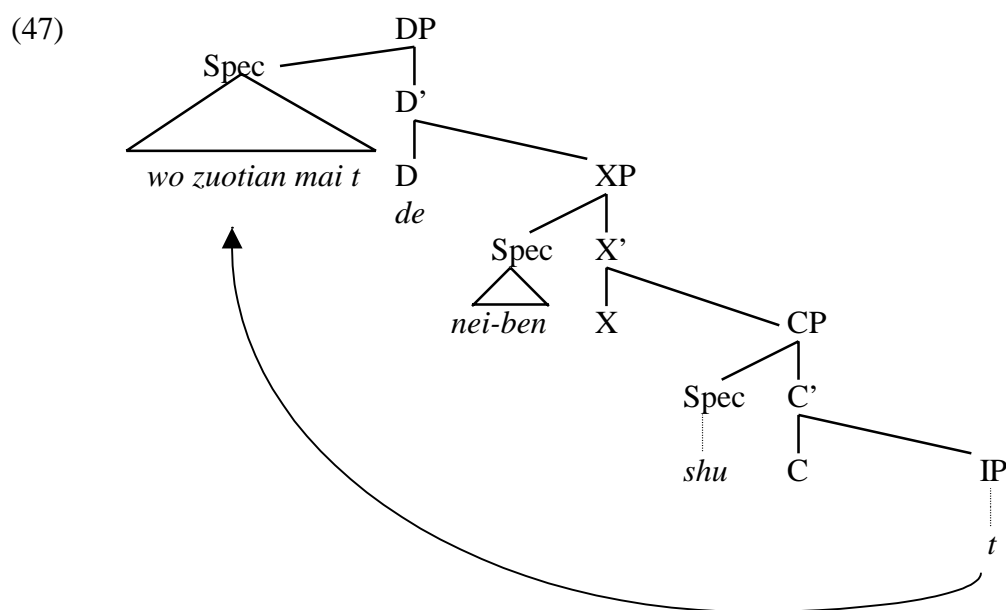
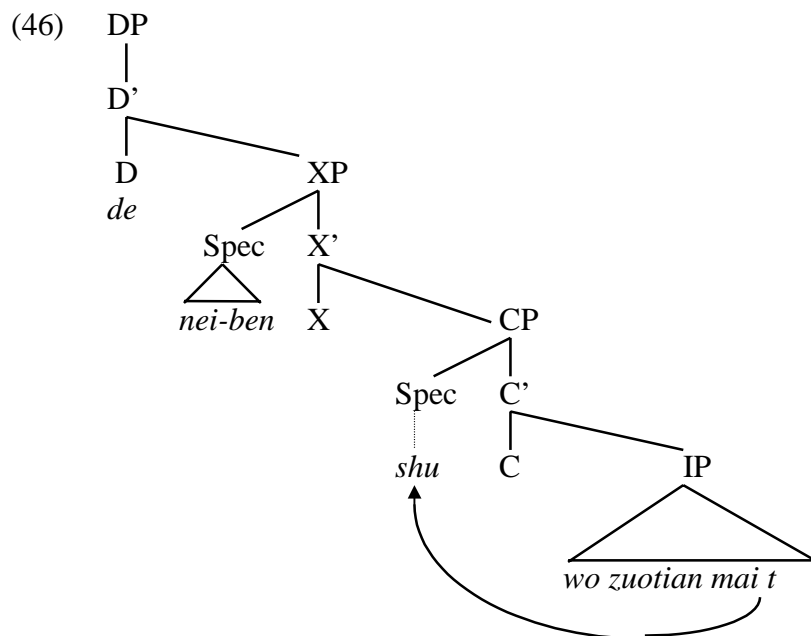


the/a man this

- (44) to/\*ena meghalo to piano  
 the/a big the piano

So, the suggested analysis for relatives in Chinese is diagrammed in (46) and (47), and such an account basically makes DPs in Chinese appear rather regular, the apparent distortion being due to the properties of a single element – de.

- (45) [DP [IP wo zuotian mai t<sub>i</sub> ]<sub>m</sub> [D de [nei-ben [CP shu<sub>i</sub> t<sub>m</sub> ]]]  
 I yesterday buy DE that-CL book  
 ‘That book I bought yesterday.’



However, having developed such a picture, I found myself left with a number of questions; first of all if de is assumed to be a determiner bleached of some former definiteness value, one might expect to find some earlier period in Chinese when de would have functioned as a more regular determiner such as the in English, but one doesn't *appear* to find this; the same goes for Japanese no – if there are sufficient grounds for believing that de and no are similar items/functional elements, and that no might then also be a Determiner, one again might expect to find no attested in some earlier period as a regular Determiner, but this isn't found; the question is then what really justifies analysing something as a Determiner in D? similar questions might be asked the analysis of genitive case as occurring in D in English justified largely on the complementary distribution of genitive case with other elements assumed to occur in D – aside from this alternation in what sense can genitive really be an instantiation of the Determiner position?

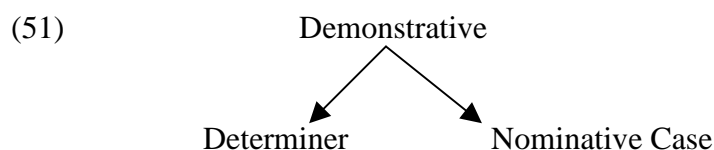
(48) John's/the book

There are a couple ways to respond to this rather general problem; first of all, it *could* be the case that Chinese de (and Japanese no) were actually borrowed in to Chinese and Japanese from other languages as determiners already bleached of a former definiteness value; similar elements do indeed occur in Tibeto-Burman languages and here it is significantly possible to find interesting support for the Determiner analysis; For example, in **Burmese** the equivalent to Chinese de occurs in essentially all of the standard parts of the paradigm noted at the start of the talk and interestingly also in another position as a *subject-marker* as in (50). i.e. as if Chinese de or Japanese no also showed up marking Nominative-case.

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

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

This otherwise rather puzzling extension of the basic paradigm can be linked in if in the following way. Determiners are observed to develop quite commonly from Demonstratives. Nominative Case is also suggested to stem from a Demonstrative source in analyses of proto-Indo-European – one obvious reason for such a development being the fact that subjects in many languages are constrained to be definite and this is marked by the use of a demonstrative. If one assumes that the Burmese equivalent to Chinese de is indeed a bleached Determiner, it can be suggested that both it and the Nominative-marker are descended from a common Demonstrative source as in (51):



Significantly it is also possible to find a Demonstrative still present in the literary language which is homophonous with the relative clause de-equivalent *and* the nominative-case-marker – the element thii in (52):

- (51) thii sa-ouq  
that book

To the extent that we allow in clues from other languages and that Burmese shows a strikingly similar paradigm of distribution with de, no and kes, this may be taken as indirect evidence in support of a Determiner analysis.

It is possible that de and no could have been imported from Tibeto-Burman languages during translation of Buddhist texts into Chinese and Japanese; many Tibeto-Burman languages have paradigms like this and would have provided intermediate source materials for translation between Sanskrit and Chinese. This kind of importation of syntax during translation is not an uncommon phenomenon – **Thai**, for example, which is otherwise without any kind of a case-system acquired an accusative-marker as a result of translation from Sanskrit and Shibatani 1990 reports that translation of Chinese into Japanese had clear effects on the development of the case-system in the latter; if this were to be possible, then de and no could have existed as determiners in the languages hypothetically borrowed-from and so one wouldn't necessarily expect to find a 'pure determiner period' in Chinese and Japanese with de and no; they would have been borrowed-in already as Determiners already bleached of their definiteness value.

There is also another possibility; although the origin of de and no is somewhat unclear, concerning de it is commonly suggested that this morpheme came from the element zhi which had a similar distribution in classical Chinese; now zhi in addition to linking two nominal elements or a clause and a noun also functioned as an (object) pronoun and more significantly also occurred as a Demonstrative as shown in examples (52)

- (52) zhi er chong you he zhi  
these two worm again what know  
'And what do these two worms know?' (Zhuang 1.10)

If Determiners develop from Demonstratives and if de comes from Classical Chinese zhi then there clearly is a link to what is often suggested to be an element that typically occurs in D and develops into a Determiner;

In Japanese the origins of no are also rather obscure; it is well-known however that no used to alternate with ga as a genitive-like linker between two nominals (with the distinction that no marked elements less worthy of respect) as well as marking subjects of nominalized clauses; now, recently it has been claimed that ga may well have developed from the Demonstrative ka(-re); if this is so and ga alternates with no then the link to a D-type element is again established (it also incidentally opens up the interesting possibility that Genitive case might possibly be derived from Demonstratives which would then give an explanation why Genitive is found to occur in D):

- (53) wa no/ga sono ni  
I NO/GA garden in  
'in my garden'

- (54) wa no/ga iku michi

I NO/GA go road  
'the road I take'

(55) ka(re) → ga

For the moment though, I would like to put these possible links to one side and speculate a little on how a maximally general account might be cast which critically also takes **Korean** into consideration; as noted earlier, despite not occurring as a genitive-marker, the Korean element kes would indeed seem to have a similar distribution to no and de, occurring in clefts, in Internally-Headed RCs, in children's RCs and in copula-linked constructions where kes might seem to be involved in a nominalization-type function similar to that with no and de; now, in Korean, the 'origin' of kes is indeed clear and kes still occurs now as a noun meaning 'thing' as in examples

(56) a. ku-kes-(un)                      b. cho-uy-kes-(i)  
          this thing (Top)                I-Gen-thing-Nom  
          'this thing'                    'my thing/mine'

Incorporating this information into an attempt at a uniform account of these elements which share so much of a similar distribution, I would like to propose a grammaticalization account which might broadly allow for the similarities between these elements as well as recognising the clear differences which also do exist. The similarities have already been noted; some of the key obvious differences are that no and kes do not occur in *adult* RCs and that Korean kes (and for certain Japanese speakers no) may occur modified only by a genitive or demonstrative as in (56) and (57) contrasted with Chinese (58):

(57) %watashi-no-no ja nai  
      I        -NO-NO is-not  
      'Its not mine.'

(58) \*zhei-de  
      this-De

Another clear difference is also the non-occurrence of kes as a genitive-marker, indicating that there is no *necessary* connection between occurrence as a genitive-marker and the other parts of the general paradigm, dialects of Japanese such as the Toyama and Kochi dialects further bearing this out.

Anyway, being so bleached of any lexical or even *clear* functional content, elements such as de and no may be assumed to have undergone grammaticalization from *some* more transparent source. The question is how might any relevant grammaticalization process apply, and to what?

Grammaticalization is often taken to involve a certain loss of descriptive meaning or 'bleaching' of semantic content and frequently a change in syntactic category type. Such processes are typologically described as being critically gradual and giving rise to elements which share the properties of both the source and the 'target', with there being an incremental increase in those of the end-point.

Such an incremental change in properties associated with two developmental points is often referred to by means of a cline in purely typological descriptions, with a feature matrix plotting the various properties which characterise the two end-points of the developmental

chain and how they may be realized in intermediate stages of development. A good example here is Comrie's 1981 treatment of numbers in Russian, which may be classified as being either noun-like or adjective-like according to how they pattern with regard to certain syntactic phenomena. When a variety of properties are compared, it can be seen that lower numbers are much more adjective-like, whereas further up the cline the numbers exhibit more-noun-like attributes, as charted in the table in (59) on the handout:

(59)

Numbers in Russian – Adjectives or Nouns?

Property	<i>odin</i>	<i>dva</i>	<i>tri</i>	<i>pjat</i>	<i>sto</i>	<i>tysjaca</i>	<i>million</i>
	1	2	3	5	100	1,000	1,000,000
(a)	A	N	N	N	N	N	N
(b)	A	N	N	N	N	N	N
(c)	A	(A)	N	N	N	N	N
(d)	A	A/(N)	A/(N)	N	N	N	N
(e)	A	A	A	A	(N)	N	N
(f)	A	A	A	A	A	N	N
(g)	A	A	A	A	A	A/N	N

In transformational-type approaches, the recognition of clines is initially rather unattractive and problematic, as synchronically there should always be discrete categorization/classification of elements as either of type A or B and not '30% like A and 70% like B', so whereas the endpoints are easy to describe, the inbetween stages of language change might seem to be more messy;

In a Chomskyeian-style phrase-structure grammar certain cline effects may be described by suggesting that the set of properties associated with one end-point is actually spread over a number of functional heads occurring between the two end-points of the cline, and that the presence or absence of certain functional-heads will correlate with the change in the properties attested. Considering *gerunds* as a classic case where there are mixed nominal and verbal properties found together, a common way of modelling their varying properties has been to posit the presence or absence of Tense, Negation and other clausal heads which might support Nominative/Accusative Case, adverbs and scrambling, as in Yoon 1991 and Lapointe & Nielsen 1994. Generally concern has been with inner clausal structure in gerunds, but it is clear that outer nominal properties also vary and that not all nominalizations support all nominal properties such as pluralization, adjectival and numeral modification and genitive thematic subjects, so it is not unreasonable to assume that some of the functional super-structure associated with nominalizers in N might also be partially absent to account for variation here.

(60) Nominalizations/Gerunds

- (a) John/him carefully (not) riding his bicycle
- (b) John's (not) riding his bicycle carefully
- (c) John's careful/\*carefully riding of his bicycle
- (d) \*John riding of his bicycle
- (e) \*John's not riding of his bicycle

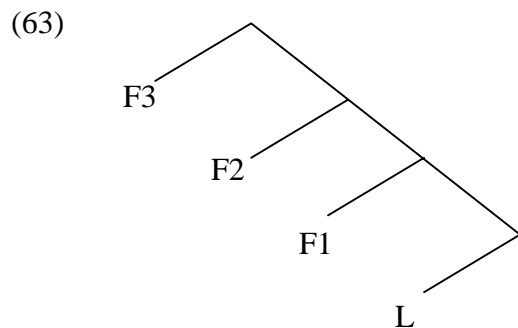
(61) Inner Verbal/Clausal Properties

- (a) Acc/Gen-marking of object
- (b) Tense
- (c) Scrambling
- (d) Negation
- (e) Nominative subject
- (f) Adverbs, VP/Sentential

(62) Outer Nominal Properties

- (a) Marking by a Determiner/Demonstrative
- (b) Case-marking/Preposition-marking of the nominalization
- (c) Pluralization, Numeral-Modification
- (d) Adjectival Modification
- (e) Genitive Thematic Subject

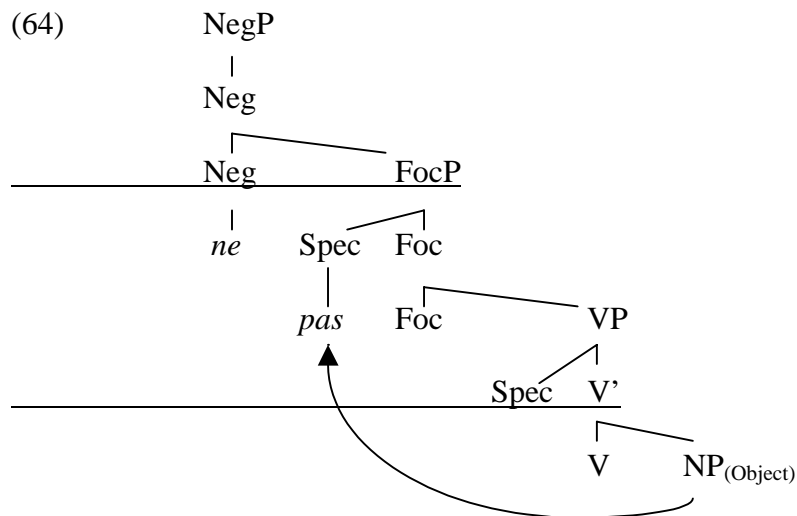
Here quite generally, I would like to suggest that one rather simple way of understanding certain processes of grammaticalization is to suggest that various instances of category change occur when an element is re-analyzed as being base-generated in a higher position in the functional structure which dominates it. Take, for example, a lexical head L which projects a functional structure consisting of 3 heads F1-F3 as in (63):



F1-F3 may be filled by other overt functional elements, or it is possible that L raises to these heads; if L somehow becomes more associated with the properties of these F-heads and undergoes a loss of descriptive content, then ultimately it may be re-analyzed as being base-generated in the functional structure rather than originating in L. If F1-F3 are labelled as different elements, then the result is that there technically is a category change. A concrete illustration of this can be suggested to be the creation of the French negative morpheme pas. pas originated as a regular object to verbs of motion such as ‘walk’ and ‘run’ with the lexical meaning of ‘a step’ or ‘pace’; it became used to add frequent emphasis to both these verbs when negated and a variety of other verbs of motion, resulting in forms similar to English ‘I didn’t drink a drop.’ – as in (63):

- (63) Je ne suis pas alle  
 I NEG am step went  
 ‘I didn’t go’ – Old French emphatic: ‘I didn’t go a step.’

With other verb types, similar rather general emphatic objects occurred with negation. Over a number of centuries pas then became generalized as the only emphatic re-inforcement of negation and eventually allowed for new objects to occur with negated verbs. It can therefore be suggested that pas was originally base-generated as a simple object NP and underwent raising to an emphatic-focus-type projection selected by the Neg-head ne, this raising triggered by Focus-features optionally added on to pas. With continued association of pas with focus and negation and the specialization of pas over other emphatic negative objects it can be suggested that pas was mentally re-analyzed as occurring base-generated in the Spec of the Focus-projection. This in turn freed up the object position and allowed for a non-emphatic object to be inserted in addition to pas, as in (65):



(64) je n'ai pas achete le livre  
 I NEG have NEG bought the book  
 'I didn't buy the book.'

Typical 'upward' grammaticalizations are the frequent change of Aspect (morphemes) into Tense (morphemes) or lexical verbs into modals (as in English). Changes going in a downward direction do not seem to take place – eg root modals commonly turn into epistemic modals, but never the opposite. Here it is not entirely true to say that there is just an automatic *loss* in meaning, actually it is rather a change in meaning; significantly though it always seems to be in an upwards direction, mirroring the direction of movement.

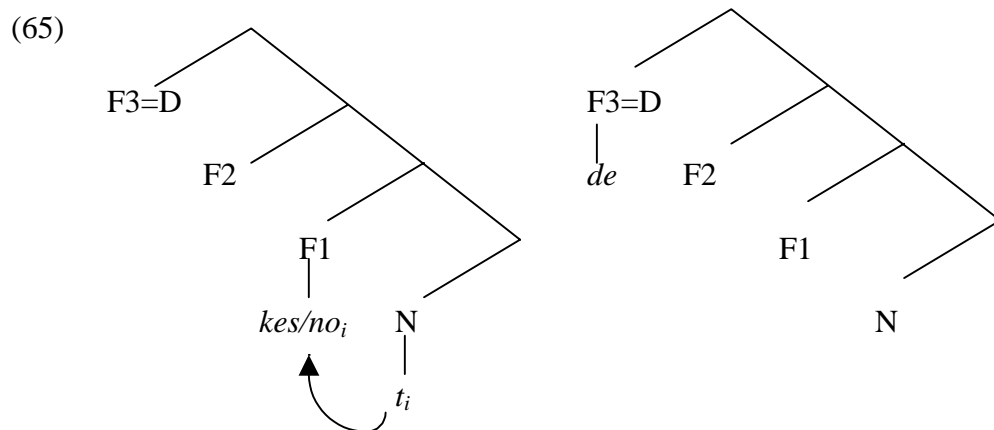
By means of such a rather simplified understanding of one aspect of grammaticalization, it may now be possible to capture what look like similarities between de, no and kes as well as certain differences;

I would like to suggest that one way of relating these elements is to imagine that Korean kes represents the typical source for such elements and is base-generated as a regular noun in the N position. Although kes is still usable as a noun meaning ‘thing’ it nevertheless *is* starting some kind of grammaticalization process as its content seems to be so weak that it necessitates modification and examples such as (65) are unacceptable:

- (65) \*kes-i (ta) chogi-e issoyo  
 thing-Nom all there be

In this sense kes is similar to no and koto in Japanese described as ‘formal nouns’ by Kuno 1973. They seem to now have so little inherent descriptive content that they must be modified and bound by some other element. If these elements are then undergoing the beginnings of grammaticalization, then they may indeed lead to some movement up the functional structure projected by N, exactly how far is not clear, but possibly the fact that they cannot be modified by numbers might indicate that they raise at least to NumP and are then incompatible with an overt expression of number, much in the way that overt genitive case and determiners seem to be incompatible in English when they compete for the same D-position.

Turning to Chinese de – IF it is insightful to attempt to see de as part of a paradigm with no and kes and if this is also a useful way of looking at certain grammaticalization, then it can be suggested that de or its predecessor zhi may have started out as a very general noun with an open meaning like ‘thing’ and then started to grammaticalize into a ‘formal noun’ being base-generated in N and raising up the functional structure to D. The end-point of such a grammaticalization process would be where de or zhi is re-analyzed as being directly base-generated in D and not in N, as in (65):



What such a hypothesis allows one to capture is the significant difference between adult relative clause forms in Chinese on the one hand and Japanese and Korean on the other. In Chinese the element de is found to co-occur with an overt noun-head in regular relative clauses, between the relative clause and the head-noun, as in (66):

- (66) wo mai de shu

I buy DE book  
 'the/a book I bought'

In Japanese and Korean however, no and kes never occur when there is an overt head-noun in a relative clause, but do occur regularly elsewhere in Head-Internal Relative Clauses, pseudo-cleft headless relatives and in nominalization structures as illustrated in (67) – (73): repeating data given at the beginning of the talk:

(67) Taroo-ga katta (\*no) hon  
 Taroo-Nom bought (NO) book  
 'the book that Taroo bought'

(68) nae-ka san (\*ke) chaek  
 I-Nom bought (KES) book  
 'the book I bought'

(69) keikan-wa [doroboo-ga ginkoo-kara dete-kita]-no-o tsukamaeta  
 policeman-Top thief-Nom bank-from exit-came NO-Acc arrested  
 'The policeman arrested the robber who came out from the bank.'

(70) [Taroo-ga tsuita]- no-o shiranai (71) katta no wa hon desu  
 Taroo-Nom arrived NO-Acc not know bought NO Top book BE  
 'I didn't know that Taroo had arrived.' 'What I bought was a book.'

(71) [chayk pily-e ka-n]- kes nayil kac-ko o-kyess-upni-ta  
 book borrow go-PAST KES tomorrow bring-ing come-FUT-POL-DEC  
 'I will bring back the book that I borrowed tomorrow.'

(72) [nae-ka mekko-iss-nun]-kes  
 I-Nom eat-ing be KES  
 'what I am eating'

(73) na-nun [ku-ka o-ass-ta-nun]-kes-ul molla-ess-ta  
 I-Top he-Nom came KES-Acc did.not.know  
 'I didn't know that he came.'

In an article by Kitagawa & Ross 1982 it has been suggested that this difference between Chinese and Japanese in relative clauses is essentially due to parsing reasons.

They claim that a marker such as de in a verb-medial language such as Chinese is necessary in order to identify relative clause structures and avoid any processing difficulties which could arise, whereas in an SOV language such as Japanese relative clauses will be signalled more obviously by the otherwise impossible matrix clause sequence of a verb *followed by* a noun and so no special marker is necessary to identify a relative clause structure. For reasons of economy no marker should therefore occur. Although this is a fairly natural approach to take, unfortunately one finds that there do exist verb-medial languages which do not enforce the use of relative clause markers, and that there are also SOV languages which *do* have relativizers unlike Japanese and Korean – for example Burmese, so the processing arguments are really not sufficient.



Similar phenomena are also attested in Basque and Lilloet Salish. In Basque there is an element a which is labelled as a determiner but has no real definiteness value, allowing for either definite or indefinite interpretations just like Chinese de, this shown in example (79):

- (79) ardo-a edango dugu *Basque*  
 wine-Det drink-FUT AUX  
 ‘We will drink the/some wine.’

In nominalizations, a nominalizer tze occurs in addition to this heavily bleached element in D resulting in a form in which both N and D seem to be filled by formal morphemes and where the element in D has a role which is even more unclear than that of the lower element in N suggesting a higher degree of grammaticalisation:

- (80) [zure egunero berandu hel-tze]-a parkaezina da  
 you-Gen every.day late arrive-NZR-Det unforgiveable be  
 ‘Your arriving late every day is unforgiveable.’

Finally in Lilloet Salish there are again elements labelled as Determiners but which again have no fixed definiteness value, allowing for either a definite or indefinite interpretation, as illustrated in (81) and (82):

- (81) taxp-min-lkan [ti-puk-a] lkunsa *Lilloet Salish*  
 buy-1sg.Nom Det-book-Det today  
 ‘I bought a/the book today.’
- (82) xaz kw-s-taxp-s [kw-puk]  
 not Det-NZR-buy-3<sup>rd</sup>.sg.Gen Det-book  
 ‘She didn’t buy *a book*.’

These elements co-occur with nominalizers whose presence is necessary for the licensing of overt genitive subjects in the DP. Again what one finds is a nominalizer most probably located in part of the functional structure of the DP due to its role in licensing genitive case in addition to a heavily bleached and grammaticalized element in D.

- (83) ama [t(i)-s-shiq-sw-a]  
 good Det NZR arrive 2sg.Gen Det  
 ‘Its good that you came.’
- (85) xaz [kw-n -s shiq]  
 not Det-1<sup>st</sup>.sg.Gen NZR arrive  
 ‘I didn’t arrive.’

Patterns of this kind arguably illustrate what has been suggested to be the case for de, no and kes – de is suggested to be a heavily bleached nominalizer which has undergone full re-analysis in the D-position but encodes no definiteness value, whereas no and kes are suggested to be nominalizing elements in a less advanced state of grammaticalization occurring base-generated lower down in N and subsequently raising higher in the nominal functional structure. In Lotha one finds two nominalizers in various stages of grammaticalization able to co-occur and occupying different positions in the nominal functional structure, whereas in Basque and Salish there are fully grammaticalized elements

in D with no apparent definiteness value getting supported by formal nominalizers in a lower nominal position.

## PART II

Having discussed a POSSIBLE way of viewing de, no and kes as all being elements of the same basic type distinguished by being in different stages of grammaticalization, I would now like to consider further changes in the syntactic type of nominal functional categories, and show how typological differences between Chinese and Japanese and Korean may again be used in a mutually illuminating way.

I will again start with Chinese and a particular paradigm involving de and then attempt to show what this may also tell us about Japanese and Korean. What I will start with reviewing is a recent piece of joint-work carried out with Xiu-Zhi Zoe Wu on the sentence-final occurrence of de in Chinese, a patterning which has a strong parallel in Japanese and a syntactically similar analogue in Korean as well.

An example of the relevant sentence-type in Chinese is given in (86):

- (86) wo shi zuotian mai *piao de*  
I BE yesterday buy ticket DE  
'It was yesterday that I bought the ticket.'

Here we find the copula shi co-occurring with what may appear to be a nominalization formed with de. This combination is often referred to as the shi..de construction and gives rise to a specific type of interpretation which I will come back to in just a moment. Japanese has a similar construction, again formed with the copula and the element no apparently nominalizing a clause with similar interpretative effects as in Chinese, as shown in example (87):

- (87) Tokyoo-de/kinoo katta no desu  
Tokyoo-in/yesterday bought NO BE  
'I bought it in *Tokyo/yesterday*.'

The shi..de construction is essentially rather close to a cleft construction. There is a clear and strong focus, most commonly the adverbial or PP immediately following shi but also potentially corresponding to more or even all of the material following the copula, and this is set off against a strong presupposition, the background event, which is assumed with any doubt to have taken place. Very commonly there is undeniable *contextual* information leading to the appropriate use of shi..de forms and their equivalents in Japanese, and they are frequently employed as explanations of some apparent state; the focussed element functions to clarify or add some additional information relating to the presupposed event or apparent state. This strong presupposition encoded in the shi..de construction which is like a guarantee of the occurrence of an event strongly favours a past time interpretation. (88) can only get a past time interpretation as can (89) UNLESS one omits the element de in which case the interpretation can only be NON-past:

- (88) wo shi zuo qi-che qu Beijing de  
I BE sit train go Beijing DE  
'It was by train that I went to Beijing.'

- (89) wo shi gen Zhangsan qu Beijing (de)  
 I BE with Zhangsan go Beijing (DE)  
 with de: It was with Zhangsan that I went to Beijing.  
 without de: Its with Zhangsan that I'm going to Beijing.

Despite the heavy preference for a past time interpretation, it is however possible to over-ride this with the use of future time adverbials and modal elements such as hui or cai-yao 'will' as in (90), in which case the interpretation is that there is a strong *guarantee* that the event will take place:

- (90) wo shi mingtian ??\*(hui) qu Beijing de  
 I BE tomorrow will go Beijing D  
 'It's tomorrow that I'm going to Beijing.'

Concerning the syntax of the shi..de construction, the presence of the element de following a clause in conjunction with the occurrence of the copula naturally leads to an assumption that such forms are nominalizations. This is further supported by the parallel in Japanese where the nominalizer no similarly follows a clause which occurs with a copula. If this so, one then needs to ask whether these are actually purely headless nominalizations or whether they might be more like Complex NPs with a phonetically empty noun head. As noted already, shi..de forms are strongly linked to context, the context frequently providing the evidence supporting the presuppositional reading or guarantee that the event has taken place or will take place. Such a strong contextual link has been noted by a number of people, from Kuno 1973 through to Kitagawa & Ross 1982 who suggested that syntactically such a link might be encoded by the presence of a contextually controlled PRO element as the noun-head of the nominalization. In the work Zoe and I recently carried out on the shi..de construction we also adopted a similar view and argued that there is actual morphological evidence supporting this in Burmese which has a full and direct parallel to the shi..de construction. In Burmese the simple relativizer equivalent to Mandarin de is pronounced teh, but the element occurring in shi..de forms comes out as taa as seen in (91) and (92) respectively:

- (91) saa-ouq weh teh khalee  
 book buy DE child  
 'the child who bought the book'
- (92) dii-nee weh taa paa  
 today buy TAA pol.  
 'It was today that I bought it.'

taa is essentially a complex form which is a combination of teh and a dummy noun haa which is rather similar to Korean kes. It occurs with the demonstrative either in collapsed forms or separated out as in (93)

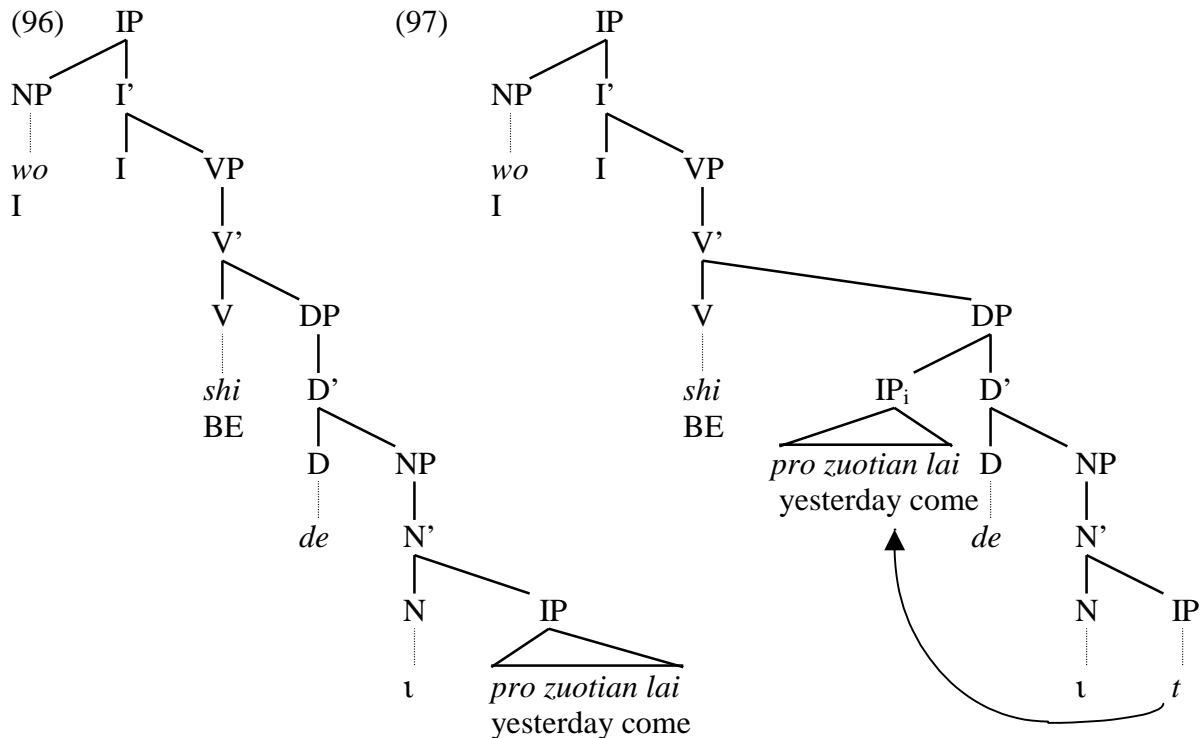
- (93) dii haa 'this (one)' optionally | daa 'this (one)' (dii sa-ouq = this book)
- (94) teh + haa | taa = 'de' in shi..de

So, it might seem that Burmese actually lexicalizes what may be assumed to be a covert noun-head in Chinese. We therefore posited a null noun-head in Chinese shi..de forms

controlled by a discourse operator encoding the link with context and providing the strength of the presupposition.

Consequently we arrived at the structures in (95) which suggest that shi..de forms have a similar underlying syntax to other de-headed DPs in Chinese, an IP clause being triggered to SpecDP by the enclitic properties of de.

- (95) wo shi zuotian lai de  
 I BE yesterday come DE  
 ‘It was yesterday that I came.’



At this point, although all of the steps taken towards this kind of analysis seemed reasonable and also rather natural, we then noted that there are a number of properties of the construction which seem to be in conflict with such an analysis.

Specifically, we noted that adverbs may occur external to the posited nominalization and yet still refer to the event inside the CNP, as in (98):

- (99) zuotian wo shi [DP[ lai mai che]-de]  
 yesterday I BE come buy car DE  
 ‘Yesterday I came to buy the car.’

This is unexpected as adverbials normally seem unable to refer into DPs – in (99) for example, yesterday can’t refer to the time of Bill’s betraying Sue:

- (99) Yesterday John discussed [Bill’s betrayal of Sue]

Secondly, wh-adjuncts freely occur between the copula and de and so *inside* what might seem to be a CNP, as illustrated in (100):

- (100) ni shi [<sub>DP?</sub>[zenme/weishenme lai]-de]  
 you BE how/why come DE  
 ‘How/why did you come?’

Wh-adjuncts such as why and manner how weishenme and zenme normally cannot occur in CNPs however, as seen in (101) and (102):

- (101) \*<sub>[DP]</sub>[ta zenme lai]-de shuofa] bu hao?  
 he how come DE claim not good

- (102) \*ta shi [<sub>[DP]</sub> weishenme lai]-de ren]?  
 he BE why come DE person

Furthermore, the same wh-adjuncts can occur preceding the copula and refer to the event in the ‘nominalization’ structure, as in (103), whereas wh-adjuncts normally may not occur external to a CNP and refer to the event depicted in the CNP. This is illustrated in (103) and (104):

- (103) weishenme ni shi [<sub>DP?</sub>[zuotian lai]-de]?  
 why you BE yesterday come DE  
 ‘Why did you come yesterday?’

- (104) \*weishenme Zhangsan bu zhidao [<sub>DP</sub> [Mali qu Beijing]-de xiaoxi]  
 why Zhangsan not know Mali go Beijing DE news

Finally, we noted that northern dialects of Mandarin allow for a significant alternation in which the object of the main verb optionally occurs *following* de as seen in (106):

- (105) wo shi zuotian mai piao de  
 I BE yesterday buy ticket DE  
 ‘It was yesterday that I bought the ticket.’

- (106) wo shi zuotian mai de piao  
 I BE yesterday buy ticket DE  
 ‘It was yesterday that I bought the ticket.’

If shi..de forms embed CNPs, it is unexpected that these objects should be able to rightwardly extract out of the CNPs in the overt syntax.

Attempting to tease out what was going on here, we concentrated on this latter patterning, which is represented schematically in (107), the (a) form being found in all dialects and the (b) pattern occurring predominantly in northern areas:

- (107) a. V - Ob - de  
 b. V - de - Ob

Assuming that the more restricted (b) form is somehow derived from the fully common (a)-type sequence, it seemed that there were two obvious ways of relating (a) to (b). The first of

these would be to suggest that the object moves leftwards over the nominalizer or determiner de, the second that the nominalizer-determiner de itself moves leftwards over the object. Although one might first of all think that the (b) forms result from object-movement, this possibility is actually rather problematic to maintain. First of all there is the noted problem of rightward extraction out of a CNP-type structure, rightward movement however it is described being far more restricted than leftwards movement and not good at all out of island configurations. Secondly, ‘rightward’-movement is commonly associated with some kind of focus and stress, as in (107):

(107) John gave  $t_i$  to Mary [everything he possessed]<sub>i</sub>/\* $it_i$

but here in Chinese the object actually *cannot* be the focus as the focus immediately follows the copula and so the object is by definition in the presupposition. It is therefore rather odd to imagine that it is subject to a particular stylistic movement, the object is really just part of the background information. Furthermore it is found that when the object is heavy, for example a clause, the preference is actually for the object to *precede de* and *not* occur in final position, this being the opposite to classic Heavy NP shift-type phenomena; consequently forms such as (108) are preferred to (109):

(108) ta shi zuotian shuo [ta bu xihuan Mali] de  
 he BE yesterday say he not like Mali DE  
 ‘It was yesterday that he said that he didn’t like Mary.’

(109) ta shi zuotian shuo de [ta bu xihuan Mali]  
 he BE yesterday say DE he not like Mali  
 ‘It was yesterday that he said that he didn’t like Mary.’

Therefore it seemed that it might be more likely to assume the second possibility, namely that it is the determiner-nominalizer de which undergoes movement in the (b)-type forms. Striking confirmation that this is actually what is taking place in shi..de forms is found when one looks at Double Object Constructions and the position of de. As shown below schematically in (110) and with a concrete example in (111), it is possible for de to precede *both* Indirect Object *and* Direct Object:

(110) NP shi Adv/PP V de IO DO

(111) wo shi zuotian gei de tamen san-ben-shu  
 I BE yesterday give DE they 3.CL.book  
 ‘It was yesterday that I gave them three books.’

This would seem to indicate that it really is de which is changing position and not the direct object – here de is seen to shift over both the direct object and the indirect object. If this is indeed right, then it would appear that de is targeting the verb – moving to attach itself as an enclitic on the verb. The obvious question we now needed to answer was WHY should this be happening? Significantly this kind of movement is indeed historically attested elsewhere in Chinese with the final verb liao ‘to finish’ developing into an Aspectual morpheme -le and in doing so moving forward over the object of a verb to attach to the verb as an enclitic, later becoming a fully-fledged verbal suffix as seen in (112) and (113):

(112) S-final liao ‘to finish’ → V-le (Aspect)

- (113) wo mai-le yi-ben-shu  
 I buy-Asp one-CL-book  
 'I bought a book.'

So it might seem that de is turning itself from a nominal determiner element into a verbal enclitic and suffix just like -le. Next the question was what kind of verb-related properties might be triggering this re-analysis. Here we pointed to the strong preference for past time interpretations found with the shi..de construction, this association with past time being so strong that de may not be dropped when a past time adverb such as zuotian 'yesterday' occurs as in (114). We therefore argued that the most natural assumption to make is that de is currently undergoing re-analysis from the category of determiner to the verbal category of (past) tense, and this explains its movement to encliticise to the verb.

- (114) wo shi zuotian qu Beijing \*(de)  
 I BE yesterday go Beijing DE

There is also interesting additional support for this type of analysis. Earlier we noted that the preference for a past time interpretation had the strength of a generalized conversational implicature which could be over-ridden with the use of future adverbs and modals as in example (90). Significantly, when such over-rides are present, it is NOT possible to have the verb-DE-object order, which is exactly what one expect if this order is the direct reflection of a re-analysis of de as a past tense morpheme hence incompatible with a future-type reading. (115) on the hand-out illustrates this:

- (115) \*wo shi mingtian hui qu de Beijing  
 I BE tomorrow will go DE Beijing

We also presented evidence that de is still in the clitic stage and not attached as a past tense marker in the lexicon. If one goes back to Double Object Constructions, it is found that in addition to the order in 110/111, de may also optionally occur between the indirect object and the direct object as in example (116):

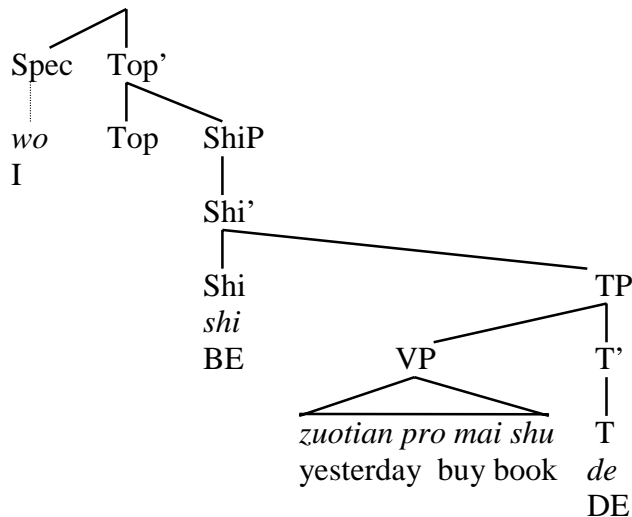
- (116) wo shi zuotian gei tamen de san-ben-shu [V IO-de DO]  
 I BE yesterday give they DE 3.CL.book  
 'It was yesterday that I gave them three books.'

We suggested that this shows de attaching to the verbal unit after incorporation of the indirect object to the verb in the syntax and that the attachment of de to the verb therefore also takes place in the syntax.

Consequently we ended up with a variety of evidence indicating that the clearly nominal determiner element de was undergoing re-analysis into the verbal functional structure and being re-interpreted as an instantiation of T - specifically *past* tense.

Something like the structure in (117) was suggested to be an approximate representation of this kind of re-analysis, with de first base-generated in T and then optionally moving to undergo encliticisation to the verb in the syntax:

- (117) TopP



The re-analysis process was suggested to be significantly assisted by the fact that because the object is generally part of the presupposition it is commonly dropped or a *pro* and this results in the verb being heard adjacent to de as in (118); re-analysis as a verbal suffix or enclitic is therefore easy:

- (118) wo jintian mai-de  
 I today buy DE  
 'I bought it *today*.'

The re-analysis was argued to be a result of the strengthening of the past time generalized conversational implicature associated with shi..de forms in the original nominal source, and that the process of change here is therefore fully in line with other common processes of change resulting from pragmatic inferencing (as per Hopper & Traugott 1993). Syntactically the referential value of the determiner is re-interpreted in the verbal domain and so the switch from D to T is indeed quite a natural change.

Finally we were able to account for the other puzzling aspects of the shi..de construction – the adverb construal patterns noted somewhat earlier. If an original CNP-type structure has undergone re-analysis as a TP then it is not unexpected that there might be either extraction out of such a constituent or construal in, TPs as opposed to CNPs *not* being islands for extraction or construal. We also noted that when a shi..de structure has a non-past interpretation with future-oriented adverbs and modals, it seems that it is *not* possible to have *wh*-adjuncts occurring inside the copula, as in (119) and that the occurrence of other adverbs outside the copula is also disfavoured – examples (120) and (121). This would seem to indicate that when de is not re-analyzed as past tense in T, it remains as a determiner heading a CNP which constitutes a genuine island to extraction and construal processes:

- (119) \*ta shi weishenme/zenme hui qu Beijing de  
 he BE why/how will go Beijing DE
- (120) ?\*wo mei-tian dou shi hui qu Beijing de  
 I every-day all BE will go Beijing DE
- (121) (??)mingtian ta shi hui qu Beijing de  
 tomorrow he BE will go Beijing DE

So, in sum, we have the interesting ongoing conversion of a determiner to a tense-morpheme here and a second type of grammaticalization – across functional categories from the functional super-structure of a nominal category to the functional super-structure of a verbal type. Coming to this conclusion we were considerably aided by the S-Aux-V-O word order in Chinese and the occurrence of the northern dialect pattern in which the object is seen to optionally occur outside what looked like a nominalization structure.

Turning now to Japanese one finds quite similar forms, the occurrence of a clause apparently marked by the ‘nominalizer’ no and normally followed by the copula, as in (122) on the hand-out. The use of this type of construction would appear to be highly similar to that of the shi..de construction and is commonly used to explain certain apparent circumstances and a situation or event whose truth is presupposed knowledge shared by both speaker and hearer, adding in explanation which is often a time or place clarification. As with the shi..de construction and its analogue in Burmese, if the presupposition is provided by purely non-verbal contextual information then the whole of the clause preceding no desu can be new explanatory information.

So, looking at the form of no-desu sentences, one again might wonder what the status of the so-called nominalizer no when it occurs here. Is it really a CNP type structure headed by a phonetically null noun controlled by a discourse operator, or a simple headless nominalization or has no possibly undergone some kind of re-analysis similar to Chinese? Due to the verb-final word-order in Japanese, if there were to be any re-analysis of no into the verbal functional domain one would *not* expect to find the type of evidence present in Chinese where the determiner de moves over the object to attach to the verb – in Japanese the element no IS already adjacent to the verb and so re-analysis into the verbal functional structure should actually be quite easy in this respect. There are however two other clues which suggest that no might indeed have undergone the same fate as Chinese de and switched over to the verbal functional domain. The first of these, not so significant in isolation, is that no in no desu sentences optionally permits contraction and loss of its vowel coda as seen in example (122):

- (122) kinoo        kita-n/no desu    yo  
           yesterday came-NO BE      EMPH  
           ‘I/he came *yesterday*.’

Although Osaka dialects of Japanese may permit this kind of contraction with other more clearly nominal uses of no such as pseudo-clefts, standard Tokyo Japanese does not, and no must occur in its full form as in the nominalization structure (123):

- (123) [Taroo-ga Mary-to kekkon shita]-no-o/\*n-o shitte imasu ka  
           Taroo-Nom Mary-with marry did NO Acc knowing be Q  
           Did you know that Taroo got married to Mary?

This might therefore seem to indicate that no in these no desu sentences is not the same as the nominalizer occurring in other forms. Stronger confirmation of this suspicion comes from evidence which is not available in Chinese and the fact that no in no desu sentences does not license genitive case on the subject of the descriptive clause. This contrasts with regular nominalized structures where genitive case readily is available as an optional alternative to nominative ga in colloquial speech, as seen in example (124):

- (124) Taroo-no/-ga      kekkon-shita no-o      shitte iru?  
 Taroo-Gen/-Nom got-married NO-Acc knowing-be  
 ‘Did you know that Taroo got married?’

As (125) shows, this is not at all possible in no desu forms:

- (126) \*Watashi-no kinoo      kita no desu  
 I-Gen      yesterday came NO BE

So, if we here have indication that no too has lost its original nominal-oriented status and arguably is switching over into the verbal-clausal functional structure in a similar way to Chinese de, the question is whether this conversion is indeed fully parallel to what was argued for in Chinese. Here the answer is that it is not in fact exactly the same, and that the difference here in Japanese may then tell us something interesting about Chinese too. In Japanese it is found that the verb preceding no *does* already carry a tense morpheme which furthermore need not be past. Consequently it cannot be the case that no is undergoing re-analysis as an instantiation of past tense as suggested for Chinese. Example (127) shows no occurring with a future adverb and the verb with non-past tense morphology, (122) has the verb in a past tense form preceding no:

- (127) ashita      iku no desu  
 tomorrow go NO BE  
 ‘I’m going tomorrow.’

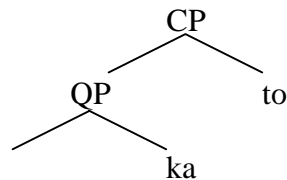
So, what do we make of this? IF it is indeed true that no has undergone re-analysis into the verbal functional structure, it cannot be as tense but must instantiate some higher head. Given its association with strengthening the presupposition of the sentence and hence *evidentiality*, it would not be unnatural to suggest that no may be re-analyzed as the head of a MoodPhrase dominating Tense and representing speaker assertion of the truth of a statement as represented in (128).

- (128) Japanese
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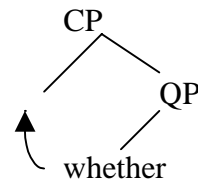
  graph TD
    MoodP --- TP
    MoodP --- no
    TP --- T
  
```

If this is plausible, and if Chinese de is responsible for the same type of interpretation as is generally found to be the case, then it suggests that the re-analysis in Chinese is not as simple as initially stated and that Chinese de essentially does the work of two functional heads in the clausal domain. In the higher clausal domain, Japanese provides evidence that there are discrete head positions for both complementizers and question morphemes and that these can be filled by two independent morphemes as in (129a). In English as there only occurs a single element whether in embedded yes/no questions and no obvious instantiation of a complementizer, it may be assumed that whether does duty for both the Q and C position as in (129b):

(129a) Japanese

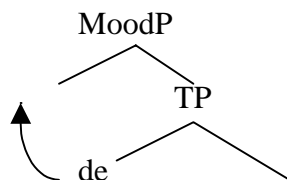


(129b) English



In Chinese it can therefore be suggested that when de converts to the verbal functional structure it fulfills the roles of both Tense and Mood as in (130):

(130) Chinese



Cross-linguistic comparative analysis thus helps in both directions – Chinese provides rather clear initial evidence for the re-analysis of de into the verbal functional structure, with de clearly targetting the verb and turning itself into a verbal suffix. Given the verb-final word order in Japanese this kind of evidence cannot be found with no, but Japanese does give supporting evidence from the loss of genitive case and coda reduction and significantly indicates that the re-analysis in Chinese may actually be more complex than originally thought.

Turning now briefly to Korean, a fully parallel analogue to the Chinese, Japanese and Burmese construction isn't present. However, there does exist a construction making use of kes and the copula which seems to show signs of re-analysis and the incorporation of nominal kes into the verbal functional structure in a somewhat similar way to de and no. This is illustrated in example (131):

(131) Yong-guk-ulo ttona-ss-ul-ke-eyo  
England-to left-IRR-KES-BE  
'He must have left for England.'

The use of such a construction is not the same as the shi..de or no..desu patterns but it does nevertheless clearly relate to evidentiality and speaker commitment to the truth of a situation, introducing a probable future or a probable past. Syntactically it is formed with a verb which may carry past tense or appear bare added to the irrealis marker -(u)l, the element kes and the copula in some speech level form, i.e. plain, polite or formal style.

(132) mek-ul-ke-eyo/ke-mnida  
eat-IRR-KES-BE/KES-BE  
'He will (probably) eat.'

The element kes is commonly in a reduced form pronounced ke, indicating its incorporation into the verbal string. However, it may still be pronounced in its full form as in (133), showing that the grammaticalization process is still not fully complete.

(133) mek-ul-kes-ieyo/kes-imnida  
eat-IRR-KES-BE  
'He will (probably) eat.'

Furthermore, honorific agreement occurs on the lexical verb rather than on the copula, as in (134), possibly suggesting that this is still a bi-clausal type structure. Nevertheless, it would seem that here too is another instance where one of the de/no/kes nominal paradigm is on the way to switching from a nominal-functional status to incorporation into the verbal functional domain and a connection to the notion of epistemic modality and speaker perspective. What Korean might be able to add to our understanding of the patterning in Chinese and in Japanese is that it is not just the bare nominalizing element de or no in isolation which is responsible for the epistemic interpretation attested; in Korean it is arguably the addition of the irrealis morpheme -(u)l which results in the relatively decreased strength of evidentiality and the prediction-type reading. This potentially adds credence to the earlier suggestion that de receives its evidential force indirectly from a discourse operator binding an empty nominal head selected by de, i.e. it is not de in isolation which results in the guarantee-type interpretation.

- (134) naek-tai-lul mae-shi-l-ke-eyo  
 tie-Acc wear-HON-IRR-KES-BE  
 ‘He will (probably) wear a tie.’

### **Genitive loss**

Taking stock here, we have seen fairly good evidence that the Chinese determiner element de is re-analyzing into the verbal functional domain, and that Japanese no may well be doing something rather similar. Korean kes may also seem set to switch over into a verb-related element. I would now like to suggest that the same, or a similar process may also be able to explain certain changes in relative clauses in Korean relating to the optional licensing of genitive case on the subjects of relative clauses. I should point out that much of the Korean data I will be looking at here comes from an extremely interesting paper given by John Whitman at the Korean linguistics conference held in Hawaii this summer.

To begin, it is fairly well-known that subjects in relative clauses in Japanese may appear either in nominative or in genitive case, as in (135), what is commonly referred to as ga/no conversion:

- (135) Taroo-ga/-no katta hon  
 Taroo-Nom/-Gen bought book  
 ‘the book that Taroo bought’

A similar alternation exists also in Korean, but it appears to be subject to more restrictions than in Japanese. A number of linguists including James Yoon 1991 and Sohn 1997 have noted that in modern Korean the only relative clause subjects that can be marked with genitive case are those which essentially bear a potential possessor-type relation with the head-noun, or a relation in which there is a very close association between the subject and the head-noun, as for example in (136):

- (136) na -uy sal-te-n kohyang  
 I -Gen live-Ret-N hometown  
 ‘the hometown where I used to live’

Yoon 1991 notes that (137) is fine with the verb ‘wear’ ip-ta but not with the verb ‘see’ po-ta as only ‘wearing’ satisfies the close association-type relation:

(137) [John-uy ip-nun/\*po-n] os (Yoon 1991)  
 John-Gen wear-N/see-N clothes  
 ‘the clothes that John wore/\*saw’

(138) is out again because there is no possession type relation existing between the music and the people, ie the music doesn’t possess the people:

(138) [ku-umak-i/-\*-uy kamdongsikhi-n] salam-tul (Sohn 1997)  
 that music-Nom/-Gen move-N person-Pl  
 ‘the people who the music moved.’

John Whitman’s research into Middle Korean however shows that this kind of restriction on genitive subjects appears to be just a property of Modern Korean. In Middle Korean the relation between a genitive subject and the relative clause head-noun seems to be thematically unconstrained, in the same way that it is unconstrained in modern Japanese. (139) is an example Whitman gives which is fine in Middle Korean but which would not be possible in present-day speech:

(139) I pali-y ey s mwolGay lul [na-y tot ni-n-o-n] stoh]-ey skol-a-la  
 this bowl in-Gen sand -Acc I Gen go-Pr.Mod.Ad place-Gen spread-Imp  
 ‘Spread this sand in the places where I go.’ (Sek 24:9b)

In addition to the thematic restriction on modern Korean, it is also not possible for a genitive subject to be preceded by an adverb such as ‘yesterday’ *ecey* which refers to the action of the relative clause, as in (140). This is in sharp contrast to modern Japanese where a sentential adverb may indeed precede a genitive subject, as shown in (141):

(140) [ecey John-i/\*John-uy sa-n]-chayk (Sohn 1997)  
 yesterday John-Nom/John-Gen buy-N book  
 ‘the book that John bought yesterday.’

(141) [kinoo Hanako no katta] hon-wa Bottyan desu (Nakai 1990)  
 yesterday Hanako-Gen bought book-Top Bottyan BE  
 ‘The book which Hanako bought yesterday is Botchan.’

These two facts might seem to point to the same conclusion, namely that the genitive case possible with relative clause ‘subjects’ in Korean is indeed assigned by some head in the functional super-structure dominating the relative clause head-noun. This will account for the restriction that the genitive NP must precede any sentential adverb which is part of the relative clause and it also makes sense of the possessor-type thematic restriction - the genitive case assigned here is essentially licensed by the functional structure projected by the head-noun and restricts the case-assignee to precisely those standard genitive possessor-type relations which could also be licensed in the full *absence* of the relative clause. I.e. a genitive subject is fine only when that same NP could stand in a genitive relation to the relative clause head-noun also *without* the relative clause being present.

Previously however, this relation appears to have been unrestricted, and it is clearly unrestricted in modern Japanese, so the question is how is this distinction to be captured? The direction I would like to go in here is to pursue the connection between gerund-type nominalizations and genitive subjects. It is well-known that nominalizations of certain types cross-linguistically license thematically-unrestricted genitive subjects. This is seen in

English gerunds and Korean Type III Gerund Nominalizations and also in a number of nominalizations formed with no in Japanese, as for example in (142) and (143), (142) being a simple clausal nominalization, (143) being a pseudo-cleft type structure also formed with the element no and allowing for optional genitive case on the subject in place of nominative:

(142) Hanako-ga [Taroo-no tsuita]-no-o mita  
 Hanako-Nom Taroo-Gen arrived NO-Acc saw  
 ‘Hanako saw Taroo arrive.’

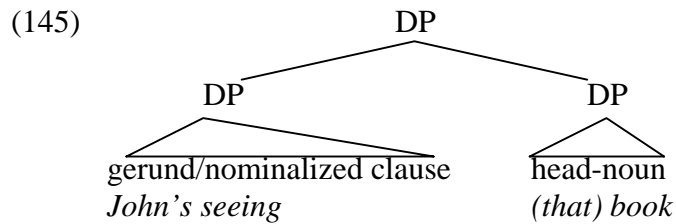
(143) [Taroo-no katta]-no-wa hon desu  
 Taroo-Gen bought-NO-Top book BE  
 ‘What Taroo bought was a book.’

The important point I would like to stress again here is that the genitive case licensed on subjects in nominalizations is consistently found to be thematically unrestricted. It is licensed by a functional head projected directly as a result of the presence of the nominalizer, and genitive case is not available in similar clauses which are not nominalizations. This lack of any thematic restriction on the genitive element contrasts with the genitive case which is licensed by nouns which do have intrinsic semantic content and seem to impose certain restrictions on the genitive relation.

Now, Korean and Japanese are both languages which are described as currently having, or as having had some kind of special ‘adnominal’ morphology on verbs in relative clauses, meaning that verbs show up in special forms which do not occur in other clauses. They are also both languages which currently have, or previously had thematically unrestricted genitive subjects in relative clauses. Critically here, various Korean linguists (notably Kim Wancin 1957, Lee Ki-Moon 1961/1972 and Hong Congsen 1990) have argued that the adnominal morphology present on verbs in relative clauses in Korean should in fact be analyzed as being the addition of *nominalizers* to the verb. In Modern Korean this is commonly collapsed together with tense, but if one adds a retrospective mood morpheme it becomes possible to separate the relative clause verb-form into its stem, tense, mood and a distinct element -n as in (144) which is the suggested clausal nominalizer:

(144) [Chelswu-ka ecey *pro* manna-ass-te-n]-salam  
 Chelswu-Nom yesterday meet-Past-Ret-N person  
 ‘the person Chelswu met yesterday’ (Whitman 1995)

What I would therefore like to suggest, and it really seems like a very natural first step to make at least, is that genitive case may potentially be licensed in either of two ways in relative clauses in a number of languages. First of all there is a regular ‘external’ genitive licensed by the relative clause head-noun, or rather the functional structure which it projects. This is the thematically-restricted possessor-type genitive. Secondly there may also be an ‘internal’ genitive available if the relative clause itself is actually a gerund-like nominalization. This genitive is licensed by functional structure projected by a clausal nominalizer and is unrestricted as the nominalizing head is semantically empty and imposes no constraints on the relation with the genitive NP. What this amounts to saying or claiming then is that relative clauses in a number of languages need not be simply clausal CPs but may in fact be NPs or DPs (or possibly something inbetween) which get conjoined with another DP headed by the actual relative clause head-noun, very approximately as in (145) with a meaning intended to be equivalent to: ‘that book which John saw’:



Indeed, in old English there seems to be evidence that relative clauses in certain languages may start out with the juxtaposition of two DPs. In example (146) both the relative clause noun-head *and* the relative clause are case-marked with the genitive case assigned by the matrix verb, indicating that they are actually both DPs (with some kind of case-sharing effect):

- (146) Hi adulfon gehwylcne dael paes wrytgeardes paes pe paer aer undolfen was  
 they dug each part that.Gen garden.Gen that.Gen C there before not-dug was  
 ‘They dug every part of the garden that had been left undug before.’  
 lit. ‘..of that garden, that one left undug.’  
 (c.1050, Gregory’s dialogues)

In structures such as (145) the first DP may then contain a *pro* which is bound and controlled by the second DP, resulting in the relative-clause type interpretation.

Assuming this much will allow for a distinction between inner un-restricted genitive licensed by a gerund-like nominalization and outer restricted genitive licensed by the relative clause head-noun. What now needs to be explained is the critical change which has taken place in Korean. In Middle Korean genitive appears to have been unrestricted and so can be suggested to have been essentially licensed as an inner genitive due to the relative clause itself being a nominalization, this signalled by the nominalizer present in the adnominal morphology on the verb. What now about Modern Korean though? In Modern Korean we find that genitive subjects are thematically restricted indicating in the present account that only an outer genitive can be licensed, this by a functional head projected by the relative clause noun-head. HOWEVER, special adnominal morphology is still strongly present on the verb and so might well be expected to license a thematically unrestricted inner genitive subject, *contra fact*. What I would like to suggest as a solution here is that there has been a critical re-analysis of the same basic type as that suggested earlier in Chinese and Japanese and that a nominalizer has again significantly undergone a category shift from the nominal domain into the functional structure projected by the verb. Undergoing re-analysis out of the nominal domain the unrestricted genitive case which is licensed by the gerund-like nominalization-structure automatically disappears and ‘subjects’ may only be assigned the outer restricted genitive licensed by the nominal functional structure dominating the relative clause noun-head (and I assume that the ‘subject’ is indeed base-generated here, controlling a real *pro* subject inside the relative clause). So, the re-analysis process seen with nominalizing elements in Chinese and Japanese and the shifting from a role in the nominal functional structure over to the clausal functional structure might indeed seem to be quite widespread and here provide a principled explanation for the loss of genitive subjects in modern Korean relative clauses despite the apparent persistence of adnominal morphology.

An immediate question which now comes to mind is how are genitive subjects licensed in modern Japanese relative clauses? As noted earlier, Japanese also used to have special adnominal morphology in its relative clauses, verbs appearing in the attributive

rentaikei form in contrast with the conclusive shuushikei forms of other clauses. This system of opposition is however well-documented as having later got restructured into a general tense system which didn't manifest any difference between matrix and subordinate clauses. If one supposes that the older rentaikei attributive forms were like Middle Korean and actually nominalizations licensing genitive case, this 're-organization' of the rentaikei form into a tense system would then actually constitute another good case of a nominalizer being re-analyzed as a tense-form, precisely as suggested for the D-to-T conversion in contemporary Chinese. If this is so however, one now needs to try to understand how thematically unrestricted genitive case continues to be available for subjects of relative clauses in Japanese. If the critical nominalization responsible for an inner unrestricted genitive has undergone re-analysis leaving only a clausal constituent, one might not expect to see unrestricted genitives as these are otherwise only licensed in clear nominalizations such as (142) and (143). Here I would like to suggest that there are a couple of possible approaches. The first is to suggest that the re-analysis process of nominalizers into tense-morphemes is still only optional in relative clause structures, so that the non-past verb-forms found in relative clauses which correspond to the attributive rentaikei forms actually still incorporate a nominalizer and so license genitive case. As for past tense forms in relative clauses, it may be suggested that these have also not undergone re-analysis as proper tense forms and so co-occur with a phonetically null form of a nominalizer. Some reason to believe that there may not have been this re-analysis into a full tense system inside relative clauses is the fact that the past tense morpheme in relative clauses in fact need not result in a past time meaning and can instead correspond simply to completive aspect which is fully compatible with a future reading, as seen in (147) from Nakamura 1994:

- (147) [ashita ichiban hayaku kita] hito-ni kore-o ageru (Nakamura 1994)  
 tomorrow most early came person-Dat this-Acc give  
 'I will give this to the person who comes (*lit.* came) first tomorrow.'

Prior to re-analysis into the tense system of modern Japanese, the past tense morpheme was indeed part of a contrastive aspectual system and so this patterning which is restricted to modern relative clauses does suggest that the tense re-analysis may still be optional in this environment.

A second possibility to account for the unrestricted genitive might be to suggest that when the posited attributive form nominalizer became re-analyzed into the tense system, instead of disappearing, the nominalizer position was retained and occupied by a null nominalizer element. Elsewhere where the attributive form was re-analyzed and its hypothetical nominalizer status was lost, a new overt nominalizer was inserted in a renewal process common in language development; Horie 1993 compares the classical Japanese example with its adnominal verb-form and no apparent nominalizer in (148) with a modern Japanese equivalent with no in (149):

- (148) [te tatake-ba yamabiko-no **kotauru**] ito urusai  
 hand clap-as echo-Gen **answer.Adn** very annoying  
 'It is very annoying that there is an echo when he claps his hands.'  
 (Genji monogatari, 11thC)

- (149) [te-o tatau-to kodama-ga kotaeru]-**no**-wa taihen huyukai-da  
 hand-Acc clap when echo-Nom answer **NO** very annoying be

In fact it is hard to see how the verb-form in (148) can be labelled ‘adnominal’ as it doesn’t appear to precede any kind of nominal; the most natural explanation for the genitive subject here would seem to be that the adnominal morphology IS indeed a nominalizer attached to the clause and that when this gets re-analysed as a tense morpheme no is inserted to replace it. So, it is not unreasonable to imagine that a null nominalizer may be present in modern Japanese relative clauses and it is this element, or perhaps the functional structure which it projects, which is basically responsible for the possibility of unrestricted genitive subjects. On the topic of empty nominalizers and genitive subjects, it can be noted that classical Chinese seems to have permitted genitive subjects both in relative clauses and in simple nominalizations, but in neither case is there any sign of an overt nominalizing morpheme, so it must be concluded that the nominalizing morpheme is phonetically null; this is illustrated in the pair in (150) and (151):

(150) [Wang-zhi suo sha]-zhe  
king-Gen SUO kill-those  
‘those whom the king killed’

(151) [Wang-zhi lai]  
king-Gen come  
‘the coming of the king/the king’s coming’

Before finishing here, I would actually like to note certain other cases which are arguably further examples of the same basic conversion operation in which an element in the nominal functional structure switches to the verbal clausal domain. The first of these might initially appear to be a counter-example to the earlier suggestion that Japanese no originates in N and raises higher, this accounting for the observation that no only appears to occur where there is no overt head-noun following it, so in internally-headed relative clauses, in pseudo-clefts and simple nominalizations. There are in fact certain instances where no may be followed by an overt head-noun in an appositive CNP type structure, as illustrated in (152) and (153):

(152) [kane-o haratte]-no-ageku  
money-Acc paying-NO consequence  
‘the consequence of having paid money’

(153) [kare-ga kureba]-no-hanashi  
he-Nom come-if NO talk  
‘the talk which would become relevant if he came’

Murasugi 1991 points out that what consistently characterizes these examples is that the verb in the CNP is un-tensed, i.e. not in a regular past or non-past tense-form. It can therefore be suggested that no here has undergone re-analysis into the verbal functional structure but in these cases directly into T<sup>0</sup> when Tense is not occupied by a regular tense morpheme, this being very similar to the conversion of Chinese de into Tense in the shi..de construction. Another connected case occurs in Hebrew, where it is found that the so-called definite determiner ha occurs in relative clauses in a way similar to Chinese de but significantly this is only possible in participial relative where there is no overt instantiation of Tense, as in (154):

(154) ‘ish ha-kore ‘iton ba-rexov

man the reading newspaper in-the street  
'a man reading a newspaper in the street' (Siloni 1995)

Again it can be suggested that the determiner is actually re-analyzed into the verbal functional structure and specifically into the tense position, hence being incompatible with anything but a tenseless participial complement. What is importantly different between the Japanese and Hebrew cases here and conversion of Chinese de is that in the former instances the nominalizer-determiners do not bring with them into the Tense position any of the referentiality they might be associated with in the nominal system. Thus whereas the discourse-operator determined referentiality of Chinese de is re-interpreted as past tense, the definiteness present in Hebrew ha is quite absent in its use in participial relatives and Siloni describes such relatives as having an 'understood tense (which) is determined externally by the context'. The same can be said of the Japanese example (152). What the importation of the nominal functional elements seems to do here is to provide an element in T which can be anaphorically controlled by some higher tense operator, much as English to is also controlled in English infinitival clauses.

Let me also mention briefly one final putative case of the same conversion process from nominal to clausal functional structure. This one is much more speculative given my rather poor knowledge of Korean historical linguistics, but given the workshop nature of this meeting and the over-riding aim to stimulate more communication between researchers into the three basic languages here I think it is worth a small mention. Basically much of the talk focussed on the elements listed in (154) and suggested that they were all sort of similar but at different stages of grammaticalization - Chinese de, Japanese no, Korean kes and Burmese teh:

|       |          |            |                  |
|-------|----------|------------|------------------|
| (154) | Chinese  | <u>de</u>  |                  |
|       | Japanese | <u>no</u>  |                  |
|       | Korean   | <u>kes</u> |                  |
|       | Burmese  | <u>teh</u> | (Spoken Burmese) |

Now, in addition to occurring in relative clause structures, Burmese teh also occurs clause-finally in regular sentences which do not have any shi..de-type interpretation, this being illustrated in (155) where both embedded and main clauses end with teh :

(155) Daw-Khin-Maun mahniq-ka yauq teh lo pyaw teh  
Daw-Khin-Maun last year arrive TEH that say TEH  
'(He) said that Daw Khin Maun came last year.'

This teh has also been suggested to be a nominalizer in Matisoff 1972; although this is most likely to be its origin, there are synchronic reasons for believing that it too has shifted into the clausal functional domain or example it doesn't support case-marking and can't co-occur with a copula unlike other clear nominalizations. The significance of bringing up this clause-final use of teh is that it might strongly seem to parallel that of Korean -ta, referred to commonly as a 'declarative-marker', and a comparison might give an insight into the status and origins of -ta (about which I know nothing). The simple speculation would be that if teh is a re-analyzed nominalizer, Korean -ta might also be. Aside from the pure similarity in their distributions, there are two pieces of evidence which might appear to link these morphemes together and establish a connection to a nominalizer origin. The first is that the

Plain style verb forms built with -ta often might seem to carry strong traces of adnominal attributive morphology, the -nun and -n parts seen in examples (156):

- (156) a.      mek-nun-ta                      b.      ip-nun-ta                      c.      sa-n-ta  
               eat-Plain-Dec                      wear-Plain-Dec                      buy-Plain-Dec  
               ‘eats’                                      ‘wears’                                      ‘buys’

If this is indeed adnominal morphology its presence may be explained if it is suggested that the -ta ending is itself an older nominalizer which has undergone full re-analysis into the D-position leaving the N-position to be re-newed with another nominalizing element, much as seen in the earlier Lotha, Basque and Salish examples.

The second interesting fact which links -ta with Burmese teh whose nominalizing origin is much more obvious is the observation that both -ta and -teh are used with verbs when giving dictionary citation forms of verbs as in (157), this being similar to quoting verbs in English with the element ‘to’ as in ‘to swim’:

- (157) a.      mek-ta                                      b.      ip-ta  
               ‘to eat’                                      ‘to wear’
- (158) a.      sa:-teh                                      c.      thwaa-teh  
               ‘to eat’                                      ‘to go’

This kind of citation method using a nominalizer is actually fairly common among the Tibeto-Burman languages, but not found further north which makes the repetition of this pattern in Korean stand out as rather striking. In Burmese and the other Tibeto-Burman languages the use of a nominalizer in the citation form of a verb may reflect the frequent tendency elsewhere in these languages to nominalize verbs when referring to them as concepts.

So, if there are reasons to link up Korean -ta with the de/no/kes group via the Burmese element teh and also other Korean-internal evidence suggesting that -ta may have originated as a nominalizer, one should ask what its status is in modern Korean. Given that it doesn’t licence genitive subjects, it might seem that -ta is clearly a part of the clausal functional structure rather than being in N or D. Speculating that it has indeed undergone re-analysis over from the nominal functional structure, it might seem that its current position in the clausal domain is very high - -ta clearly occurs with tense morphemes as in (159) and essentially functions as a clause or sentence-ender:

- (159) a.      mek-ess-ta                                      b.      sal-ess-ta  
               eat-Past-Dec                                      live-Past-Dec  
               ‘ate’                                      ‘lived’

Referred to as a declarative-marker, the principal role played by -ta might seem to be as an alternant to the question-morphemes which may occur in the same position as -ta as shown in (160)

- (160) a.      mek.nun.ya                                      b.      ip.nun.ya  
               eat-Plain-Q                                      wear-Plain-Q  
               ‘does X eat (Y)?’                                      ‘does X wear (Y)?’

-ta on its own provides very little meaning and really indicates that a clause is just not a question, unlike Chinese de it doesn't implicate the strong assertion of a statement and so would seem to have no role in the higher speaker-oriented functional structure corresponding to evidentiality, mood and propositional attitude. Interestingly it might seem to have undergone grammaticalization to the extent that it mirrors the same lack of any positive meaning that Chinese de has grammaticalized in the D-position of the *nominal* functional structure.

Anyway, this is all a bit speculative, but relevant to the extent that it may provide further information on the way that conversion is effected from the nominal to the clausal domain and the re-interpretation of nominal functional elements within the extended functional structure projected by the verb.

END