FOUR REASONS WHY CHINESE IS NOT AN IMMEDIATE DOMINANCE LANGUAGE

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Sanders and Tai (1972), hereafter ST, propose a non-universal condition on pronominalization and deletion of identical constituents which they term the Immediate Dominance Condition (IDC). ST claim that natural languages fall into two categories: those for which the IDC holds and those for which it does not. They claim, furthermore, that Lebanese Arabic and Mandarin Chinese (among others) are examples of the former category, whereas English is an example of the latter. The aim of this note is to demonstrate that ST’s claim that Mandarin Chinese is an “Immediate Dominance Language” is false - i.e. their claim that “the Immediate Dominance Condition is not merely sufficient but necessary for a language like Chinese” (165) cannot be supported.

The clearest statement of the IDC is to be found in Sanders and Tai (1969) and runs: "identical constituents can be deleted only if they are either immediately dominated by conjuncts of a coordination or by a subordinate clause." That is that, in languages for which the IDC holds, only the underlined constituents of the following two subtrees will be deletable:

(1) a. 
\[ \text{A} \quad \text{A} \]
\[ \text{N} \quad \text{C} \quad \text{X} \quad \text{Y} \quad \text{C} \quad \text{Z} \]

The IDC may thus be considered to predict that there will be languages in which the equivalents of the following English sentences will all be ungrammatical:

(2) a. John likes tea and Mary, cake.
    b. Bill plans and Charlie wants to come tomorrow.
    c. That man, I hit.
    d. The boy that the teacher hit...
    e. The restaurant that I ate in...

because they would be derived from underlying structures in which an identical constituent (underlined) which is not immediately dominated by the conjunct of a coordination or by an S node (circled) has been deleted, or moved:

(2') a. 
\[ \text{S} \quad \text{S} \]
\[ \text{NP} \quad \text{VP} \quad \text{NP} \quad \text{VP} \]
\[ \text{Vi} \quad \text{NP} \quad \text{Vi} \quad \text{NP} \]
\[ \text{John} \quad \text{likes} \quad \text{tea} \quad \text{and} \quad \text{Mary} \quad \text{likes} \quad \text{cake} \]

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(2') b.

(2') c.

(2') d.

(2') e.

ST claim that the predictions made by the IDC hypothesis are correct in that the equivalent sentences in Chinese (and Lebanese Arabic) do not permit deletion in such sentence types:
(3) a.

S
  /    \
/      \ /
NP     VP NP
  |      |
John  xihuan cha

(3') a(i) John xihuan cha, Mary xihuan d angao.
'John likes tea and Mary likes cake.'

a(ii) *John xihuan cha, Mary dangao.

(3) b.

S
  /    \
/      \ /
NP     VP NP
  |      |
Bill dasuan mingtian lai

(3') b(i) Bill dasuan mingtian lai, John yao mingtian lai.
'Bill plans to come tomorrow and John must come tomorrow.'

b(ii) *Bill dasuan, John yao mingtian lai.
(Bill plan John must tomorrow come)

(3) c.

S
  /    \
/      \ /
NP     VP
  |      |
wo  dale neige ren

(3') c(i) neige ren, wo dale ta.5
(that man I hit him) 'That man, I hit.'
(3) d.

(3') d(i)  
\[
\text{xiansheng kanjian ta de nanhaizi...}  
\]
(teacher saw him boy)  
The boy that the teacher saw...

(3) e.

(3') e(i)  
\[
\text{wo zai fanguan chi fan de fanguan}  
\]
(I at there ate rice restaurant)  
The restaurant that I ate (rice) in...

In (3a) and (3b) no further reduction is possible at all, and in (3c), (3d) and (3e) pronominalization of the identical NP takes place.

When the NP to be deleted is in subject position (and hence immediately dominated by S) however, deletion is obligatory:

(4) a.  
\[
dale wo de neige nanhaizi  
\]
(hit me that boy)  
The boy who hit me

b.  
\[
*ta dale wo de neige nanhaizi  
\]
(he hit me that boy)

So far, Chinese and Arabic show exactly the same grammaticality paradigms with respect to deletion versus pronominalization. However, ST point out that the Chinese sentences with pronominal reflexes have alternative forms
where deletion of a constituent not immediately dominated by S apparently has taken place:

(3') c(i)  neige ren wo dale ta.
  (ii)  neige ren, wo dale.
   d(i)  xiansheng kanjian ta de nanhaizi...
   (ii)  xiansheng kanjian de nanhaizi...

They then show that this can be correlated with the fact that Chinese has a "passive" transformation which raises an object NP to subject position, whereas Lebanese Arabic does not. Thus (3')c(ii) would be the result of the passive transformation, not topicalization, and (3')d(ii) would be the result of applying deletion to the derived P-marker resulting from the application of the passive transformation to P-marker (3d). The P-markers of the relevant passives are shown in (5).

(5) a.

```
      S
     /\   \\
    /   \  \\
   NP  VP  \\
      /\   \\
     /  PP  \\
    / \  V  \\
   NP P  NP

neige ren (bei) wo dale
(that man by me hit)
'That man was hit by me.'
```

(5) b.

```
      S
     /\   \\
    /   \  \\
   NP  VP  \\
      /\   \\
     /  PP  \\
    / \  V  \\
   NP P  NP

nanhaizi (bei) xiansheng kanjian de nanhaizi
(boy by teacher see boy)
'The boy that was seen by the teacher...'
```

In support for their argument ST show that for one of those verbs in Chinese which take direct objects but which do not allow passivization, namely ai 'love', only object topicalization with a pronominal reflex of the object NP ("dislocation", as opposed to true topicalization where deletion takes place) is grammatical:
(6) a. wo ai neige ren
    (I love that man)

   b. neige ren, wo ai ta
      (that man I love him)

   c. *neige ren bei wo ai
      (that man by me love)

   d. *neige ren wo ai
      that man I love

Consequently, if the object NP cannot be raised into superficial subject position (i.e., where it is immediately dominated by $S$) the IDC hypothesis predicts that it cannot be deleted and that such sentences as (6d) will be ungrammatical.

In favour of the hypothesis that Chinese is an immediate dominance language, it must be stated that the application of the IDC to Chinese makes it possible to do away with many of the collection of ad hoc restrictions on Relative Clause Formation given in Hashimoto (1966: 46):

Pronominalization of the shared Nom is obligatory \(\int\) i.e., deletion is not permitted \(-\text{SJH}\) if the latter is immediately preceded by particles like gen, bi, ba, bei, de or gei; if it is a locative noun; if it is dominated by more than one REL formative under the condition described earlier \(\int\) i.e., in a relative clause embedded in a higher relative clause \(-\text{SJH}\); or if it occurs in a subordinate clause.

Since in none of these positions is the NP in question immediately dominated by the highest $S$ of the relative clause, if the IDC is made part of linguistic theory, it will not be necessary to state these conditions in the structural description of the deletion rule itself.

Moreover, another problem faced by Hashimoto will not arise, given the IDC. Hashimoto states (48f) that deletion of an identical NP in a relative clause is obligatory if that NP is in clause initial position:

(7) a. dai yanjing de haizi...
    (wear glasses child)
    'The child that wears glasses...'

   b. *ta dai yanjing de haizi...
      (he wear glasses child)

but she remarks:

....the rule which permutes sentence adverbials to an initial position will affect the position of the shared Nom if the latter is the initial Nom. That is, the rule which makes it possible for \(\int\) (8a) to become (8b):

(8) a. haizi zuotian dai yanjing...
    (child yesterday wear glasses)
    'The child wore glasses yesterday.'

   b. zuotian haizi dai yanjing...
      (yesterday child wear glasses.\') - SJH

will render haizi in the transformed string to be eligible for pronominalization in case haizi occurs as shared Nom in a REL clause \(\int\ldots\).
However,

(8) c. zuotian ta dai yanjing de haizi
     yesterday he wear glasses child
     (the child that he wore glasses yesterday)

is unacceptable.

She is then forced to restate the SD of the rule as

(9) (SADV) Nom [ ... ]

However, a rule which moves an adverb to sentence initial position will leave the (NP, S) constituency relationship unchanged, so, again, the IDC renders additional complication of the structural description of a particular rule unnecessary.

Notwithstanding the advantages of the IDC hypothesis for Chinese, I shall argue that, in terms of the present formulation of the IDC, Chinese is not an immediate dominance language, for the following reasons:

1. Contrary to ST's assertion, none of my informants will accept a sentence such as

(3)d(i) xiansheng kanjian ta de nanhaizi...

with a relative clause-final pronoun as grammatical. For them, only

(3)d(ii) xiansheng kanjian de haizi...

where the object NP has been deleted is grammatical.

Hashimoto (47ff) also cites such sentences as (3)d(i) as ungrammatical and states that deletion is obligatory if the relative clause "ends with the shared Nom".

It might appear that it would still be possible to save the hypothesis that Chinese is an immediate dominance language if one were to impose the (ad hoc) condition that all relative clauses must undergo passivization if the SD for the passive rule is met. However, even this will not work because there are verbs among those that do not permit passivization which still require deletion of their objects in relative clauses. The IDC would predict that ai 'love' (cf. (6) above) would display the following paradigm:

(10) a. wo ai neige ren
     (I love that man)

b. neige ren wo ai ta
     (that man, I love him)  (Dislocation)

c. wo ai ta de neige ren...
     (that man that I love him)  (Relative Clause)

(11) a. *neige ren bei wo ai
     (that man is loved by me)  (Passive)

b. *neige ren, wo ai
     (that man I love)  (Topicalization)

c. *wo ai de neige ren...
     (that man that I love)  (Relative Clause)

But, in fact, it is (11c) which is grammatical and (10c) which is ungrammatical. Even if (10c) is permitted, ST provide no way of generating (11c) since, because (10a) is not passivizable or topicalizable, there is no way of raising
the object *neige ren* into subject position where it can be deleted without leaving a pronominal reflex.

2. If the identical NP is not final in the relative clause, then it may not be deleted. Hence we find the following paradigm:

(12) a. wo dale neige haizi yidun

   (I hit that child one DUN)

   'I gave that child a beating.'

   b. wo dale ta yidun de neige haizi...

      I hit him one DUN that child

      'That child that I gave him a beating...'

(13) a. neige haizi bei wo dale yidun (Passive)

      that child by me hit one DUN

      (that child was given a beating by me)

   b. bei wo dale yidun de neige haizi...

      by me hit one DUN that child

      (that child that was given a beating by me)

(14) *wo dale yidun de neige haizi...

      I hit one DUN that child

      (that child that I gave a beating)

According to ST (p.174f) 13.b, with *bei*, and 14, without, are free variants, but the difference in grammaticality here casts doubt on this assertion and consequently on their analysis of sentences like 3.c.ii as passives and not topicalizations. It might be possible to maintain the ST analysis of such sentences, but only at some cost. Since ST do not specify the exact nature of the relationship between 'passives with *bei*' and 'passives without *bei*', I will take up the suggestion of footnote 8 and consider briefly the feasibility of either the optional selection of *bei* in the Base or a 'bei-deletion' rule.

The former might be accomplished by requiring that *bei* be selected obligatorily if the object of the verb of a relative clause is non-final in that clause. But this cannot be handled by FS-rules, since to identify a relative clause it would be necessary to refer back to an earlier stage in the derivation than the immediately preceding line to discover whether the string in which the node to be rewritten as *bei* occurs is dominated by NP.

The latter alternative of 'bei-deletion' would seem to require a global rule to the effect that the passive marker *bei* may be deleted if the superficial subject of a relative clause, deleted by the deletion rule, was raised to that position from non-final position in its clause.

Quite apart from the technical difficulties involved in stating either of these two alternatives, it is obvious that they are both badly motivated in that they are an attempt to restate what is clearly a question of NP deletion in terms of the deletion of another constituent. The only reason for attempting to do this would be a desire to maintain the IDC for Chinese. But this, as shown above, would lead in any case to other ad hoc restrictions on other rules of Chinese, and also a failure to attain observational adequacy.

3. ST do not specifically deal with the application of the IDC to NP's in subordinate clauses within relative clauses, but both their tree schemata (ST, p.196, cf. p.1 above) and their discussion on p.181 imply that in immediate dominance languages identical NP's will not be deletable if they are dominated
by an S which is not the highest S of the relative clause. The example they cite (ibid.) is in accordance with the predictions made by the IDC, but there are other cases where deletion is possible (but not obligatory) under the conditions given above, e.g.:

(15) a. ni shuo neige ren bu lai
    (you say that man not come)
    'You said that man wasn't coming.'

    b. ni shuo ₃(ça bu lai) de neige ren...
    (you say he not come that man)
    'That man that you said /he/ wasn't coming...'

    c. ni shuo ₃(bu lai) de neige ren...
    (you say not come that man)
    'That man that you said wasn't coming...'

Part of the attractiveness of the IDC proposal would lie in its ability to predict correctly all cases of pronominalization and deletion in Chinese (in relative clauses, at least) but, as these examples show, there are cases where it makes incorrect predictions. If, as seems to be the case, some other principle is required to handle sentences like (15b) and (15c), the argument for attempting to contrive ad hoc analyses which would enable the cases discussed in 1 and 2 above to fit the IDC predictions is still further weakened.

4. Finally, ST (168-170) themselves show that the IDC cannot correctly predict all cases of delectability in co-ordinations. Assuming a principle of recursive co-ordination reduction (cf. Tai (1969), Chapter 2), we find the following derivations in Chinese:

(16) a.

\[ S \]
\[ S \]
\[ NP \]
\[ VP \]
\[ NP \]
\[ VP \]
\[ V \]
\[ NP \]
\[ NP \]
\[ NP \]
\[ NP \]

John dale nǐhaizi
hit girl

John dale nàhaizi
hit boy

'John hit the girl and John hit the boy.'

b.

\[ S \]
\[ NP \]
\[ VP \]
\[ NP \]
\[ VP \]
\[ V \]
\[ NP \]
\[ NP \]

John dale nǐhaizi
da
dale nàhaizi

'John hit the girl and hit the boy.'
c.

\[
\text{S} \\
\quad \text{NP} \quad \text{VP} \\
\quad \quad \text{V} \quad \text{NP} \\
\quad \quad \quad \text{NP} \quad \text{NP} \\
\quad \quad \quad \quad \text{John} \quad \text{dale} \quad \text{núhaizi} \quad \text{gen} \quad \text{nanhaizi}
\]

'John hit the girl and the boy.'

(17) a.

\[
\text{S} \\
\quad \text{S} \quad \text{S} \\
\quad \quad \text{NP}_j \quad \text{VP} \quad \text{NP}_j \quad \text{VP} \\
\quad \quad \quad \text{V} \quad \text{NP}_i \quad \text{V} \quad \text{NP}_i \\
\quad \quad \quad \quad \text{John} \quad \text{dale} \quad \text{nanhaizi} \quad \text{John} \quad \text{tile} \quad \text{nanhaizi} \\
\quad \quad \quad \quad \text{hit} \quad \text{boy} \quad \text{kicked} \quad \text{boy}
\]

'John hit the boy and John kicked the boy.'

b.

\[
\text{S} \\
\quad \text{NP} \quad \text{VP} \\
\quad \quad \text{VP} \quad \text{VP} \\
\quad \quad \quad \text{V} \quad \text{NP}_i \quad \text{V} \quad \text{NP}_i \\
\quad \quad \quad \quad \text{John} \quad \text{dale} \quad \text{nanhaizi} \quad \text{tile} \quad \text{nanhaizi}
\]

'John hit the boy and kicked the boy.'

c.

\[
\text{S} \\
\quad \text{NP} \quad \text{VP} \\
\quad \quad \text{V} \quad \text{NP} \\
\quad \quad \quad \text{V} \quad \text{V} \\
\quad \quad \quad \quad \text{*John} \quad \text{dale} \quad \text{tile} \quad \text{nanhaizi}
\]

(John hit kicked boy)
In (16b) the verb *dale* is "immediately dominated by a conjunct of a co-ordination", and the sentence (16c) resulting from its deletion is grammatical; and in (17b) the NP nanhai zi is also "immediately dominated by a conjunct of a co-ordination" but the sentence resulting from its deletion, (17c), is not grammatical. ST state (170):

- since objects are sister constituents of verbs, if predicate co-ordinations are reducible to object co-ordinations by deletion of an immediately dominated verb, we should expect that they should be reducible to verb co-ordination by the deletion of an identical object, which is presumably also immediately dominated by the predicate conjuncts. But for all languages of the Chinese type, the latter reduction would yield sentences which are consistently ungrammatical or deviant, as shown in (21) (17c). The characteristic deviance of verb co-ordinations in immediate dominance languages thus remains unexplained at present.

In the light of the other objections to the IDC given above, this problem would seem to be of even greater magnitude.

I have shown that the predictions made by the IDC hypothesis, at least in the form proposed by Sanders and Tai (1969), are not in accordance with the facts of Chinese, and that attempts to juggle the rules of Chinese to preserve the IDC lead to otherwise unmotivated analyses and technical difficulties. The conclusion must be, therefore, that Chinese is not an immediate dominance language. However, in view of the simplification of the statement of the identity deletion rule in relative clauses which the IDC would make possible, it would be unfortunate if the IDC were to be rejected completely. I propose, therefore, to compare the IDC with another approach to the same problem (at least, as far as relative clauses are concerned), that of Keenan and Comrie (1972).

Keenan and Comrie state(1): "In a study of restrictive relative clause formation (RCF) in over 40 languages, we have found that the relativizability of certain NP positions is not independent of others, and further that the dependencies are the same in all languages studied." These "dependencies" are diagrammed in the following "Accessibility Hierarchy" (ibid.):

1. Subject ⪯ DO ⪯ IO ⪯ Prep ⪯ Poss-NP ⪯ O-Comp-Particle
   2. if X ⪯ Y and Y dominates Z then X ⪯ Z

(' ⪯ ' means 'greater than or equal to in accessibility')

This states that if, say, indirect objects (IO) are "relativizable" in a given language, then direct objects (DO) and subjects will be too. Keenan and Comrie also claim(7) that "certain facts concerning the cross language distribution of personal pronouns in the NP _Rel_[relativizable NP]_ position can be explicated in terms of the hierarchy", and predict that, on a language-specific basis, pronouns will tend to be retained in the relatively more inaccessible NP _Rel_ positions, supporting their prediction with the following table (op. cit. p. 8):
<table>
<thead>
<tr>
<th>Language</th>
<th>Subj.</th>
<th>DO</th>
<th>IO</th>
<th>OPrep</th>
<th>PossNP</th>
<th>Obj-comp-part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hebrew</td>
<td>(+)/-</td>
<td>(+)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Arabic</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Persian</td>
<td>-</td>
<td>(+)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Chinese</td>
<td>-</td>
<td>(+)12</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Welsh</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Batak</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Shona</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(+)</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Malay</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

KEY: + means that pronoun retention is obligatory given that RCF is possible into that position. - means that no pronoun is retained (given the possibility of RCF in that position). (+) means optional retention; X/Y means that in some cases X, in some cases Y. A blank indicates either that we lack the data or that no relativization into the given position is possible using any strategy.

For three of the positions it seems possible to redefine Keenan and Comrie's categories in terms of dominance relations. (For example: subject = immediately dominated by S; DO = immediately dominated by VP; OPrep = immediately dominated by PP), and if the others can be given a natural interpretation in terms of dominance relations, too, it can be seen that ST's proposal and Keenan and Comrie amount to the same thing, except that ST's proposal is too strong and a generalization is being missed. In classifying languages as either immediate dominance languages (i.e., those whose only subjects NP, Rel are deleted) or non-immediate dominance languages, they fail to distinguish different sub-categories of non-immediate dominance languages, as Keenan and Comrie have shown can be done in terms of the Accessibility Hierarchy. Chinese is thus a language in which NP, Rel can be deleted if they are immediately dominated by VP (provided that Rel, they are clause final), and also, as implied by the Accessibility Hierarchy, when they are immediately dominated by S.

Although the Keenan and Comrie proposals provide a superior treatment of pronominalization and deletion in relative clauses to the IDC, a number of the problems discussed above still remain. I do not know what the answer to the verb co-ordination problem posed by ST, and discussed in 4 above, is, but it is interesting that in Keenan and Comrie's terms one is forced to state that object deletion in relative clauses is permissible in some cases but not in others, and the co-ordination problem concerns the non-deletability of object NP's (also in non-final position, as it happens). It would seem to be worth investigating this area further to see whether the Accessibility Hierarchy is applicable to other cases of pronominalization and deletion.

/Addition in proof: Bernard Comrie has informed me that recent work has necessitated certain changes in the preliminary version of the chart reproduced above. Batak should strictly be marked 0 in the DO column since direct objects in Batak can only be relativized via passivization followed by relativization on Subj. In the Obj-comp-part column Welsh is +, Shona is +/-, and in Malay comparative particles are not distinguished from prepositions. Keenan and Comrie now consider that 'Other oblique' would be a less misleading heading for the column marked 'OPrep'./
NOTES

I would like to thank Tak-him Kam for first drawing this problem to my attention, and also Chin-tsu Chen and J. S-P Lo for acting as informants. Thanks are also due to Ed Keenan for allowing me to reproduce material from Keenan and Comrie (1972).

See ST p.163, fn.3 for a list of language falling into these two categories.

Quoted in Tai (1969) p.93.

See ST p.185 for a discussion of their claim that all movement rules should be replaced by pairs of copying and deletion rules, a discussion of which may be found in ST p.172. Except where I explicitly challenge their analysis, ST's rules are not in dispute.

No overt marker of co-ordination occurs in sentence and VP co-ordination is Chinese. In NP co-ordination the (optional) marker of co-ordination is gen (or one of its free variants).

See ST p.170ff for a discussion of Topicalization.

Mandarin Chinese has pre-nominal relative clauses with an invariable marker de between the relative clause and its head noun.

But see discussion on p.123 below.

The passivized agent is normally preceded by bei. ST's proposal would imply either that bei is optional in the Base or that it is optionally deleted by a transformation.

Note that the IDC correctly predicts that in the following sentence with xiansheng as the head noun the passivized agent of the relative clause will not be deletable, since it is no longer immediately dominated by S:

```
S
  /\      \ NP
S     NP  NP
  /\      /\   \
NP    VP   NP
P  PP   \    \   \
NP  V   NP  NP
i  P    \    \  \
beizhi xiansheng dale de xiansheng
boy by teacher hit de teacher

i. *nanhaizi bei dale de xiansheng...
ii. nanhaizi bei ta dale de xiansheng...
   'The teacher that the boy was hit by Rim/...'
```
10 With the structure:

```
S
   /\  \\
  NP  VP
     /\   \ \\
    V   NP  MEASURE
     \   /  \
      wo  dale neige haizi yidun
```

11 'Relative Clause' is necessary here because
neige haizi wo dale yidun
and neige haizi bei wo dale yidun
are both grammatical, as full sentences.

12 In the light of the preceding discussion, this entry should be +/-.

13 Keenan and Comrie's table has a blank here, but Chinese has obligatory pronominalization of the NP in this position, as can be seen from the following example:

```
wo bi te gao de neige haizi
(I than him tall that child)
'the child that I am taller than[him]'

*wo bi gao de neige haizi
(I than tall that child)
```

14 In Chinese it is plausible to claim that the 'subject' and DO form a natural class, in that they are both 'dominated by a node which is equal to or higher than VP', whereas all the other positions can be construed as the natural class of "NP's dominated by nodes lower than VP". (In fact, apart from possible differences in labelling, they may all reasonably be claimed to have identical constituent structure. I do not know whether the same sort of difference in constituent structure would account for the other languages cited by Keenan and Comrie.)

BIBLIOGRAPHY


