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CONTENTS

English Vocabulary during the Twentieth Century: an experimental approach*

Laurie Bauer

1 Introduction

One of the difficulties with diachronic studies of vocabulary is that they do not allow reasonable generalisations. Even where it is stated that a lot of new words in English during the 1970's come from the field of information technology (to invent a plausible example), it is not clear how the reader is to interpret this statement. How many is a lot? Does this mean a large percentage or a large number? In either case, what norm are we implicitly comparing with? Is there any implication that the same is not true in the 1960's or 1980's? The difficulty is that the analyst, looking at an array of individual words, is in the position of trying to impose on that array an order which it does not actually show. As the

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* This is a version of a paper presented at the New Zealand Linguistics conference held in Auckland in May, 1989 and also at the NWAVE XVIII/ADS-C conference in Durham, N.C. in October, 1989. I should like to thank the delegates to those conferences for their comments, some of which have been incorporated into this version of the paper. I should also like to thank the Internal Research Committee at Victoria University which funded the research reported in this paper, and Lisa Matthewson, who did the hard work of the sampling. Statistical advice from Victoria University's Institute of Statistics and Operations Research is also gratefully acknowledged.

old slogan 'Chaque mot a son histoire' ('each word has its own history') acknowledges, individual words and their histories are fundamentally idiosyncratic. Patterns of vocabulary change can really only be found at a more abstract level of analysis. This paper reports on an experiment designed to extract such patterns, in the hope that a repeatable measure of vocabulary change can be discovered.

2 The sample

A sample was taken from *The Supplement to the Oxford English Dictionary* (1972-1986) using the following method. The single-digit number 5 was chosen at random from a table of random numbers. Every fifth word was taken from each double page of the *OEDS*, providing that

1) The word was not an addition to an entry in the *Oxford English Dictionary*
2) The word was not a homograph of a word already listed in the *OED*.

This gave a list of 2798 words. These words were then sorted by their date of first occurrence, according to the dictionary. Words with first citations before 1880 were discarded, since they were clearly omissions from the *Oxford English Dictionary*. This left a sample of 2082 words. These were divided into three groups, according to the date of first appearance: 1880-1913, 1914-1938, 1939-1982. 1982 represents the latest date for new words in the sample. The entire sample thus spans a century. The dates for the divisions were clearly chosen on political and not linguistic grounds. It is possible that other results

would have been obtained if other dates had been used. However, one result of these politically determined dates was groups which were large enough to allow comparisons: there were 825 words in the first group, 617 in the second and 640 in the third.

Although the sampling procedure is perhaps not ideal, in that words on pages containing long entries stood a better chance of being selected than words on pages with only short entries, there is no obvious reason why the deviations from the ideal methodology of a systematic random sample should have made any difference to the results.

Using a chi-square test, the three samples were compared on two different dimensions: firstly the source of the vocabulary was considered, whether the words were coined from English resources or were borrowed; secondly, the types of formations used in the words coined from English resources were compared. Each of these will be dealt with separately below.

3 Sources of words

Sources of words were divided into thirteen groups, which are listed on the x axis in Figure 1. Figure 1 does not show, of course, the number of words created from the resources of English over the same time period. These rose from 68.5% of the sample in the first time period to 77.1% in the second and 80.9% in the third. Even using such broad labels as are given in Figure 1, some of the categories contained too few observations to be really satisfactory for statistical purposes, but further clustering was considered undesirable from a linguistic point of view.

The distribution of words in the thirteen categories is significantly different for the three time periods ($p < 0.001$). The major shift in this period is an increase in the number of words created from the resources of English, and a corresponding decrease in loans, especially from French and Latin. The decrease in loans from 'Other Germanic Languages' and Celtic languages also contribute in an important way to the chi-square statistic, but are clearly not very important in terms of actual numbers. The large number of loans from 'Other' languages in the period 1880-1913 is also important. The difference is accounted for by an influx of words from the aboriginal languages of Australia, Polynesia and the Americas. Why there should be so many of these in that particular period is an interesting question, but one which requires a historical or sociological answer, rather than a linguistic one. I shall not pursue this matter any further.

The conclusion is, therefore, that there is a decrease in the amount of borrowing of vocabulary during the twentieth century, especially from those languages which have been the main donor languages in the past.

4 Types of formation

The various types of formation attested in the *OEDS* were grouped together in the ten groups shown in Figure 2. 'Abbreviations' comprise both abbreviations and acronyms; 'shortenings' comprise back-formations and clippings; 'other' comprises a large group of other types of formation, including corruptions, word-manufacture, reduplication, onomatopoeic words, phrases, etc: none of these categories was very numerous.

This time the three distributions are significantly different at the 0.05 level,

but not at the 0.01 level ($p = 0.028$). The main contributors to the differences are the increase in the numbers in the abbreviations category and the blends category, and the decrease in the numbers in the suffixation category and the category of neo-classical compounds. Given the absolute numbers involved, the decrease in the numbers of suffixations must be considered the most important of these trends, though the increase in the non-morphological types is an interesting trend from the point of view of the student of word-formation. The compensation for this loss does not appear to come from any single type of formation, but to be spread across many. The increase in abbreviations and blends, and the non-significant increase in compounds, is not sufficient to off-set the decrease in the proportion of suffixations.

5 Comparison with Cannon (1987)

Cannon (1987) provides an analysis of 13,683 words listed in three American dictionaries of neologisms for the years 1961-1980. (In fact, earlier quotations can be found in other sources for some of these words, occasionally going back to the sixteenth century. However, none of the words discussed are listed in *Webster's Third New International Dictionary of the English Language* (1961). No attempt is made here to correct Cannon's figures.) Cannon thus gives an analysis of an entire corpus, instead of just a sample. However, his corpus relates to a much shorter period, and does not allow diachronic comparisons to be made. Cannon's categories are not the same as the ones used here, but they are not so radically different as to defeat comparison.

In order to make such comparisons with Cannon's data meaningful, I isolated that part of my data dealing with words first attested between 1961 and

1980. However, it is very clear that statistically this sub-sample of my data is not also a random sub-sample of Cannon's data.

Where loans are concerned, my sub-sample is low on words of English origin, and high on words of Greek, Romance and Slavic origin, in comparison with Cannon's corpus. This can be seen in Figure 3.

Where formation patterns are concerned, my sample is low on compounds and high on cases of suffixation in comparison with Cannon's. This can be seen in Figure 4.

There are several possible reasons for this. Perhaps the most obvious one relates to the way in which the words were selected for the *OEDS* and the dictionaries which Cannon used as his source material. If the same criteria for selection were not used, it is not surprising that statistically different corpora resulted. There is some internal evidence that this is the case. Cannon cites the numbers of forms listed in the various dictionaries he has used as his corpus, and comments on how many of them are also listed in the *OEDS*. Some examples, making comparisons with *The Barnhart Dictionary of New English* (1973) are presented in Table 1.

From this it appears that the selection process used in providing Cannon's corpus includes a greater number of compounds than the *OEDS*. In some cases this is a matter of classification: *curate's egg* and *inner city*, which are listed as compounds by Cannon, are instances that I would have classified as phrases. I have commented elsewhere (Bauer, in press; see also Görlach, 1988) on the problems with Cannon's classifications. An item such as *battered child syndrome* which Cannon's sources list as a 'word' may look too 'syntactic' to be included in the *OEDS* as an entry, though it is used as an example under BATTERED. Similarly, Cannon's sources list *meat and potatoes* ('textbooks are the meat and potatoes of

Table 1

Percentage of words listed in First Barnhart also listed in the OEDS.

After Cannon (1987).

CATEGORY	PERCENTAGE
Backformations	57.89%
Borrowings	51.60%
Prefixations	49.46%
Suffixations	45.81%
Compound nouns	37.18%

the publishing industry') as a 'word', though it is not in the *OEDS*.

It is not clear, however, whether this is also the explanation for the differences between the sources of loans in my data and in Cannon's. Cannon (1987: 73, 201) appears to have been inconsistent with some compounds, classifying *Sendai virus* as a borrowing, and *Gestalt theory* as a compound. It is not clear, though, how much of a difference this might have made: it seems unlikely that it could account for the disparity between Cannon's sample and my own.

Perhaps the best that can be said is that my figures act, in some sense, as a corrective to Cannon's, and his as a corrective to mine. We cannot, clearly, both be presenting an accurate picture of the way in which words are being formed in some fictional homogeneous entity 'English'. It is possible that our two sets of figures reflect two different kinds of English: although Cannon's sources make

reference to British words and the *OEDS* lists American words, it is clear that this is a minor concern on both their parts. Nevertheless, it is worrying that two similar methodologies should give contrasting results in this way, and it suggests that some better sampling method may be called for.

6 Conclusion

Having said that, and having drawn attention to the discrepancies, I would nevertheless wish to claim some validity for my own experiment. Given that my own data comes from a single dictionary, it is to be hoped that it is not subject to the problems caused by different sampling methods. It might, of course, still be the case that my sample was, in some way, not good enough to be used for the purposes for which I have tried to use it. Only further experimentation will show. In the meantime, I would claim to have shown that there has been, in the course of the last century, a reduction in the amount of borrowing in English, and a reduction in the amount of word-formation using suffixation.

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Figure 1

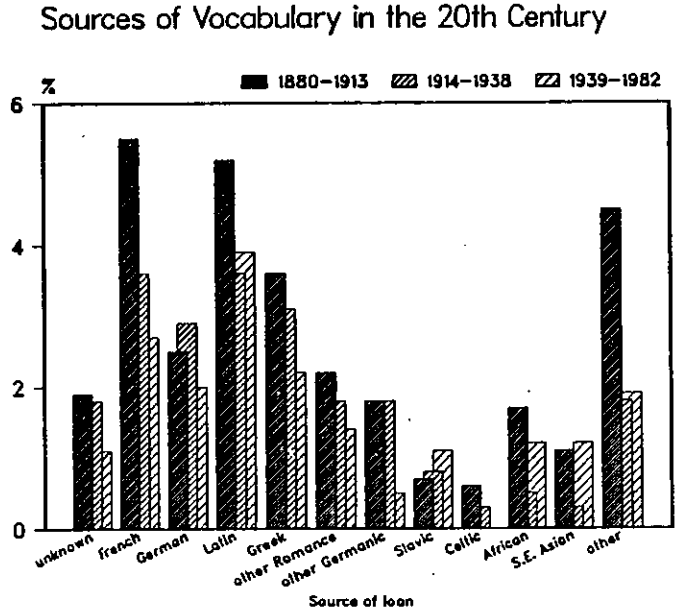


Figure 2

Processes of Word-Formation:
Changes over a century

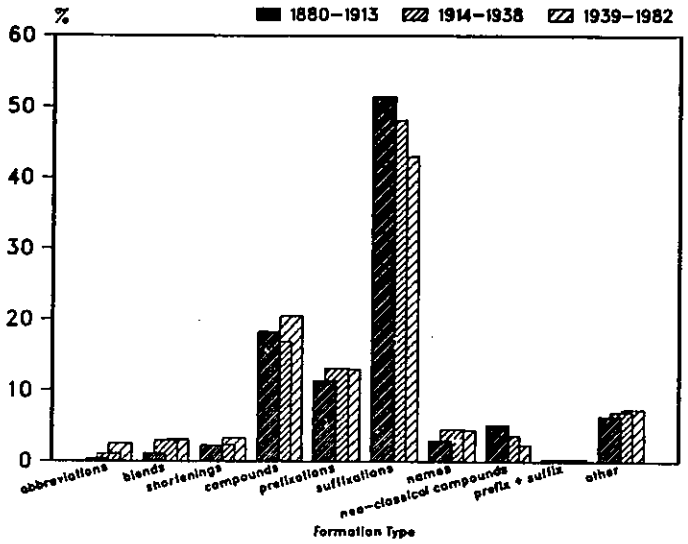


Figure 3

Comparison of Cannon's Corpus and my Sample
Sources of Loans, 1961–1980

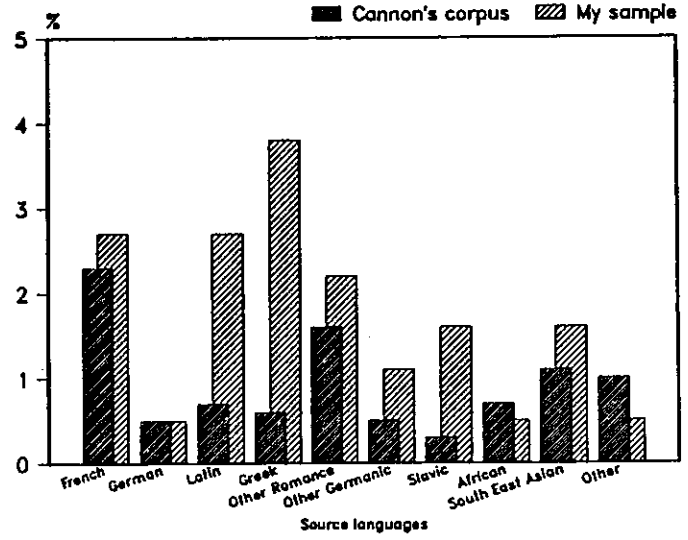
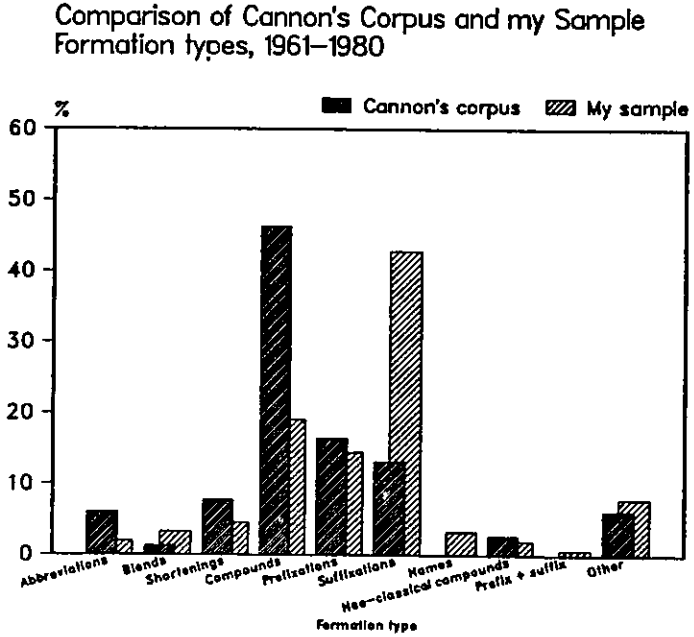


Figure 4



The Negative Clitic in Middle High German

Lisa Matthewson

0. Introduction

In Middle High German (MHG),[1] sentence negation was performed by a clitic particle which surfaced either proclitically as en-, or enclitically as -ne or -n. The purpose of this paper is to investigate the behaviour of MHG's negative clitic, and to apply Pollock's (1989) proposal for clause structure (discussed by him with reference to English and French), to MHG, to determine whether the structure is compatible with the negation facts which obtain there. I also briefly discuss historical changes in German negation and claim that the movement analysis of the negative clitic which I propose, which involves Pollock's structure, accounts more successfully for these historical changes than would an approach based on a typological account of consitituent ordering. The paper is organized as follows.

In Section 1 data is presented involving negative cliticization. In this section I also discuss what the status is of the (optional in MHG) co-occurring negative particle niht. I claim that niht is not the 'base form' of the clitic, similar to a lexical NP in the case of pronominal clitics, but rather simply an emphasizing particle which only later, with the loss of the clitic, came to perform a sentence-negating function. In Section 2 I discuss enclisis, and in Section 3 examine and reject a 'base generation' hypothesis for the clitic. In Section 4 I apply Pollock's (1989) analysis of clause structure to MHG, and outline my proposal, involving this structure and the framework of Chomsky (1986, 1989), for derivation of the clitic. I conclude that Pollock's structure does fit with the facts in MHG, and that the derivation of negative sentences in MHG involves generation of the clitic in the position of head of NegP, with subsequent movement to adjoin to a finite Infl.

Finally in Section 5 I briefly look at how the proposed analysis allows for a plausible explanation of the changes which subsequently occurred in negation phenomena in German.

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[1] 'Middle High German' is variously regarded as being the language spoken from c. 1050 to either 1350 or 1500. Here the term is used to refer to what is perhaps better termed 'Classical Middle High German', the language of the literature of the period c. 1170-1250. (See Walsche 1974:2-3; Asher 1967:10; de Boor and Wimiewski 1956:1:).

1. The MHG Negative Clitic

In MHG, negative was signalled in one of three ways: by the clausal negative clitic -ne/en-/n- (hereafter abbreviated to en-), by the negative particle niht, or by both niht and the clitic. The clitic en- had a very limited range of surface postions, appearing either proclitic on the finite verb, or, in main clauses only, enclitic on the initial XP of the clause.[2]

Examples (1), (2) and (3) show subordinate clauses. In (1), the clitic alone appears; in (2), niht alone, and in (3), both niht and the clitic.

1. daz es ieman **enbize**
   that it somebody not-bites
   'that nobody partakes of it' (Tristan:92)

2. daz in ir herze **niht** zerbrach
   that to them their heart not broke
   'that their hearts didn't break' (Heinrich:1045)

3.a. daz ich **niht ensnurre**
   that I not not-race off
   'that I don't race off' (Helmbrecht:370)

b. daz sie **niht enwolden**
   that they not not-wanted
   'that they didn't want' (Heinrich 2:68)

It can be seen from these examples that the clitic, when it appears, attaches exclusively proclitically to the finite verb. This is the case independently of the appearance or otherwise of niht. Niht itself, on the other hand, has no such adjacency requirement, as can be seen in example (5.a) below, where niht appears separated from the finite verb by the infinitive.

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[2] The analysis of German basic word order and derivation assumed here, involving movement of the finite verb from underlying clause-final position to Comp and movement of some XP to Spec, CP, ('V2'), is that adopted in Matthewson (1989), following Adams (1987) (in turn based on such works as Thiersch (1978); den Besten (1983)). For other discussion of V2 in German see Haider and Prinzhorn (1986).

The rules of V2 proposed for New High German are assumed to be the same in MHG (see for example Walsche (1974:36): '*Position of the Verb*. The general rules are as in NHC').

Main clause data is given in examples (4), (5) and (6). As before, instances are shown of the clitic appearing by itself, niht appearing by itself, and the two co-occurring.

4.a. du **enweist** ouch rechte was du tust
   you not-know also properly what you do
   'you also don't really know what you're doing' (Heinrich:1247)

b. du**ne** haetest diz gesprochen
   you-not had this spoken
   'you wouldn't have spoken of this' (Iwein:153)

c. **jane** gediente Sîfrit nie alsolhen haz
   indeed-not deserved Siegfried never such hatred
   'indeed, Siegfried never deserved such hatred' (NL:866,2)

5.a. du **stâst** ob mîme grabe **niht**
   you stand on my grave not
   'you won't stand on my grave' (Heinrich:849)

b. min frouwe sol iuch **niht** erlan
   my lady should you not release
   'my lady should not release you' (Iwein:226)

6.a. er **enwolte** in **niht** sehen lan
   he not-wanted him not see let
   'he didn't want to let him be seen' Heinrich:1185)

b. sine wolde doch **niht** melden
   she-not wanted particle not speak up
   'she didn't want to speak up' (NL:1864,3)

c. Ir'n suit ouch **niht** vergezzen
   you-not should also not forget
   'also you shouldn't forget' (NL:1856,1)

Example (7), which immediately follows example (5.b) in the text, is a subordinate clause where V2 has applied because there is no lexical complementizer introducing it; (as there is no complementizer the finite verb moves into Comp, as described above (fn 2)). Here it is also possible for en- to appear in clause-second position:

7. irn saget iuwer maere
you(pl)-not say your story
'without your telling your story' (Iwein: 227)

Example (8) shows the clitic attaching to a finite verb occuring (presumably for reasons of rhyme) in final position although it is in a main clause containing no lexical complementizer:

8. niht viel willeclichen treist
not much willingly carry
'don't carry very willingly'
unde ouch dar zuo **niht enweist**
and also there to not not-know
'and also on top of that [you] don't even know' (Heinrich 2:96)

And finally, example (9) shows that even when the extremely unusual situation occurs where the finite verb is the third constituent of the sentence, the clitic is still adjacent to it (demonstrating that the clause-second positioning of the clitic in V2 clauses is crucially to do with the verb, and not with position within the clause).

9. wan dien hant wider iuch **niht** getan
for they-not have against you not(hing) done
'for they have done nothing against you' (Iwein:225)

Thus it can be seen that the option exists in clauses where V2 has applied (and only in clauses where it has applied) for the clitic to attach enclitically to the initial XP. In subordinate clauses the clitic does not have the option of appearing anywhere near the front of the sentence; nor may it appear enclitically on the constituent immediately preceding the finite verb (I have found one exception in the data to this; it is given as example (16.a) below). It should also be noted here that en- does not attach to infinitives or to participles, but only to finite verbs. In non-finite clauses which must be negated, other means are used:

10. niemer mê ze sehenne[3] in den tôt
never more to see in the death
'no more to see (him) until they died' (Heinrich:1035)

[3] The normal form of this infinitive would be sehen. The -ne on the end of sehen here is not a negative marker, but rather an agreement marker due to ze.

The facts presented in this section must be explained by any analysis of MHG clause structure and derivation.[4]

1.1 niht

In this section I address the question of whether niht in MHG is the 'base form' of the clitic, similar to the 'lexical NP' alternant of a pronominal clitic. If this were the case, a movement analysis for the clitic's derivation would be difficult to defend, for if niht is the base form of the clitic, sentences containing both elements constitute cases of clitic doubling. Clitic doubling has been shown to be incompatible with a movement analysis of clitics; see for example Jaeggli (1980:32), who claims that 'a movement theory of clitics maintains that complementary distribution is the normal case, indeed, the only possible distribution of the pair (clitic, NP)'. In other words, under a movement analysis one of the pair (clitic, NP) must be empty, and therefore a hypothesis involving movement of the clitic cannot be defended if both the clitic and its corresponding NP are overt (namely, if clitic doubling occurs). To help determine whether co-occurrence of the clitic with niht constitutes clitic doubling a brief summary of the historical development of the two elements in question is in order.

In Old High German (OHG), negation was usually performed by the preverbal particle ni (Schwegler 1983:313). For example:

11. enti imo hilfa ni quimit
and to him help not comes
'and help does not come to him' (Schwegler 1983:314).

This particle ni could be combined with an indefinite pronoun producing 'a new negative marker of greater substance': ni + iowiht 'not a thing, not anything' becomes nicwiht 'nothing' (Schwegler 1983:324).[5] This ni(o)wiht could then be used postverbally to emphasize the negative, as in (12):

[4] While the facts presented here are largely true of the data, there are a few exceptional appearances of en- whihc depart from the usual pattern. I shall not discuss these here. One example is:
i. kristen unde heiden, die waren **niht enein**
Christians and heathens they were not not-one
'the Christians and heathens were not united' (NL:1851,2)

[5] The negative clitic appears to have had slightly different characteristics in some earlier stage of German than the one being examined here, as witnessed by its attachment proclitically to something other than the finite verb in forming these negative reinforcers.

12. ni zaweta imo es **niawiht**
not succeed to him it not
'he did not succeed in it (at all).' (Schwegler 1983:314).

Paul and Schmitt (1957) give a more detailed description of the situation at the stage of MHG, and also provide support for an analysis of niht as a simple emphasizer. They state that 'negation of a sentence is performed by the particle ne (en, n, ...);... additionally pronouns or adverbs, which arose by the joining together of ne with a general pronoun or adverb, like nieman (-ne ieman, noone), niht (nothing), nie, ... may appear near the verb' (Paul and Schmitt 1957:202).[6] They state that by 1200 it is already possible to leave the en- out and perform negation solely with niht, (so that both er gât niht and er engât niht ('he doesn't go') are possible) (p.204), and that by the end of the 13th century en- is rare.

This historical perspective is relevant because it enables us to see optional niht in MHG as change in progress from a situation where en- expresses negative to one where niht expresses negative, rather than as the optionality of 'clitic doubling'. The change seems to have occurred relatively quickly in fact; in MHG, less than 100 years before en- disappears altogether, it is still evident that niht is a pronoun, meaning 'nothing'; objects of verbs negated with en- and niht in MHG are usually in the genitive (Walsche 1974:37). This is opposed to the situation in New High German (NHG), where nicht is no longer a pronoun and direct objects of negated verbs are in the accusative:

13.a. des **enweiz** ich **niht**
that(gen) not-know I not
'I don't know that' (Walsche 1974:37)

b. er'n wesse **niht** der maere
he-not knew not the(gen) story
'he didn't know what had happened' (NL: 856,2)

14. das weiß ich **nicht**
that(acc) know I not
'I don't know that' (NHG)

Further, at the stage of MHG, niht appears to have no special status over the other words with negative semantics mentioned by Paul

[6] 'Zur Negation eines Satzes dient die Partikel ne (en, n, ...); ... Es können weiter zum Verb hinzutreten Pronomina oder Adverbien, die durch Verschmelzung des ne mit einem verallgemeinernden Pron. oder Adv. entstanden sind, wie nieman (-ne ieman, niemand), niht (nichts), nie'.

and Schmitt, such as nie 'never', or nieman 'nobody', which also often co-occur wth en-. Niht has a similar distribution to these other negative words. For example, they all have the possibility (not available to the clitic, as we have seen), of appearing near the constituent they are actually negating, when this is something other than the verb, as in (15), where in each case mê, 'more', is negated:

15.a. und enschadest **nieman** mê dâ mite
and not-hurt noone more there with
'and (you) are hurting noone more with that' (Iwein:138)

b. ichn sol ouch **niht** mê an dich gern
I-not should also not more to you request
'I should also ask mothing more of you' (Heinrich:939)

c. si zwei **enwâren** dô **niemê**/ widerwertic under in:
they two not-were then never-more hostile underhim
'they were hostile towards him no more' Tristan:352-353)

In fact, there appears to be at most a phonological difference when it comes to differing behaviour of niht and other negative words. For example in (16) (where b. immediately follows a. in the text), nie, ending in a vowel, lends itself to an enclitic -ne; niht, ending in a consonant, takes a following proclitic en-:

16.a. und von mir **niene** fliuhest
and from me never-not flees
'and (you) never flee from me' (Heinrich 2:37)

b. swie du mich **niht enschiuhest**
however you me not not-avoid
'although you don't avoid me' (Heinrich 2:37)

Thus I conclude that niht has in MHG a similar status to other negative words such as nie and nieman. It is not a base-position counterpart to en-, but should be regarded merely as a reinforcer of the clitic particle. We can therefore state that en- never appears non-clitically and has no non-clitic counterpart, and in the following sections I consider the behaviour only of en-.

Now I turn to the question of en- and its derivation. The following facts about en- must be determined: where is it generated, and what, if any, movement occurs in the formation of S-structure from D-structure. I first discuss the phenomenon of enclitic n(e)- on the initial XP of a sentence. Then I examine a 'base generation'

hypothesis for the clitic, and finally discuss a 'movement' hypothesis, applying Pollock's (1989) proposals for clause structure to the MHG negation facts.

2. Enclisis

We can easily determine what lies behind the alternation of en- between being proclitic to the finite verb and enclitic to an initial XP. In view of the fact, noted in the previous section, that en- is not found in clause-second position in cases where V2 does not apply, we can reasonably assume that there is a rule which applies to move the clitic from the finite verb to the preceding constituent, and that this rule applies at some later stage than the rules of V2. There is evidence to show that this rule applies in the phonological component.

First, the clitic may only appear attached to a clause-initial XP when that XP is monosyllabic. This is illustrated in examples (4.b,c) and (6.b,c); no counter-examples, that is instances of the negative occurring enclitic to a polysyllabic initial constituent, have been found. The choice of en- or -ne/-n appears to vary from author to author, and from manuscript to manuscript; so for example the writer of Das Niebelungenlied tends to use enclisis, as in (6.b), while Hartmann von Aue, in Der Arme Heinrich, often uses proclisis even when the initial XP is monosyllabic and ends in a vowel, as in 17:

17. sie **enhat** sich kurze **niht** bedâht
she not-has herself shortly not thought
'she has not thought fleetingly about it' (Heinrich:980b)

It thus appears that the alternation may be partly also a matter of personal style; it would require a more in-depth analysis of the environments of the alternants to determine this conclusively. Whether it is a primarily phonological matter or also one of style, however, it seems clear that the alternation is produced in the phonological component of the grammar.

Apart from the one exception noted previously, the generalization holds that the negative clitic may not appear enclitically in subordinate clauses. It appears that there must either be some constraint forbidding this movement in subordinate clauses or some difference in structure between the two situations, plus a constraint on phonological cliticization rules that they cannot apply across 'too much structure'. The structure I adopt for German, as will be seen in section 4, permits the latter interpretation.

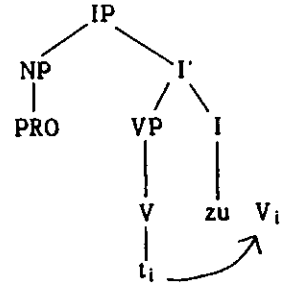
The conclusion that the 'shifting leftward' rule applies in the phonological component leads us to the claim that the clitic is always attached to the finite verb at S-structure. The next sections are aimed at determining what happens to en- before S-structure; that is, its position at D-structure and any movement it may undergo in the syntax.

3. A Base Generation Hypothesis

One possibility is that the negative clitic is base-generated in a position preceding the finite verb. Under this analysis the clitic moves along with the verb, when V2 applies and only when V2 applies, to Comp position. The question then arises of whether the clitic is generated attached to the verb (V) or to Infl. I shall look at each of these alternatives in turn.

Proposing that the clitic is generated on Infl would capture the generalization that it is the finite verb of a verbal group, the one which raises to Infl, to which the clitic attaches and not, for example, infinitives or participles which also form part of the verbal group, but do not attach to Infl. Yet this analysis creates a problem if we believe, as is argued by Giusti (1987), that 'zu' infinitives in German[7] involve generation of the element zu 'to' under Infl and movement of the infinitive verb to the right of zu:

18.



(Giusti 1987:79)

(See Giusti (1987) for argumentation to support this proposal; see also Kayne (1984) who proposes a similar analysis for English to). If this is correct, then, and we propose that en is generated on Infl, we would expect to find constructions of the form 'en-zu infinitive', which do not appear in the data. We would therefore have to include a constraint to the effect that en- appears only on a [+ finite]

[7] NHG; I assume the facts for MHG to be similar in this respect.

Infl (presumably ruling out <u>en</u>- generated on a non-finite Infl at D-structure).

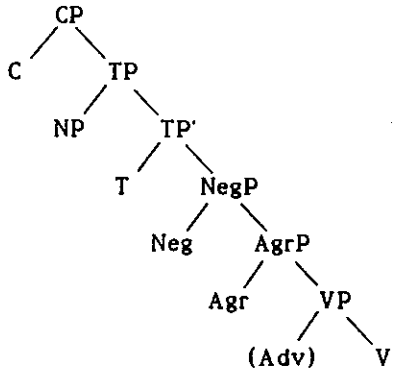
So could we say the clitic is generated on the finite verb, under V? This would involve the same difficulties with infinitives. Before the V raises and receives agreement and tense features, there is no way to distinguish finite from non-finite verbs. In the case of non-finite clauses, then, <u>en</u>- would be generated on the infinitive and raised with it, yielding an ungrammatical result of the form '<u>zu</u>-<u>en</u> infinitive'. This version, then, would necessarily involve an S-structure constraint banning the attachment of the clitic to a non-finite Infl. This is not an insurmountable problem; yet I shall show in the next section that this constraint, while necessary anyway, involves less redundancy under a movement analysis than under a base generation analysis.

4. Pollock and Movement

4.1. Pollock's Structure

In this section I apply Pollock's (1989) analysis of clause structure[8] to MHG, to determine whether the negation facts there can be explained by it. The structure he gives is shown in (19):

19.



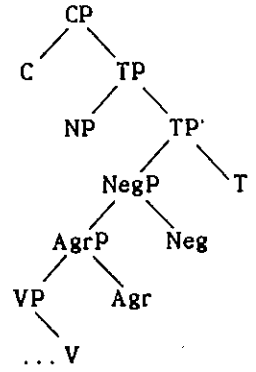
(Pollock 1989:397).

(Note that Pollock omits from the tree the specifier positions of CP, NegP, AgrP and VP; see Pollock 1989:384 (fn 19); 397).

[8] Also adopted, with some modifications, in Chomsky (1989). Chomsky proposes an even more elaborate structure, with two AGR nodes, AGR-S and AGR-O (1989:57). I ignore the structure of AGR here as it is not relevant to the present discussion.

Applying the structure to German involves reversing the order of heads and their complements in several cases, giving us (20):

20.



(adapted from Pollock (1989:397).

Pollock proposes that languages differ on a parameter of Agr 'strength', and that languages with a strong Agr permit raising of all verbs to Agr (and then to T). Languages with a weak Agr only allow auxiliary verbs and modals to raise; in other cases, Agr must lower to adjoin to the V. German (MHG and NHG) patterns like French in this respect, having a strong Agr, although the reverse order of some head-complement pairs makes it difficult to determine in many cases whether raising or lowering is taking place. As it is relevant to the derivation I am proposing I shall give some evidence to show that verbs in German do in fact raise.

With regard to negation, Pollock notes that in French, the verb occurs to the left of the negative at S-structure, while in English 'do-support' is necessary, the lexical verb occuring to the right of the negative particle:

21.a. *John likes not Mary
b. Jean (n') aime pas Marie (Pollock 1989:367)

In German the equivalent sentence is:

22. Johann mag Maria nicht
John likes Mary not

Sentences such as (22), of course, involve 'V2' in German- that is, the V-Infl(T) complex has moved to Comp. Chomsky (1986:68-69) suggests that in cases of V2, V cannot raise directly to Comp from

its base position, but must pass through Infl. This is because raising directly from the V position 'produces an ECP violation, since VP and (by inheritance) IP are barriers' (Chomsky 1986:69). This implies that raising of V to Agr (and then to T, and then to Comp) has taken place, rather than lowering of Agr to V.

Subordinate clauses and infinitival clauses provide more evidence that raising occurs. So in (23), assuming Pollock's structure, the modal verb will 'wants' has obviously risen to Infl rather than Infl lowering, as it occurs to the right of the negative nicht:

23. ich denke, daß Imke nicht will
    I think that Imke not wants
    'I don't think Imke wants to'

In a sentence such as (24),

24. Es wäre besser, nicht zu kommen
    it would be better not to come
    'it would be better not to come'

again assuming Giusti's (1987) joining of infinitives with Infl, the ordering shows us that raising rather than lowering has occurred.

It may appear that these sentences only demonstrate that V raises in German as it does in French if we already accept Pollock's view of Neg as the head of NegP and the structure as in (20). However, Chomsky's comments about V2 mentioned above and the necessity of V passing through Infl apply even without Pollock's more elaborated structure.

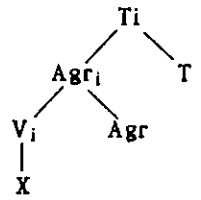
If we now apply Pollock's clause structure to MHG and assume that V raises, we could say that en- is generated under Neg and raised obligatorily to T - an instance of head-to-head movement in the sense of Chomsky (1986).[9] Yet in the Barriers framework, 'adjunction is possible only to a maximal projection' (Chomsky 1986:6), and 'head-to-head movement' is an instance of substitution. How can it be claimed, then, that Neg adjoins to T?

Under Pollock's analysis, adjunction of heads to heads is permitted - in fact, is obligatory. Either V raises to Agr and T or T and Agr lower, giving for example (for the case where raising has applied)

[9] As Liz Pearce has pointed out (personal communication), en- is thus comparable to ne in French in being generated as the head of NegP. According to Pollock (1989:414), in French ne is the head of NegP and pas is the Spec of NegP.

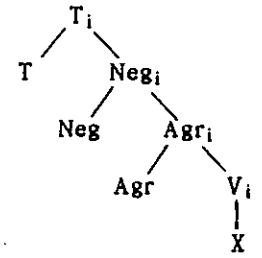
the amalgamated constituent T_i, $[_{T_i}[_{Agr_i}[_{V_i}X]Agr]T]$, shown diagrammatically in (25):

25.



And Chomsky himself similarly allows adjunction of V to I,[10] but states that this adjunction is permitted '[s]ince I is lexically identified as an affix' (Chomsky 1986:68). Pollock's instances of head adjunction (or amalgamation) also involve affixes; to fit in with this system, then, it seems we must say that Neg is also an affix. (Perhaps Neg may optionally have affix-like features; if it does not, raising and adjunction will be ruled out, giving us a situation as in NHG with nicht). The proposal is thus that after all raising has occurred, including Neg raising, we have the amalgamated constituent in (26) (adjunction occurring on the opposite side in German due to the opposite ordering of consituents):

26.



Assuming that Neg may in principle raise to adjoin to T, then, it remains to be determined whether the movement itself is legitimate in terms of other movement constraints. It also remains to be determined why the raising is obligatory in MHG.

4.2. The HMC

In Chomsky (1986), head-to-head movement is subject to the Head Movement Constraint (HMC), which says that

[10] Chomsky actually calls this process 'amalgamation'. Pollock obviously interprets it as adjunction.

> Movement of a zero-level category ß is restricted to the position of a head α that governs the maximal projection γ of ß, where α θ-governs or L-marks γ if α ≠ C. (Chomsky 1986: 71)[11]

If it is not the case that α θ-governs or L-marks γ, γ will be a barrier for the trace of ß (Chomsky 1986:70), blocking antecedent government of the trace. This means that for movement of Neg, the head of NegP, to T, the head of TP, to be legitimate, T must θ-govern or L-mark NegP.

Movement of Neg to T should in fact be legitimate, as although Pollock claims that NegP is an inherent barrier (Pollock 1989:397), he also claims that 'If the sentence is affirmative T_i L-marks AgrP. If the sentence is negative, it L-marks NegP, thus voiding barrierhood' (Pollock 1989:398) (see the structure given in example 19). Note that T_i only L-marks NegP after raising of V + Agr, because only lexical categories may L-mark (see Chomsky 1986:70). After raising, the amalgamated constituent T_i is lexical by virtue of the V contained within it. The fact that barrierhood is only voided after all raising has occurred does not cause a problem, as the barrierhood of NegP is not relevant for movement of Neg (movement may cross one barrier), but only for proper (antecedent) government (blocked by one barrier), which is checked after syntactic movement has applied.

4.3. An S-structure Constraint

Having established that the Neg node may raise to T_i, we must now establish why it is that it *must* raise. A possible explanation is found in Chomsky (1989), where he discusses economy of derivation and the 'least effort' constraint. This constraint leads to the claim that 'overt raising is required where it is possible' (Chomsky 1989:56). This statement refers to the joining together of elements which must be combined somehow, such as a verb and its affixes, and is a result of the fact that if overt raising (that is, raising in the syntax) does not take place to join the two constituents, lowering must take place, which then results in subsequent LF raising being necessary to avoid an improper chain with a trace c-commanding its antecedent (Chomsky 1989:50-51). Lowering and subsequent raising involves two applications of move-α, while raising involves only one, and therefore by the 'least effort' condition, overt raising is required.

[11] In Chomsky (1989) it is claimed that the HMC in fact reduces to the ECP. It is, however, 'largely accurate as a descriptive generalization' (Chomsky 1989:56), and therefore still relevant here.

This has not yet explained why the Neg node in MHG cannot stay in place, and in fact, according to a consequence of the 'least effort' condition, the 'last resort' condition on movement, raising of Neg should be completely disallowed. Yet we may explain the obligatoriness of Neg-raising if we treat the clitic en- as having some feature which requires it to be attached to a [+finite] T at S-structure. This would be a similar feature to that discussed by Chomsky as existing on inflectional affixes:

> At S-structure, the verb must typically be combined with its various affixes . . . Let us suppose that these affixes share some unique feature to guarantee proper association at S-structure. Thus any series of rule applications that separates them is barred by an appropriate S-structure condition . . . items lexically identified as affixes [are] properly "attached" at S-structure' (Chomsky 1989:50).

Given that we are treating Neg in MHG as an affix anyway, it follows that a similar constraint exists for it at S-structure.

This allows us to explain infinitives. If en- were generated in an infinitival clause, there would be nothing to which it could attach, rendering the sentence ungrammatical at S-structure[12]. The only possibilities for expressing negative in such cases would be by using the particle niht or other negative particles (perhaps deletion of en- would be involved when T = [-tense]). The feature also helps exclude such unacceptable derivations as the clitic moving first to Infl, then up to adjoin to Comp in clauses where V2 does not apply. Note that this feature on en- is similar to the constraint needed for a possible base generation analysis of the clitic. It seems that such a constraint is needed whatever the derivation of the clitic, and therefore the movement analysis is to be preferred because base generation is in this sense redundant; it requires an extra (that is, different) structural configuration plus a constraint. The movement theory requires only the constraint at S-structure, and therefore is preferred.

The situation in MHG was thus as follows. The clitic en- was base-generated under the Neg node. It was lexically identified as an affix. It contained a feature requiring it to be attached to a finite T at S-structure, which it achieved by raising to T.

[12] Liz Pearce has pointed out (personal communication) that MHG is different from French here, in that French allows ne pas V_{Inf}, in which ne (according to Pollock's analysis) raises to [-tense] Infl.

5. From MHG to NHG

Let us now look briefly at the changes which could have occurred to produce the situation in NHG. As I have undertaken no detailed study of the exact distribution of NHG nicht the proposal mentioned here is extremely tentative.

The analysis presented here of the clitic negative as containing a feature requiring its attachment to T could allow us to explain the difference between MHG and NHG as involving the loss of this feature. Niht was reanalysed as being under Neg as en- disappeared, but has not gained the feature in question as it has not (yet?) become an affix. This difference explains the obviously different distributions of MHG en- and NHG nicht.

This reanalysis diachronically of niht as the negative particle is an instance of a phenomenon observed in several languages, which has been termed the 'negative cycle'. Jespersen claims that

> The negative adverb is often weakly stressed, because some other word in the sentence has to receive a strong stress of contrast. But when the negative has become a mere proclitic syllable or even a single sound, it is felt to be too weak, and has to be strengthened by some additional word, and this in its turn may come to be felt as the negative proper, which then may be subject to the same development as the original word (Jespersen 1924:335).

Schwegler gives the example here of Classical Latin ne 'not', which is strengthened as ne oenum 'not a thing', which in its turn becomes non 'not' (Schwegler 1983:301).

It appears that this is exactly what has happened in German. Paul and Schmitt (1957:204) note that en- was lost first with verbs which already contain prefixes; a ban on the co-occurrence of the affix en- and a verbal prefix could have lead to the generalisation of niht and to en-'s gradual disappearance (note that the most reduced form of the negative, -n, does not appear in the data by itself, as en- can, but only in conjunction with niht). It seems that niht came, by necessity, to perform the function of sentence negation.[13] Note that

[13] Vennemann (1974:366-70) argues against a similar interpretation for the French emergence of pas as the negating particle. He claims that it was not the case that ne in French became phonologically reduced, bringing about the development of pas, but rather that a change in French's basic word order caused a reinterpretation of pas as a negative adverb. There is no evidence of a similar word order change in German (contrary to Schwegler's claim (1983:313), NHG is not SVO but SOV).

it is plausible to propose reanalysis of niht as being under Neg; in subordinate clauses niht and en- are often adjacent, leaving niht in a position analysable as Neg when en- disappears. In main clauses the failure of ni(c)ht to move with V2 is explained by the lack of the above-mentioned feature, without the necessity of any structural change. This is a desirable result.

The 'negative cycle', then, could be thought of as resulting from the tendency for negative particles to become cliticised.

6. Conclusion

In this paper I have applied Pollock's (1989) proposals for clausal structure to MHG, and have argued for the analysis of the MHG clitic en- whereby it is generated under Neg, as an affix. It then undergoes obligatory raising to T before S-structure. I have first discussed the possibility of a 'base generation' hypothesis for the clitic, and have then shown that a movement analysis, involving Pollock's structure and the various constraints on movement found in recent developments in the theory (Chomsky 1986, 1989), enables us to explain the relevant data, including the change from MHG to NHG, in a more principled manner.

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AN ANALYSIS OF NEGATED INFINITIVES IN MIDDLE FRENCH

Elizabeth Pearce

1. Introduction

In Modern French (ModF) the negative ne pas 'not' can be associated with both a tensed verb and an infinitive:

(1)a. Je ne peux pas [le voir].
'I cannot see him'

b. Je peux [ne pas le voir].
'I can not see him' (= 'I am capable of not seeing him')

c. Je ne peux pas [ne pas le voir].
'I cannot not see him'

In (1a) the negative is associated with the higher tensed verb, in (1b) with the infinitive and in (1c) there are two negatives, one associated with the tensed verb and the other with the infinitive.

In Old French (OF) the equivalent form of negation is ne alone or ne accompanied by an intensifier expression (pas, point, mie, ... ; see Foulet (1928, #349-414)). These negative expressions could be associated with a tensed verb, but not with an infinitive. That is, forms equivalent to (1a) occurred, but forms equivalent to (1b) and (1c) are not attested. The examples in (2) below from the Queste del S. Graal, a text from the first half of the 13th century, show negation of the tensed verb and are thus comparable to the form with the tensed verb in ModF as in (1a):

(2)a. par coi il ne puisse chaoir en temptacion d'anemi (Queste 146,31)
'by which he may not fall into enemy temptation'

b. ce est a dire que tu ne retornas pas a pechier mortelment (Queste 144,24)
'that is to say that you did not return to sin mortally'

c. il ne voit mie coment il en puisse eschaper sanz peril (Queste 146,26)
'he does not see how he may escape without peril'

In each of the examples in (2), the negative element ne precedes a tensed verb, whether or not an intensifier element is also present.

Following Moignet (1965, 1973: 273-283), the earliest attestations in French of negated infinitives are to be found in the Troie en prose, a text of the 2nd half of the 13th century. Whereas negated infinitives in the Troie en prose appear as an isolated phenomenon in relation to other texts belonging to the OF period, the development of a system (or systems) for the negating of infinitives is clearly indicated in evidence from Middle French (MidF) of the 15th century. The present paper examines such evidence and describes two competing systems for the negation of infinitivals in the MidF period.

In Pearce (1990) I presented a case for an analysis of infinitivals in OF as V projections. I proposed further that an increase in the number and range of elements (including negatives) which could appear preinfinitivally in MidF pointed to the development of infinitival phrases as Infl projections during this period. Translating this idea into the terms of recent proposals reinterpreting the structure of Infl (such as Pollock (1989), Chomsky (1989)), the relevant difference between OF and MidF would reside in the absence of a Tense projection at the earlier stage. Under my interpretation, the development of a Tense projection in MidF would then have licensed the inclusion of a Neg projection and whatever Agr projections were found necessary. An alternative interpretation of the facts would be that OF did have a Tense projection,[1] but that the [-finite] value for Tense (in the infinitival phrase) failed to license the inclusion of other projections over the VP. Under this alternative account, the MidF changes reside in the new possibility for [-finite] Tense to license the appearance of Neg and Agr projections over the VP.

It is not my purpose here to argue for one or other of these analyses of OF, as the focus of the present discussion will be on the analysis of negated infinitivals in MidF. For this purpose, I will assume the availability of the [-finite] Tense projection at this stage of the language and of accompanying Neg and Agr projections.

2. Negated infinitives in Middle French

2.1. Forms with *non*

Negated infinitives are rather sparsely represented in the MidF texts that I have examined dating approximately from the

[1] Both Kayne (1989) and Martineau (to appear) take the view that OF has a [-finite] Infl.

beginning to the end of the 15th century. Before the 15th century, the Troie en prose (2nd half 13thC) gives 4 examples of infinitives preceded by non: the Papegau text (1st half 14thC) includes no occurrences of negated infinitives; and the study by Offord (1976) of negation in Bérinus (1350-1370) cites no examples of negated infinitives. However, de Kok (1985) quotes two examples from the 2nd half of the 14th century in which ne appears before an infinitive (see the examples (13a,b) below). In the texts of the 15th century that I have examined exhaustively (Joies (c.1400), Quad Inv (1422), Saintré (1455), CNN (1462), Pathelin (1464) and Jehan (1494-5)), I have found a total of 18 occurrences of non accompanying an infinitive (with or without a negative adverbial) and 3 occurrences of ne + V_{Inf} + Adv_{Neg}.[2]

The first point to consider is the precise structural location of the negative preceding the infinitive. In the largest number of cases the form of the negative is non, and non is the sole element intervening between the complementizer and the infinitive. The examples in (3) show all the occurrences found (including those from the Troie en prose) in which non occurs as the only element preceding the infinitive of the infinitival phrase:

(3)a. cest ovre devroit mostrer essample a toutes gens de non estre mellis ne desmesurés, (Troie en prose 36,2)
'this work should give example to all people not to be quarrelsome or extravagant'

b. vient a non redouter les choses qui peuent avenir. (Troie en prose 82,42)
'comes not to fear the things which can happen'

c. Et ce est trop grant folie a non reconoistre ses defautes (Troie en prose 138,47)
'and it is too great a folly not to recognize one's faults'

[2] The count does not include examples of conjoined infinitival phrases including ne as an initial element, as ne can here be interpreted as the conjunction corresponding to English 'neither'. Also not included are examples with an 'expletive' ne following a main verb with negative value, such as défendre 'forbid'. Typically, in the latter case, there is no overt preposition-like complementizer. These two types of exclusions are combined in (i):

(i) Leur deffendit ne se mesler
Aux filles Cayn, ny aller
Par une façon dissolue, (Viel Testament I, 5209-5211; cited Martin and Wilmet (1980, p.23))
'forbad them [not] to be involved with the daughters of Cain, [n]or to go about in a dissolute fashion'

d. que grant corage vos vint de non revenir en la cité. (Troie en prose 144,22)
'that great courage came to you not to return to the city'

e. pour non estre en charge en la chose publique en temps de necessité. (Quad Inv 52,20)
'so as not to be a charge on the public in times of need'

f. Est ce la contenence d'un escuier de bien, que de non convoier les dames? (Saintré 6,29)
'Is it the way of a noble squire, not to accompany the ladies?'

g.que bien vous gardez de non oblier les tres glorieuses et pardurables richesses des cielz, (Saintré 46,28)
'that you take good care not to forget the most glorious and eternal riches of the heavens'

h. faisant tous les vendredis et sabmedis son promis veu de non porter sur sa char nue aucun linge jusques a sa venue, (Saintré 138,25)
'carrying out every Friday and Saturday her promised vow not to wear any linen on her bare flesh until his return'

i. pour non troubler le roy et sa compaignie, (Saintré 154,26)
'so as not to trouble the king and his company'

j. car a toutes estoit deffendu non parler a lui; (Saintré 292,5)
'for to all it was forbidden to [not] speak to him'

k. affin de non estre oy, (CNN 436,76)
'in order not to be heard'

l. que je ne doye soucier ne perdre esperance de non povoir jamais avoir generation. (CNN 557,93)
'that I must not worry or lose hope of ever being able to have children'

m. qui n'estoit pas seulement difficile de soy tenir de navier, non hanter la mer, et l'abandonner de tous poins, (CNN 558,144)
'that it was not only difficult to keep himself from sailing, not to haunt the sea, and to abandon it in every respect'

Where non is the sole element appearing between the complementizer and the V_{Inf}, we would assume that a Neg projection is generated over the VP and that it is likely that Neg is dominated by the Tense (T) projection. Further information about

the precise structural location of NegP must be gleaned from examples in which other material is included between the complementizer and the V_{Inf}. The first such cases to consider are those involving pronoun complements. The examples in (4) show the two occurrences containing pronouns in the texts examined plus two further examples given in Martin and Wilmet (1980):

(4)a. toutesfois bien souvent faisoit semblant de non le congoistre, (Arrêts d'amour 11,127; cited Martin and Wilmet (1980, p.21))
'nevertheless very often s/he was pretending not to know him/it'

b. à la cause du reffus de non leur avoir faicte ouverture de lad. ville de Paris (Jean Maupoint #101,p.64-65; cited Martin and Wilmet (1980, p.21))
'because of the refusal not to have made open to them the said town of Paris'

c. non pas de jamais moy marier, mais de le non faire encore (CNN 170,232; [ms has: 'jamais non moy marier'])
'not to never marry, but to not do it yet'

d. faisoient semblant de le non croire, (CNN 263,61)
'were pretending not to believe him'

The examples in (4) illustrate two possibilities for the ordering of non with respect to a complement pronoun: either (i) Comp-Pro-non-V_{Inf} (4c,d), or (ii) Comp-non-Pro-V_{Inf} (4a,b). It could be that the different orderings represent two different possibilities with respect to the D-structure position of the NegP and AgrP; or it could be that one of the orderings is the result of an optional movement process. The movement alternative gives rise to two further possibilities: it is either non that moves or the pronoun. Both of these movement options have something going for them. Let us consider each of them in turn,

Firstly, non has the appearance of a strong form, unlike the pronouns which have clitic characteristics. If these two kinds of elements are indeed distinct in this way, then we would expect that non should function like an XP and would thus be on a par with pas, as distinct from ne in Pollock's analysis of ModF. In these terms, if non moves, then it should move to a Spec position. This treatment of the movement of non would accord with the possibility for constituents (including non-negative adverbials) to occupy a Spec like position preceding the V_{Inf}. The examples given in (5) show a variety of constituents in Spec like positions before an infinitive.

(5)a. sans aucunement autruy grever, (Quad Inv 27,17)
'without in some way harming another'

b. pour la loy d'armes aigrement observer (Quad Inv 55,4)
'for actively observing the law of arms'

c. Et quant son pere la blasmoit de ainsin josne vesve demeurer, (Saintré 5,4)
'and when her father was blaming her for thus remaining a young widow'

d. il sera tenu de en tel estat les acomplir, (Saintré 145,16)
'he will be held to complete them in such state'

e. pour encores plus le tourmenter et faire enrager, (CNN 263,60)
'so as to still more torment him and make him enraged'

f. pour mieulx les attraire a leur voulenté (Jehan 18.27)
'to better attract them to their will'

It is clear that a movement analysis is called for to account for the variety of constituents that appear in initial position in the infinitival phrases of the examples in (5). If we extend on proposals of Adams (1988) and Pearce (1990) for such constituents in subordinate clauses, then Spec,TP should be an available landing site.[3] Let us assume, therefore, that, if non moves, then the position to which it moves is Spec,TP.

The second of the movement possibilities would involve the movement of the clitic pronouns. Since these are weak elements, they must be heads and can only move to a head position. The position that would be available for such movement is the head of Tense.

The structures in (6) to (9) below show the outputs for the different derivational options available. In each of (6) to (9) the (a) structures conform to Pollock's structure for ModF in that the Agr

[3] Similar analyses with regard to Spec,TP (or, Spec,IP) in subordinate clauses are adopted also in Lemieux (1988), Hirschbühler and Junker (1988) and Hirschbühler (to appear). Further examples which would appear to support the present analysis of movement of adverbs are given in de Kok (1985, pp.340-341).

Vance (1989) makes greater use of adjunction to IP for clause initial XP constituents. The distinction between the present treatment involving movement to Spec,TP and the analysis given in Vance is not fundamental to the argument of the present discussion. Martineau (1989, 4.6.2) suggests that adverbs of the VP do not move out of the VP. But see also her fn.18, p.218.

nodes are generated immediately below the Neg nodes. In the (b) structures the ordering of Agr and Neg is reversed. Each pair of structures in (6) to (9) illustrates a different possibility with respect to movement: (6) has no movement, (7) has movement of non, (8) has movement of the clitic pronoun, and (9) has movement of both non and the clitic pronoun.

(6)a. [TP . . [NegP non [AgrP le [VP congoistre]]]]

b. [TP . . [AgrP le [NegP non [VP croire]]]]

(7)a. [TP non$_i$ [NegP e$_i$ [AgrP le [VP congoistre]]]

b. [TP non$_i$ [AgrP le [NegP e$_i$ [VP congoistre]]]]

(8)a. [TP le$_i$ [NegP non [Agr e$_i$ [VP croire]]]]

b. [TP le$_i$ [AgrP e$_i$ [NegP non [VP croire]]]]

(9)a. [TP non$_i$ [T' le$_j$ [NegP e$_i$ [AgrP e$_j$ [VP congoistre]]]]]

b. [TP non$_i$ [T' le$_j$ [AgrP e$_j$ [NegP e$_i$ [VP congoistre]]]]

As can be seen in (7) to (9), a solution involving obligatory movement of either non or the pronoun, or of both non and the pronoun, will not succeed in producing the alternative surface orderings, given that each of the pairs in (7) to (9) produces a unique output in terms of the linear ordering of the constituents. We either have to adopt (6) (the alternative base ordering hypothesis) or select one of the two base ordering patterns and allow for optionality of movement. If we select the (6a) structure to accord with Pollock's proposals for ModF, the possible combinations are as follows:

(10)a. movement of non is optional: (6a), (7a)
b. movement of the pronoun is optional: (6a), (8a)
c. movement of non is obligatory, movement of the pronoun is optional: (7a), (9a)
d. movement of non is optional, movement of the pronoun is obligatory: (8a), (9a)
e. both movements are optional: (6a), (7a), (8a), (9a).

Of the possibilities set out in (10), (10a) and (10c) produce the same outputs in terms of the linear ordering in the surface. These two combinations of possibilities are thus inadequate to account for the data and we therefore remain with the options represented by (10b), (10d) and (10e). Of these three options, all allow for

mòvement of the pronoun, but only two, (10d), (10e), allow for movement of non. Thus, if (6a) is the appropriate base structure, given the range of choices in (10), we must allow for movement of the pronoun, whether or not we also allow for the movement of non. In these terms, the simplest solution is to allow only for the movement of the pronoun, i.e., (10b). Of course, if we were to look at the range of options available with the (6b) structure, then we would come out with further interpretations of the possible combinations available. Let us, however, pursue the discussion in terms of the (6a) D-structure, conforming to Pollock's hierarchical ordering.

Further evidence for positions preceding the V_{Inf} comes with examples in which the negative non is accompanied by an adverbial. In the examples in (11) below, such an adverb is preceded by non, and in (12) the ordering of non and the adverb is reversed:

(11)a. que l'en doit seullement mangier et boire pour vivre et non pas vivre pour boire et pour mangier; (Saintré 45,20)
'that one must only eat and drink to live and not live to drink and to eat'

b. elle conclud en son leal courage de non jamais avoir repoz, (Artois 101,84; cited Martin and Wilmet (1980, p.21))
'she determined in her loyal courage not to ever have rest'

c. et luy faisoit jurer de non jamais y entrer (CNN 59,162)
'and made him swear to never enter there'

d. C'est si grant peché que de le non point paier (CNN 218,108)
'It is such a great sin not to pay it'

e. et promist de non plus faire. (CNN 411,143)
'and promised not to do [it] any more'

f. elle s'appensa de non plus comparoir, (CNN 414,24)
'she thought of not appearing any more'

(12)a. qu['elle] luy baille quelque pou d'espoir de jamais non pervenir a ses attainctes. (CNN 116,55)
'that she give him some little hope of ever arriving at his ends'

b. non pas de jamais non moy marier, (CNN 170,232[4])
'not to never marry'

The fact that the Adv-non ordering is possible, as in (12), provides us with the working assumption that the non-Adv sequences should, at least in some cases, be analyzed as belonging to independent projections. If we assume further that NegP containing non is projected higher than the adverbial constituent, then in (12) it must be the case that the adverbial has been independently adjoined in TP. The positioning of the strong form pronoun moy in jamais non moy marier in (12b) indicates the possibility of a total of three pre-V_{Inf} XP positions. Two other examples including weak pronoun, y in (11c) and le in (11d) once again show two ordering possibilities for weak pronouns relative to non. If the non-Adv sequencing indicates absence of movement for these two elements, then the non jamais y entrer ordering of (11c) poses the difficulty that it suggests that the Agr node is below the adverbial in the D-structure. As it turns out, this is the most difficult example to account for overall. The solution that I will propose below in section 2.2 is that y may be generated in an Agr node between the adverbial and the VP. With these possibilities on hold, let us go on to observe the behaviour of negated infinitivals in which the head of Neg is ne.

2.2. Forms with *ne*

As shown earlier in (1), in ModF ne (...) pas is used to negate both the tensed verb and the infinitive. In (13) are shown all of the 15th century examples obtained up to this point (including those from the texts examined and further examples given in de Kok (1985), Marchello-Nizia (1979) and Martin and Wilmet (1980)) in which ne appears in the infinitival phrase.

(13)a. Pour ce, (...), est-il bon de ne se haster point (La Tour 102; cited de Kok (1985, p.335))
'for that, (...), is it good not to hasten'

b. il vauldroit mieulx la moitié à n'y estre pas (La Tour 65; cited de Kok, 1985, p.335)
'it would be better (by) half not to be there'

[4] The edited text omits the non which occurs in the manuscript version, cf. (4c).

c. n'est pas de soy obligier a ne mengier jamais de char, (Col. p.69; cited Marchello-Nizia (1979, p.252))
'is not to oblige oneself to never eat flesh'

d. que elle amast mieulx n'y aller point (Joies 15,41)
'that she would prefer not to go there'

e. que mieulx leur vaulsist n'avoir oncques esté nez (Quad Inv 61,8)
'that better it would have been for them to have never been born'

f. et c'est ce qui doit donner bon couraige aux povres gentilshommes et à tous ceulx qui sieuvent la guerre, de ne soy point esbahir pour les premiers heurs; (Jouvencel I,27; cited Martin and Wilmet (1980, p.21))
'and it is what must give courage to poor noblemen and to all those who follow the war, not to be overwhelmed in the first hours'

g. Car vous avez le choix de combatre ou de ne combatre pas; (Jouvencel I,184; cited Martin and Wilmet (1980, p.27))
'for you have the choice of fighting or of not fighting'

h. qui faignoit ne l'avoir point entendu: (Jehan 41,30)
'who pretended not to have heard him'

The most striking difference between these examples containing ne and the examples shown earlier including non is in the placement of the adverbial. In the examples including non (in: (3), (4), (11), (12)) the adverb is more likely to appear before the V_{Inf}. The examples given in (11) and (12) show a total of 8 instances in which the adverbial associated with non precedes the infinitive. The only two apparent exceptions to this pattern are found with jamais in (3l) and with encore in (4c). In (3l), however, jamais precedes the lower infinitive over which it has scope. There is therefore only one real exception to the stated pattern with non, that is: (4c), which has de le non faire encore. In (13), however, we see that 7 out of 8 examples shown have a post-V_{Inf} adverb, the exception (13f) includes a strong form pronoun among the elements preceding the V_{Inf}.

A further obvious difference between the examples with non and those with ne is that ne seems to require a supporting adverbial, whilst non does quite well without (cf. the 17 examples in (3) and (4) which do not include a supporting adverbial).

If, as I have postulated for the forms including non and an adverbial, the adverbial is base-generated in a position preceding the verb,[5] and if a similar assumption can be applied to the base structure of the examples in (13), then the most natural analysis to account for the ne-V_{Inf}-Adv surface orderings is that they are obtained via verb movement. This analysis appears to be supported by the two examples including auxiliary verbs ((13e), (13h)) and by (13f) which includes a strong form pronoun. In (13e) and (13h) the required surface orderings would be obtained by movement of the auxiliary verbs; and in (13f) movement of the verb would be blocked by the presence of the strong pronoun in Agr. At the very least, the data suggest that the presence of the ne clitic licenses short verb movement to Agr. As in ModF, the MidF short verb movement does not distinguish between auxiliary verbs and lexical verbs.

Following the earlier analysis of structures containing non, we have supposed that it is possible for the clitic to move to [-finite] T. If such movement applies also with forms containing ne, then we have the further possibility that there is nothing to block movement of the verb from Agr to [-finite] T. Whilst the surface sequencing ne-Pro_{cl}-V_{Inf} is ambiguous as to whether the verb is in Agr or T, if cliticization applies in the syntax, then it must be the case that the V_{Inf} has moved up into T, since that is the node to which the clitic pronoun moves.

It would seem that the cooccurrence of verb movement and the availability of the weak form negative ne should be aligned with the MidF development of pre-V_{Inf} pronoun clitics. That is, the possibility of verb movement within the infinitival phrase should be related to the appearance of weak head positions over the VP. If, as we have assumed here, the MidF changes are related to the presence and/or the properties of [-finite] Infl, it is not clear to

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[5] In his analysis of ModF Pollock (1989, p.414) distinguishes between pas and other adverbials in that he treats pas as Spec,NegP and suggests that point, plus, guère are specifiers of a VP dominating adverbial projection. It is not clear to me at this stage whether pas in MidF should be distinguished in this manner from the other adverbials. Perhaps the analysis of a greater amount of data would show that such a distinction is warranted also for MidF. The present discussion treats all such adverbials similarly in the manner of Pollock's treatment of point, etc. in ModF.

The present treatment of pas in MidF would accord with the view that pas developed gradually into its role as Spec,NegP, passing through a stage in which it belonged in an AdvP from its original function as a noun (pas = 'step'). See also Matthewson (1990) for discussion of comparable developments in negative morphemes in earlier German.

what we might attribute the subsequent restrictions on movement to T to infinitival auxiliaries, except in so far as this change may be related, if indirectly, to the Agr properties of a language which ultimately lost the ability to license null subjects in tensed clauses.

How does this analysis of infinitivals containing ne match up with the alternative analyses that we have set out for the infinitivals containing non? We have so far considered the presence versus the absence of verb raising in relation to the positioning of the adverb with respect to the V_{Inf}. Let us now see if the analyses which have been proposed up to this point can account for the variety of the surface orderings for all of the forms including combinations of non/ne and pronouns and/or adverbials. On the basis of the examples already shown, the different surface orderings containing non are displayed in (14) below, and those containing ne are given in (15).

(14)a. de non le congoistre (= (4a))
b. de non leur avoir faicte (= (4b))
c. de le non faire encore (= (4c))
d. de le non croire (= (4d))
e. de non jamais y entrer (= (11c))
f. de le non point paier (= (11d))
g. de jamais non moy marier (= (12b))

(15)a. de ne se haster point (= (13a))
b. à n'y estre pas (=(13b))
c. n'y aller point (= (13d))
d. de ne soy point esbahir (= (13f))
e. ne l'avoir point entendu (= (13h))

If the ordering of constituents is as shown in (16) below, then it is possible to account for the variety of forms shown in (14) and (15).

(16) [TP .. [NegP .. [AgrP .. [AdvP .. [VP ..]]]]]

For the forms containing non, the simplest option was that represented by (10b): the weak pronoun may or may not move to [-finite] T, but the non remains in place. In addition, an adverbial may or may not move up to Spec,TP. Of the sequences shown in (14a-g), this leaves all but (14c) and (14e) accounted for. Perhaps what is indicated by (14c) is that short verb movement can apply in the presence of non, but that non blocks further movement of the verb to [-finite] T. Alternatively, it is clearly possible that the context of this particular example implies a contrastive stress on encore which leads to the post-verbal placement of the adverb. Both options may be at work here as this second alternative does not

rule out the availability of the first, given the array of data in (14). In the case of (14e), I propose here that the pronoun y occupies a distinct agreement node, $AgrP_2$ (or really, $AgrP_3$, if $AgrP_1$ reserved for the subject is present as well), which is next to the VP and below the AdvP.[6]

The analysis of the forms containing ne then follows that outlined above, in that the position of the adverbials is accounted for by (short) verb movement. It is not clear from the data to what extent ne can be raised, that is, whether or not it actually moves up to [-finite] T, although the cliticization evidence (as in (15a,b,c,e)) would seem to suggest collocation of the pronoun and the verb at least in the head of NegP. These effects may however be phonological. Among the clitic versus non-clitic options, however, some role must also be given to the person/number properties since the reflexive pronouns are more recalcitrant in undergoing the change from strong to weak forms in the developments in MidF infinitivals. What does seem clear in all of this is that, whatever the reasons for the presence of the strong form pronoun, it blocks the implementation of short verb movement.

3. Conclusion

The evidence collected from these texts of the 15th century shows two competing options for the negation of infinitivals: the system using the strong form non and the alternative with the weak form ne. In general, ne requires the support of an adverbial, but non may stand alone as the negative operator. These MidF systems differ from what was available to OF, which essentially did not permit the presence of a negative operator in an infinitival phrase, and they differ from ModF, which has resolved the competing non/ne options in favour of a system with ne. The analysis of the differences between the patterns obtaining with non and with ne in the MidF data points to the presence of verb raising with ne and its absence with non.

The non/ne options in MidF provide a parallel with developments in the appearance of clitic pronouns in infinitival phrases. A full account of the developments with negatives should therefore be integrated with the description of the increased possibilities for pronoun cliticization. In this paper I have sketched

6 This approach is not as arbitrary as it may seem given the somewhat different behaviour of y (and also of en) in the historical development of clitic ordering and placement. See also Kayne (1975, pp. 275, fn.3, 433) and Rouveret and Vergnaud (1980) who point to a tendency for the failure of clitic climbing with en and y in the ModF causative.

out an analysis of the main characteristics of the behaviour of infinitivals containing negatives. A fuller picture of these developments would be supported by a more extensive survey of available data and it would involve the further consideration of the mechanisms required to account for the properties of the structures which license the presence of clitics and which control the conditions for verb raising.

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THE STRUCTURE OF CHINESE DATIVE/BENEFACTIVE AND DOUBLE OBJECT SENTENCES

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I. INTRODUCTION

Larson (1988:350-351) argues strongly for a transformational relatedness between oblique dative and double object structures in English on the following grounds. Firstly, "in languages with so-called applicative constructions...oblique and double object structures show a highly productive relation" (p.350) and secondly "the thematic roles assigned in these constructions are identical" and this "virtually forces a derivational account of the dative-double object relation" (p.351).

Adopting this line of argument, I will in this paper examine closely some data from Mandarin Chinese of dative/benefactive and double object sentences and suggest a transformational account of the sentences in question. In doing so, I will attempt to provide underlying structures for these sentences and account for the well-formedness of the various derivations in terms of Larson's framework. To deal with the Chinese data, some modifications are made to Larson's framework and I hope they can be justified through the analysis of the data. Finally, I will evaluate the structure proposed here by examining whether it can explain the features of these sentences.

This paper consists of four sections: introduction; the Chinese data; the analysis of the data and conclusion. In what follows I am going to explore the Chinese data of dative/benefactive and double object sentences under two sub-headings:
1. Classification
2. Characteristics

II THE CHINESE DATA

1. Classification

In Chinese, the Goal and Theme phrases or the Indirect and Direct Objects can occur in different positions, while the Benefactive phrase occurs only in preverbal position. So according to the relative positions of Direct Object (DO), Indirect Object (IO) and

Benefactive phrase and the use of prepositions associated with these phrases, we can classify the dative/benefactive sentences into four types.

A. The DO and IO can both precede and follow the verb, and in both pre-verbal or post-verbal positions, each can precede the other.

1.a wǒ jì-le yīfēng xìn gěi tā.
I send-Asp. one-Cla. letter to he
'I sent a letter to him'
b. wǒ jì gěi tā le yīfēng xìn.
c. wǒ gěi tā jìle yīfēng xìn.
d. wǒ bǎ xìn jì gěi tā le.
e. wǒ gěi tā bǎ xìn jì qù le
Dir.
f. wǒ bǎ xìn gěi tā jì qù le.

(Note: Asp.= aspect marker; Cla.= classifier marker; Dir.= directional particle. In Chinese, qù refers to the direction away from the speaker and lái refers to the direction to the speaker. When used as verbs, the two words means 'go' and 'come' respectively)[1]

From (1a-f) we can see that the direct object yīfēng xìn occurs in post-verbal positions in the first three sentences. In (1a) it precedes IO and in (1b) it follows IO. In (1c) it stays in post-verbal position, while IO occurs in preverbal position. In the last three sentences, the direct object occurs in pre-verbal positions. In (1e) it follows IO, while in (1f) it precedes IO. In (1d) DO is in pre-verbal position, while IO is in post-verbal position.

Following Li and Thompson (1975), I take gěi preceding IO and benefactive phrases to be a preposition. In linguistic literature, bǎ preceding DO is refered to as the Ba-construction. Here I also take it to be a preposition, whose function is to assign Case to DO as Huang argues (1988)[2]. Other verbs which behave like this are yóu 'send' huán 'return'. etc. In some cases, the preposition gěi is optional when the IO immediately follows the verb.

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[1] Ernst (1989) treats lái and qù in postverbal positions as part of the compound directional verbs and as VPs generated in place.

[2] Some grammarians consider the words such as gěi 'to' or 'for', gēn 'with' as verbs. The sentences containing them consist of a series of verbal phrase (see Chao 1968). Li and Thompson (1974, 1975) regard these coverbs as prepositions. Tai (1976:297) admits that when these words "co-occur with other verbs, they can be considered either as verbs or as prepositions, depending on the criteria we use". Bǎ is referred to as object marker, Case assigner (Tai 1976) and preposition (Huang 1982; Koopman 1984).

2. nǐ dì (gěi) wǒ yīgè píngguǒ.
you pass (to) I one-Cla. apple
'Pass me an apple, please.'

B. With some verbs, the IO cannot occur in pre-verbal position:

3 a. wǒ jiè-le yìběn shū gěi tā.
I lend-Asp. one-Cla. book to he
'I lent a book to him'
b. wǒ jiè (gěi) tā le yìběn shū.
c. wǒ bǎ shū jiè (gěi) tā le.
*d. wǒ bǎ shū gěi tā jiè-qù le
Dir.
*e. wǒ gěi tā bǎ shū jiè-qù le.
f. wǒ gěi tā jiè le yìběn shū.
for he borrow
' I have borrowed a book for him.'

The sentences show that when the IO gěi tā occurs in pre-verbal position, no matter whether it precedes or follows DO, the sentence is ungrammatical. (3f) is grammatical only with the interpertation of gěi tā as Benefactive. The verbs of this class include mài 'sell', zū 'rent'. Moreover, with this class of verbs, when IO immediately follows the verb without the preposition gěi preceding it, the sentence is ambiguous.

4. wǒ jiè Zhāngsān shíyuán quián.
I borrow/lend Zhangsan ten-Cla. money
a.'I lent ten dollars to Zhangsan'
b.'I borrowed ten dollars from Zhangsan'

5. wǒ zū tā yījiān wūzí.
I rent he one-Cla. room
a. 'I rent a room to him'
b. 'I rent a room from him'

We can clarify these sentences by inserting gěi in front of IO. In that case, only the first interpretation obtains.

C. With some verbs, there is no dative structure, but only the double object structure. In other words, IO can only immediately follow the verb and only DO can occur in pre-verbal position as can be shown by the following example:

6 a. Zhāngsān gàosù Lǐsì yījiàn shì.
Zhangsan tell Lisi one-Cla. thing
'Zhangsan told Lisi a piece of news'
b. Zhāngsān bǎ zhèjiàn shì gàosù Lǐsì le
this
'Zhangsan have told Lisi the news'.
*c. Zhāngsān gàosù yījiànshì gěi Lǐsì.
*d. Zhāngsān gěi Lǐsì gàosù le yījiàn shì.

Verbs such as gěi 'give' and wèn 'ask' also belong to this class.

D. When the verb takes a Benefactive argument, the Benefactive phrase occurs in pre-verbal position. Benefactive phrases can occur in all these sentences (the benefactive phrase is underlined):

7. wǒ gěi nǐ bǎ xìn jì gěi tā le
I for you Ba letter send to he Asp.
'I have sent the letter to him for you'
8. nǐ gěi wǒ bǎ píngguǒ dì gěi tā.
you for me Ba apple pass to he
'Pass the apple to him for me. please'
9. wǒ gěi nǐ bǎ shū jiè gěi tā le
I for you Ba book lend to he Asp.
'I have lent him the book for you'
10. nǐ néng gěi wǒ bǎ zhèjiàn shì gàosù tā ma?
you can for me Ba this-Cla. thing tell he Particle
'Could you tell him about it for me?'

2. Characteristics

Some salient features of dative/benefactive sentences emerge from the above examples:

i) While the position of benefactive phrase is rigid, ie. it occurs only in preverbal position, as can be seen from Examples 7-10; the position of DO and IO is very flexible for Type A verbs. However, we can find some instances where Benefactive phrase occurs in post-verbal position. e.g.:

11 a. nǐ xǐ yīgè píngguǒ gěi Zhāngsān.
you wash one-Cla. apple for Zhangsan
' Wash an apple for Zhangsan, please.'
b. Māma mǎi-le yījiàn yīfú gěi wǒ.
Mum buy-Asp. one-Cla. clothe for me
'Mum has bought a jacket for me'

But when it occurs immediately after the verb, the sentence is totally unacceptable.

11 *c. nǐ xǐ gěi Zhāngsān yīgè píngguǒ
*d. Māma mǎi gěi wǒ yījiàn yīfú.

Here it must be admitted that although the sentences (11) a-b are acceptable, they are not as good as the versions when the benefactive phrase occurs before the verb. E.g.:

11. e. nǐ gěi Zhāngsān xǐ yīgè píngguǒ.
f. Māma gěi wǒ mǎi le yījiàn yīfú.

Li and Thompson state explicitly (1975:181) that benefactive phrase can not occur in pre-verbal position. To me sentences like (11) a-b are acceptable only in spoken Chinese. In written discourse, I do not think we can meet with such sentences. Since they sound like loosely constructed sentences, they are better understood as instances of afterthought.

Of course, there is a semantic contrast between pre-verbal and post-verbal positions for DO. When DO occurs in pre-verbal position, it is normally definite, while when it occurs in post-verbal position, it is indefinite (Li and Thompson:1975). That is why the DOs in my examples are accompanied with an indefinite determiner in post-verbal position and with a definite determiner or zero definite determiner in pre-verbal position. So there must be a superarching rule in Chinese syntax: only definite DO can occur in pre-verbal position.

ii) The perfective particle le immediately follows the verb in V DO IO word order, while it follows IO in V IO DO word order. In the latter case, le cannot be put immediately after the verb, but it can appear after the preposition gěi according to my judgement.

iii). According to Lasnik & Uriagereka (1988:11), an NP must be adjacent to the Case assigner in order to get Case. In the V IO DO word order, DO is not adjacent to any potential Case assigner and it can not be preceded by bǎ, so this particular surface structure seems to be a challenge to the Case assigning conditions.

iv) Benefactive phrase is always preceded by preposition gei and IO is also preceded by the same preposition[3] But the presence of the preposition is optional when IO immediately follows the verb.

[3] Gěi is not the only preposition which takes a benefactive argument. Prepositions such as lì and wèi are also candidates for this purpose.

v). In all the examples, DO in pre-verbal position is introduced by the preposition bǎ. However, sometimes we do find that DO in pre-verbal position is not accompanied by any prepositions:

12 a. wǒ qián gěi tā jì qù le.
I money to he send Dir. Asp.
' I have sent the money to him.'
b. qián wǒ jì gěi tā le.

vi). Normally the verb cannot precede benefactive phrases.

vii). when both DO and IO precede the verb, the verb must take a directional particle (see (1 e) and (1 f)).

viii). With Type B verbs, IO cannot be fronted.

ix). With Type C verbs, there is no such word order as V DO IO and IO can not occur in pre-verbal position.

When considering the structure of Chinese dative and benefactive sentences, we would like to ask why the distribution of IO, DO and benefactive phrase shows such a pattern; why the pattern of distribution of these phrases varies from one type of verb to another; why the perfective particle le cannot follow the verb when IO immediately follows the verb; why preposition before IO is optional when IO is immediately preceded by the verb; why the verbs jiè and zù in certain circumstances have ambiguous readings. In the following section I will analyze the Chinese data in the framework of Larson and try to find some explanations for the above questions.

III. THE ANALYSIS OF THE CHINESE DATA

This section consists of four parts:

1. Larson's framework
2. The account of the Chinese data in Larson's framework
3. Modifications
4. Consequences

1. Larson's Framework

Larson's framework can be stated in terms of the single complement hypothesis, argument realization and projection principles and derivational rules.

The Single Complement Hypothesis

13. a. XP → Spec X', X'

b. X' → X YP (Larson, 1988:381)

According to (13), there can be only one complement per maximal projection. This X-bar structure also requires a strict binary branching.

Principles of Argument Realization and Projection

P1. If α is a predicate and β is an argument of α, then β must be realized within a projection headed by α. (Larson, 1988:382)

This principle requires that the subject is located underlyingly within VP. This kind of analysis is also argued for by Koopman and Sportiche (1988).

P2. If a verb α determines θ-roles θ1, θ2,...,θn, then the lowest role on the Thematic Hierarchy is assigned to the lowest argument in constituent structure, the next lowest role to the next lowest argument, and so on. (Larson,1988:382)

The Thematic Hierarchy for English is given as:

AGENT>THEME>GOAL>OBLIQUES (manner, location, time...)

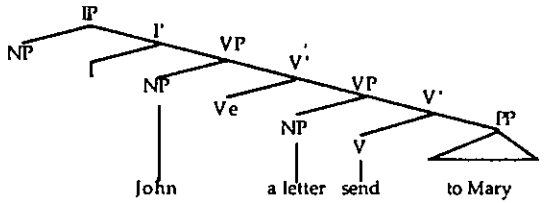
Derivational Rules

There are three distinct derivational rules employed in Larson's framework to account for the transformational relatedness between dative and double object structures in English.

R1. V-raising

According to the principle of Argument Realization and Projection, the underlying structure of a dative sentence, e.g. John sent a letter to Mary is:

14.



The correct surface form arises by movement of the verb send to the empty V position, that is, by head to head movement. Larson argues that V-raising must take place to fulfill the joint "requirements holding of Infl, V, and NP" (p.342). To be specific, on the one hand V must ultimately head a projection governed by Infl in order to

receive tense and agreement information. On the other hand, V must move to a position governed by Infl to be able to assign Case. Moreover, the direction of Case assignment in English is rightward and only when send moves to the left of a letter can the latter receive Case from the former because in that configuration "V may be plausibly analyzed as governing a letter: V is to the left of NP and NP is the specifier of a maximal projection sister to it" (p343)

R2. V' Reanalysis

To account for sentences such as:

15. John gave to Mary everything she wanted.

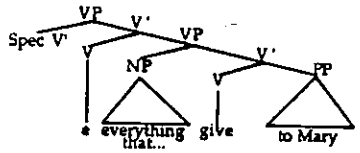
Larson proposes an optional rule of V' reanalysis.

16. V' Reanalysis

Let α be a phrase [v'...] whose θ-grid contains one undischarged internal θ-role. Then α may be re-analyzed as [v...]. (Larson, 1988:348)

As the underlying structure of (15) is (17):

17.

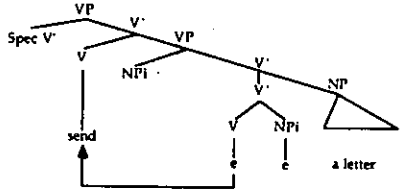


we can apply the optional V' reanalysis rule, since in this configuration, the θ-grid for [v' give to Mary] contains one unsaturated internal θ-role, that is, the theme-role. In this case, the lower V' is reanalyzed as V, a complex transitive V, and then we can raise it to the empty V position above to yield the surface structure of (15). If this optional rule is not applied, then head to head movement of V will occur to derive the surface structure: John gave everything that she wanted to Mary.

R3. Passivization

Larson argues (1988:351-354) that the process of dative shift is parallel to ordinary passivization. In a VP internal passive, ie. dative shift, passive absorbs the case to the indirect object. Assume that preposition to governed by send in (14) functions as Case marking. This means that preposition to is absorbed. At the same time, the θ-role assigned to the subject of VP, that is, a letter is demoted, therefore it is realized as a V' adjunct and the indirect object moves to the subject position of VP to yield a double object structure as is shown in (18).

18. (from Larson (26))



Here it seems that Larson's account of VP internal passivization differs from the standard GB approach, where the demotion does not apply in the syntax.

Notice that passivization and V' reanalysis give us different surface structures. If the former rule is applied, the preposition is absorbed, while if the latter rule is applied the preposition is retained. As a result, V' reanalysis can only be applied to a structure where there is a heavy external object, ie. direct object, while passivization can only be applied where the direct object is short If we apply passivization to (17) we will get an unacceptable sentence and if we apply V' reanalysis to (18), the end-product is also unacceptable.

2. The Account of the Chinese Data in Larson's Framework

i. Thematic Hierarchy

In Chinese when a sentence contains Agent, Theme, Goal and Benefactive, we can have the following surface manifestations:

19 a. nǐ néng gěi wǒ dài yīběn zìdiǎn gěi tā ma?
you can for me take one-Cla. dictionary to he Particle
' Could you take a dictionary to him for me?
b. nǐ néng gěi wǒ dài gěi tā yīběn zìdiǎn ma?
c. nǐ néng gěi wǒ bǎ zhèběn zìdiǎn gěi tā dài qù ma?
Ba this Dir.
d.. nǐ néng gěi wǒ bǎ zhèběn zìdiǎn dài gěi tā ma?
* e. nǐ néng gěi wǒ gěi tā bǎ zhèběn zìdiǎn dài qù ma?
f. nǐ néng bǎ zhèběn zìdiǎn gěi wǒ dài gěi tā ma?

As can be seen from the translation, in (19) gěi wǒ is Benefactive; yī (or zhè) běn zìdiǎn is Theme; gěi tā is Goal and the subject nǐ is Agent. It is easy to establish the position of Agent and Benefactive in the thematic hierarchy from the above data, since Agent is always realized at the beginning of the sentences and Benefactive always occurs immediately after Agent except in (19 f) where Theme intervenes between Agent and Benefactive. Therefore it is safe to say Agent and Benefactive occupy the two highest positions in the hierarchy. However, it is impossible to determine the respective positions of Theme and Goal on the basis of these sentences since in

post-verbal position each can precede the other in (19 a-b). Although (19 e) is ungrammatical, the unacceptability does not derive from the fact that the Goal phrase precedes the Theme phrase in pre-verbal position, rather from the fact that the two gěi-phrases are next to each other since, without the Benefactive phrase, the sentence is undoubtedly grammatical and we can also see that Theme and Goal can precede one another in pre-verbal position from (1 e-f). Now let us just assume that Theme occupies a higher position than Goal as is the case with English and see if we can derive correct surface structures and block ungrammatical ones and if the thematic hierarchy can give us some explanation of the characteristics of Chinese dative and benefactive sentences. Thus I propose here the thematic hierarchy of Chinese is :

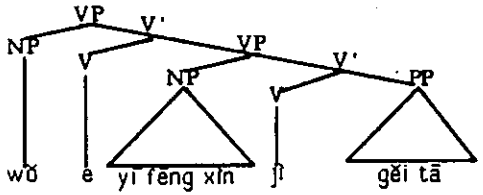
AGENT>BENEFACTIVE>THEME>GOAL.

Here I did not consider the position of Obliques because I did not include such elements in my examples.

ii. The Underlying/Surface Structures

In Chinese some sentences have SVO word order and some have SOV word order. Here I assume that the underlying structure of Chinese is SVO.[4] According to the thematic hierarchy and the argument realization and projection principles, the underlying structure for (1) is:

20.



In this structure, we can apply any of the three rules because there are no constraints on the operation of passivization and V-raising and the lower V' has one unsaturated θ-role. If we apply V' reanalysis, the lower V' is reanalyzed as a V node and then the complex predicate undergoes V-raising. In this configuration, the direct object can receive Case from the complex predicate since it is in the Spec of the VP, which is sister to the complex V, and hence the direct object can be governed, and since the direction of Case

[4] Some linguists take the underlying structure to be OV. In GB syntax, the two different orderings, ie.VO and OV are explained in the following way: In Chinese theta-roles are assigned to the left, while Case is assigned to the right. The first parameter requires that object NP is generated to the left of V. To satisfy the Case filter, either bǎ is inserted or the NP is shifted to the right of V (see Huang:1982 & 1988 and Koopman:1984).

assignment is rightward in Chinese (Huang, 1988:299) and here the direct object is exactly to the right of the complex V. And this rule gives us the correct form of (1b).

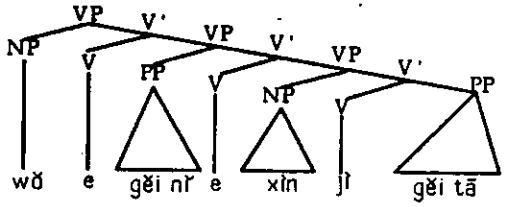
If we apply V-raising, V directly moves to the empty V position. In that case, V is in the exact position to assign Case to DO and the IO can get Case from the preposition gěi. The result is a grammatical sentence (1a).

If we apply passivization, we will get wǒ jì le tā yīfēng xìn. This sentence is unacceptable because of the absence of the preposition gěi.

So with the three derivational rules, we can only derive from (20) two grammatical sentences (1a) and (1b) and one ungrammatical one. Moreover, we are helpless with the other grammatical structures (1c-f).

As for Benefactive sentences, the situation is even worse. According to the thematic hierarchy, the underlying structure for (7) would be:

21.



If the verb must ultimately head a projection governed by Infl, no matter which derivational rule you apply, the resulting sentence is ungrammatical. When V-raising is applied, the verb hops successively from its base generated position to the top empty V position and the result is:

22 *wǒ jì gěi nǐ (bǎ) xìn gěi tā le.

If we apply V' reanalysis, the lowest V' is reanalyzed as V and then it moves successively to the top empty V position. This time we get:

23.*wǒ jì gěi tā gěi nǐ (bǎ) xìn.

If we apply passivization, gěi before tā is absorbed. With xìn joining to the lower V' node and ta moving to Spec of lowest VP, V moves to the top empty V position to yield:

24.*wǒ jì gěi nǐ tā (bǎ) xìn.

Why are the above sentences ungrammatical? It seems that the direct object xìn cannot get case, since it is not governed by the verb when V moves to the top empty V position to head the projection governed by Infl. If this is the only reason, we can insert bǎ before the direct object to save the sentences. But with the insertion of bǎ, we cannot improve the grammaticality of these sentences as is shown by the optionality of bǎ in the above sentences. Or alternatively we might argue that in that configuration, Case might be assigned by transmission from the higher V position. However, the ungrammaticality of the sentences seems to invalidate these explanations and at the same time points to the possibility that the direct object in post-verbal position must be lexically governed by the verb.

If we attribute the ungrammaticality of (23) to the sequence of two gěi-phrases, this still does us no good because without IO, the sentence is not acceptable either. The problem seems to be the violation of the general condition that normally Benefactive phrase can not occur in post-verbal position. All this shows that Larson's framework is not adequate for the Chinese data and we must add some other mechanisms to account for the phenomena that both Theme and Goal phrases can also occur in pre-verbal position and propose some constraint to ensure that the ultimate position of V is a position where it can govern DO and that V in surface structure can not precede Benefactive.

3. Modifications

i. Rejection of passivization

As is mentioned above, the rule of VP internal passive can apply in English only when the direct object is short and the rule V' reanalysis can apply only when the direct object is long. In Chinese such a contrast does not exist. For the same sentence in Chinese the preposition gěi can be present or absent when IO immediately follows V as is shown in (2) and where the preposition must be retained as in (1b) the direct object has exactly the same length as that of the case where the preposition is optional, eg.: (2). Since we can find no structural constraint to state when passivization can be applied and when it can not, it is desirable to regard the optionality of the preposition gěi as the result of some kind of idiosyncrasy of the verb types, rather than the application of distinct rules. Based on the data of (1) and (2), we can see that application of the passivization rule can give us an unacceptable surface structure for verbs like jì in (1), while the application of V' reanalysis can always give us a grammatical sentence. So here the passivization rule

should be rejected. Thus V-raising rules are reduced to two: V-raising and V' reanalysis.

ii. Adjunction

To derive sentences like (1c-f), it seems that we need an IO fronting rule since IO is base generated to the right of V and since no matter which of the two rules is applied, it still stays to the right of V. So when it occurs in pre-verbal position, some IO fronting rule must have taken place. As for the occurrence of DO in pre-verbal position, there are two possibilities. It might stay put in base-generated position and preposition bǎ is inserted to assign Case to it. Or it might be shifted to the front of V after V-raising or V' reanalysis takes place. Sentences like (25) confirm the second possibility.

25 a. nǐ dì yīgè píngguǒ gěi wǒ.
you pass one-Cla. apple to I
' Pass me an apple, please'
b. nǐ bǎ píngguǒ dì yīgè gěi wǒ.
you Ba apple pass one-Cla. to I
c. nǐ dì gěi wǒ yīgè píngguǒ.
you pass to I one-Cla. apple
d. nǐ bǎ píngguǒ dì gěi wǒ yīgè.
you Ba apple pass to I one-Cla

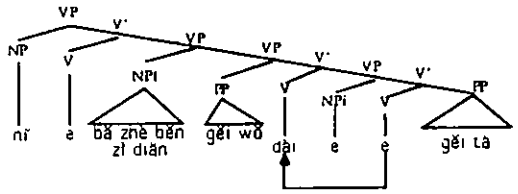
In (25 a) and (25 c) the DO yīgè píngguǒ occurs in post-verbal position, while in (25 b) and (25 d) píngguǒ occurs in pre-verbal position and is separated from its determiner yīgè. Since píngguǒ must form an immediate constituent with its determiner at D-structure, the examples of (25) suggest two possibilities: given the D-structure: [IP [VP NP Ve [VP YIGE PINGGUO DI GEI WO]]], either the determiner phrase lowers down to a position below V and then ba is inserted before píngguǒ or píngguǒ moves up after V moves up to the empty V position. The first option is out because as specifier phrase the determiner must move to a Spec position and there is no Spec position below V. If it moves down through adjunction that should be adjunction to a X" (Chomsky, 1986:6) and unfortunately there is no X" below V either. Therefore we are left with the second option. Along this line of argument, DO is base-generated to the left of V in a structure involving a Goal theta role as is shown by the D-structure above. after V-raising applies, píngguǒ moves from its canonical position to the front of V and leaves its determiner behind. A question arises here: why does not the direct object NP stay in its base-generated position and trigger in some way the insertion of bǎ? This can be easily explained away: in Chinese only definite NP can stay in preverbal position. Since in this case, the NP is preceded by a numeral plus a classifier, which is equivalent to English indefinite article, it can not stay there.

Naturally we will ask what the nature of this fronting rule is; to where and when NP or PP moves.

According to Chomsky (1986:4) there are two types of movement: substitution and adjunction. Either X° or X" can undergo movement of substitution and X° moves to an empty head position, while X" moves to an empty Spec position. Since there is no empty NP or PP positions available between Agent and V in (1c-f) or in (25b, d), the fronting of DO and IO must be a movement of adjunction.

Chomsky points out (1986:6) that "Ajunction is possible only to a maximal projection (hence, X") that is a nonargument". In the case of DO and IO fronting, they are very likely to be joined to the VP node higher in the tree. However, the data also shows that adjunction to a V' node is also possible. E.g. in (19f) the DO bǎ zhèběn zìdiǎn must be adjoined to the VP node immediately dominating Benefactive, since it precedes Benefactive in surface structure (see (26)), while in (19d) the DO must be adjoined to the V' node between the VP immediately dominating the Benefactive and the VP dominating the Do at D-structure, since there the fronted DO follows the Benefactive phrase. Notice that Larson also allows adjunction to V' in his account of VP passive.

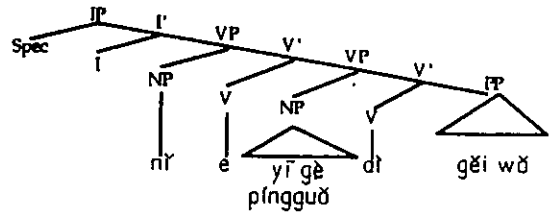
26.



Note that there is no question of blocking of movement arising here. We assume that the fronting rule takes place only when V moves to a position governing DO. So in (26) when V moves to the position as indicated, it L-marks the VP immediately dominating the DO, hence the VP in question ceases to be a potential blocking category. And then the DO can subsequently move to the V' node or VP node to derive (19d) and (19f) respectively.

As is presumed above, the DO and IO adjunction rule follows the V-raising or V' reanalysis. This is determined not only by the theory of barrier as is indicated above, but also suggested by the data in (25). According to the order of rules assumed here, the sentences in (25) are derived in the following way:

D-structure:



At the beginning of derivation, we have two options: either to choose V-raising or V' reanalysis. If we apply the V-raising rule, we will get (25a). Then the subsequent NP-adjunction yields (25b). Here only part of NP moves. This perhaps results from the general restriction that only definite NP can undergo fronting. Here the entity of píngguǒ is definite in the speaker's mind, but the speaker requests the hearer to pass only one of them. Since which one the hearer should pass is indefinite, the movement leaves the numeral and classifier behind. If we choose V' reanalysis, we will get (25c) and subsequent application of NP-adjunction yields (25d).[5]

Another question arises here. Can DO and IO fronting rules follow any of V-raising and V'-reanalysis? After V-raising, there is nothing to block either DO fronting or IO fronting. But after V'-reanalysis, it is irrational to move IO because it is a part of V category at that stage. Therefore I assume that after V-raising, both DO and IO adjunction can apply, while after V'-reanalysis only DO adjunction is visible to adjunction rule.

The first step in the derivation is to move V in one way or another to the position governing DO, then the adjunction rule is applied. Perhaps the first step in the derivation must be to move V to a position that can assign Case to DO can be justified on the following grounds. suppose that a transitive verb has got an inherent objective case to assign. If, analogous to the other half of the theta-criterion, there is a requirement holding of Case theory to ensure that every case must be assigned (see the same kind of reasoning by Lasnik & Uriagereka, 1988:29), we will get an explanation why we have sentences like (25b) and (25d) and why (22)-(24) are ungrammatical. The illegimate derivations of (22)-(24) suggest that the ultimate position of V in Chinese is not where it heads the projection of Infl, but where it can govern DO. This can be independently motivated. Firstly, Chinese does not need subject and verb agreement, so the verb need not move to a position governed by Infl to receive that kind of information. Secondly, the separation

[5] An alternative account of the phenomenon of definite NPs occurring in preverbal position is suggested by Elizabeth Pearce (personal contact): definite NPs are base-generated as a topic. Then these NPs could be described as VP topics.

of main verb from an auxiliary verb by some elements is allowed in Chinese. Here I do not refer to the element such as negative particle, or the subject as in the case of English negative or interrogative sentences, but refer to Benefactive or Theme (see examples 19a-d).

With the addition of the adjunction rule, the rejection of the assumption that V must head a projection governed by Infl and the order of operation of these rules, we can generate (1c-f) and (7)-(10), which could not be generated previously with only the three V-raising rules and the assumption that V must head a projection governed by Infl.

E.g. (1c) is generated through V-raising and IO adjunction.

(1d) is generated either through V-raising and DO adjunction or through V'-reanalysis and DO adjunction.

(1e-f) are generated through V-raising and both DO/IO adjunction. Here the sequence of DO and IO in pre-verbal position is determined by the order of application of DO and IO adjunction rules, ie. in surface structure whichever phrase moves first will follow the phrase subsequently moved there.

(7)-(10) are derived through either V-raising or V'-reanalysis and DO adjunction to V'.

iii. Incorporation

In (4) and (5) the ambiguity derives from different subcategorizations of the verbs in question. Jiè in Chinese can take either Goal role or Source role. So its equivalent in English is 'borrow' or 'lend' respectively as is shown by the two interpretations. Since jiè cannot take both argument roles in one sentence, I assume Coal and Source roles are on a complementary distribution with such verbs. Therefore it is quite likely for both Goal and Source to occupy the same position at the thematic hierarchy. If this is true, we can use the same derivational rules to derive the same set of acceptable sentences.

However, while (3a) is perfectly alright, (27a) is not acceptable in formal writing. Just as Benefactive in post-verbal position, the Source phrase gen ta in (27a) sounds like an afterthought. When Source occurs in pre-verbal position the sentence is perfect (see 27b).

27. ?a.wǒ jiè le shíyuán qián gēn tā.
I borrow Asp ten-Cla. money from he
' I borrowed ten dollars from him.'
b. wǒ gēn tā jiè le shíyuán qián.

With other verbs we can also find such a pattern:

28 a. wǒ gēn měigè rén shōu le shíyuán qián.
I from every-Cla. person collect Asp ten-Cla money
' I collected ten dollars from every one.'
b. wǒ shōu le měigè rén shíyuán qián.
??? c.wǒ shōu le shíyuán qián gēn měigè ren.

(28c) sounds even worse than (27a).

From the above data, we know that Source must occupy a position above Theme in the hierarchy. If V must move to a position governing DO and Source is generated in a Spec of VP above DO in D-structure, how are (4) and (5) derived when they are interpreted as taking a Source role? Here I propose tentatively that V moves to the empty V position above Source, then it incorporates with the Source phrase it governs to form a complex V predicate. As a result of the incorporation the complex V must be in a configuration that can allow V to govern DO. What is the exact configuration? There are two possibilities: after the incorporation, the intermediate empty VP node between DO and the complex V is deleted. Or the empty VP node stays there and we assume that the trace left by Source phrase after incorporation does not constitute a legitimate δ to block government of DO by V and therefore no violation of Minimality condition occurs. Anyway, we assume that after incorporation, the complex V can govern DO. Thus (4) and (5) with Source role interpretation are derived through V-raising and Incorporation, while in (27b) V-raising does not take place, hence no Incorporation and the surface structure is the same as the D-structure.

Unlike the Goal phrase immediately following V, when the Source phrase follows the verb, the preposition is never spelled out. This also supports the postulation of distinct rules to account for the assumption that Goal phrase and Source phrase can form a complex predicate.

iv. Restriction of V'-reanalysis

We must restrict V'-reanalysis somehow to avoid overgeneration. According to (17), if any [v'...] in a configuration of [VP NP/PP [v' V PP/NP]] can be understood as containing one undischarged internal theta-role, then in the case of a V taking Agent Benefactive/Source and Theme, we are in danger of overgeneration. Since in these structures V governs the Theme phrase in D-structure, if V'-reanalysis is applied, we will generate less acceptable or even unacceptable sentences like (27a), (28c) and (11c-d). To prevent this, we could change "one undischarged internal θ-role" to "one undischarged Theme-role".

4. Consequences

i. Effect of Modification on English Data

It is desirable that the modifications proposed above will not restrict the generating capacity of Larson's mechanisms for dealing with English dative shift phenomenon. The rejection of V-raising through passive seems to block the generation of sentences like John sent Mary a letter. But this is not true. We can regard these sentences as being derived through V'-reanalysis. The only difference between the rule in Chinese and English is that we attribute the optionality of the presence of the preposition to different factors. In Chinese, the optionality of the preposition before IO after V'-reanalysis is determined by the lexical properties of the verb. It seems that when the action of verbs like jì 'send' causes Theme to travel some distance to its destination, i.e. the entity expressed by Goal phrase, the preposition is obligatory. Otherwise, the preposition can be omitted, e.g. jiè 'lend'. In English, the presence of the preposition before IO after V'-reanalysis is due to the structure of DO: if the NP contains a clause, the preposition must be spelled out; otherwise it should be absorbed.

The imposition that V must move to a position governing DO can cover both the legitimate landing site of V in English, ie. a position governed by Infl and the legitimate landing site of V in Chinese, i.e. a position governing DO. This is because in English the position governed by Infl is exactly the position governing Theme phrase, since Theme occupies a position immediately after Agent in English thematic hierarchy.

As for the restriction of V'-reanalysis, it also works well with the English data in Larson (1988). However, if the verb takes an Oblique, which must be projected to the lowest argument position, I do not think any version will work. Furthermore the Ajunction rule seems to be language specific-- only available in Chinese.

ii. Explanation of Charateristics of Chinese Data

The mechanisms proposed here to deal with the Chinese data of dative, benefactive and double object structures can explain most the features shown by Chinese data.

a). The fact that Benefactive phrase is fixed in pre-verbal position, while DO and IO can occur in both pre- and post-verbal positions is due to the interaction of thematic hierarchy and derivational rules

available in Chinese. Because V must move to a position governing Theme phrase and in Chinese Benefactive is higher up in thematic hierarchy than Theme, Benefactive phrase can not occur in post-verbal position.

b) It seems that in Chinese, the perfective particle le can occur in two positions: at the end of the whole clause or immediately after V. The fact that le follows IO in an V IO DO word order is due to the V'-reanalysis rule. Because the reanalysis combines V and IO together to form a complex V, when le follows IO in surface structure, it actually follows V structurally.

c) As is mentioned above, the configuration of V IO DO results from V'-reanalysis. In that case, DO is adjacent to Case assigner V. So there is no problem for Case assignment.

d) Benefactive phrase always needs a preposition gěi, because it can never governed by V. In order to get Case it must be realized as PP. For IO, the preposition is obligatory except in the position immediately following V. This is because in other positions V does not govern IO, while the internal structure of V after V'-reanalysis can be seen as [v V IO]. In this configuration the presence of preposition is not necessary.

f). As for bǎ before DO in pre-verbal position, its sole function is to assign Case to DO. V-raising ensures that objective case is assigned, but the subsequent NP adjunction moves DO to a position where it is not governed by V. Since at S-structure every NP must have Case, bǎ is inserted to achieve tlhat effect. But I can not explain why the moved NP can not inherit Case.

As for the exceptions illustrated in (12a-b), we can find some explanation in the landing site of DO. In these sentences, DO is moved to the particular position not through adjunction, but substitution and the landing site is Top. In (12b) DO is moved to a Top position, while the subject NP stays in Spec of IP. In (12a) both subject NP and object NP move to Top positions. This points to the possibility of two Top positions.

g) The structure of dative /benefactive/double object sentences can give no explanation why the verb must take a directional particle when both DO and IO precede the verb. However the directional particle in these circumstances functions as disambiguity. Since both Benefactive and Goal phrases are introduced by gěi, when Goal phrase moves to the front of V, the canonical position for Benefactive

phrase, it is confusing whether it is a Benefactive phrase or Goal phrase. If a directional particle occurs, this question is clarified.

h) We can give no explanation why Goal phrase can not undergo PP adjunction with Type B verbs. This seems to be a lexical idiosyncrasy charateristic of this particular class of verbs. However, the ambiguity of (4) and (5) as is discussed previously can be explained by the different positions of Goal and Source arguments in thematic hierarchy and hence the availability of different derivational rules.

i) The fact that with Type C verbs, we have only double object structure and only DO can be fronted is due to the defective system of the preposition in Chinese. In Chinese we have no preposition to express the relationship held between wèn 'ask' and its indirect object. when Gěi as a preposition precedes a Goal phrase, it indicates that the action of V causes the entity expressed by Theme to move along some path to the place expressed by Goal phrase. When it precedes a Benefactive phrase, it indicates that the action of V on Theme will benefit whoever expressed by Benefactive phrase. It is easy to see that the action of wèn can not benefit whoever expressed by Theme phrase, nor can it cause its direct object to move along some path to where the entity expressed by indirect object is. Therefore, gěi can not be used here. Since IO in other positions must be realized as a PP, the only rule available for verbs like wen is V'-reanalysis.

For the verb gěi it is another story. If IO is realized as PP either in pre- or post-verbal position, we have two gěi-phrases together: one is prepositional and the other is verbal. It seems that there is a general restriction that two gěi-phrases can not occur next to each other as is also shown by (19e). This is perhaps a mechanism available in Chinese to achieve clarity.

IV. CONCLUSION

In order to account for the Chinese data, several modifications have been suggested. It seems that the modified framework can work fairly well with both English and Chinese data. However, still some features of Chinese data cannot be explained structurally by the proposed underlying structure and derivational rules. Moreover, the Adjunction and Incorporation rules are rather ad hoc in nature, in that the application of these rules is not triggered by a certain principle or by the interaction of some principles of syntactic theory.

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IO and DO in Chinese can occur in both pre- and post-verbal position, while the same phrases in English can only occur in post-verbal position. This contrast is an indication that the word order in Chinese is still in a state of change and is not fixed yet. Perhaps that is why we need the ad hoc adjunction and incorporation rules to account for the Chinese data.

* I am indebted to Elizabeth Pearce for her valuable comments on the first draft. However, all the flaws in this paper are my own.

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Abstracts

Bauer, Laurie, English vocabulary during the Twentieth century: an experimental approach

On the basis of a systematic random sample of the Supplement to the OED, changes to the sources of loans in English and to the types of formation used in constructing English words in the period 1880-1982 are described. A comparison is made with the statistical survey of English vocabulary 1961-1980 given in Cannon (1987), and reasons for discrepancies are suggested.

Matthewson, Lisa, The negative clitic in Middle High German

The negative clitic in Middle High German is investigated within the framework of recent developments in Government-Binding syntax. An analysis is proposed in which the clitic is generated as the head of NegP, as an affix, and undergoes obligatory raising to the head of TP before S-structure. It is argued that the analysis leads to an elegant explanation of the changes from Middle High German to New High German.

Pearce, Elizabeth, An analysis of negated infinitivals in Middle French

Evidence from Middle French shows essentially two systems for negating infinitives: either there is a strong form non which can stand alone, or there is a weak form ne which requires a supporting adverbial. Analysis of the interaction of these negatives with adverbials and with clitic pronouns shows contrasting syntactic effects: short verb movement is blocked in the presence of non; but, in constructions containing ne, such movement is licensed.

Zhang, Xuezhong, The structure of Chinese dative/benefactive and double object sentences

Chinese sentences including direct objects, indirect objects and benefactives allow for a variety of surface orderings. This paper presents an analysis of the constructions in question which succeeds in accounting for both the permitted and the non-permitted orderings. The analysis is based on proposals in Larson (1988), but, whilst it includes V raising and V' reanalysis, it rejects the use of VP passivization in Chinese. The analysis also involves the use of some adjunctions and is based on a postulation of underlying SVO ordering.

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