A Cartographic Approach to Multiple-Modal Constructions in Mandarin Chinese

Abstract
This paper presents a rigid hierarchy of modals to account for the ordering restrictions of multiple-modal constructions in Mandarin Chinese (henceforth MC) in a cartographic approach. To begin with, I distinguish modality into three major types appropriate to MC: epistemic modals, including necessity and possibility, root modals, including obligation, permission, volition, and ability, and future modals. Then I examine the interpretations of certain main modals and, according to it, I attribute each of them to a proper class, summarized as in the following table:

<table>
<thead>
<tr>
<th>Epistemic</th>
<th>Necessity: yinggai</th>
<th>Root</th>
<th>Obligation: yinggai, bixu, dei, yao</th>
<th>Future: hui</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Possibility: keneng</td>
<td></td>
<td>Permission: de, keyi, neng/nenggo</td>
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<td></td>
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<td>Volition: ken</td>
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<td></td>
<td>Ability: neng/nenggou, hui, keyi</td>
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</table>

Next, I discuss two main approaches to the ordering restrictions of multiple-modal occurrences. On the one hand, Lin and Tang (1995) and Lin (2006) contend that, epistemic modals are raising predicates and root modals are control predicate, and the finiteness properties of their TP complements determine the sequencing constraints. On the other hand, Cinque (1999), Butler (2003), Tsai (2008), among others, claim that modals are not verbs and there exists a stringent hierarchy of modals in the syntax and/or at LF. I address five points to argue against the “modals as verbs” approach (MAVA) and for the cartographic approach (CA), showing that the latter will better account for the ordering restrictions. First, epistemic modals can appear sentence-initially as in (1). Second, in MC, state predicates taking clausal complements can immediately precede aspect markers, while modals cannot, as in (2). Third, yinggai ‘should’, which crosses the epistemic and root classes, exhibits only the epistemic reading when occurring before sentence-level adverbs xinyundi ‘luckily’ as in (3). Fourth, unlike epistemic modals, root modals do not allow an aspectual construal within their scope as in (4). Fifth, for clauses with symmetric predicates, the symmetric relations only remain valid under epistemic readings, but not root ones as in (5). All the above-mentioned facts cannot be anticipated by MAVA, whereas they are exactly as expected by CA.

In the end, I map out the entire hierarchy of modals step by step. To handle the problematic subject-epistemic modal sequence, I propose that in MC subjects tend to move to topic positions higher than where epistemic modals stand. Furthermore, by comparing relevant distributions among modals, we observe that epistemic necessity modals precede possibility modals as in (6), which in turn precede future and root modals as in (7). Subsequently, we find that future modals and obligation modals compete for the same position, possibly T⁰, as in (8), and they both occur before the remnant subtypes of root modals as in (9). Finally, we reach the hierarchy in (10).
Examples

(1) ??yinggai/keneng Zhangsan mingtian hui lai.
   should/be-likely Zhangsan tomorrow will come
   ‘It should be the case/It is likely that Zhangsan will come tomorrow.’

(2) *ta bixu/ken/keyi le/guo/zhe kaiche.
   he must/be-willing/can Prf/Exp/Dur drive

(3) ta yinggai xinyundi dai zai jiali, ?(chai neng tao guo le na yi jie.)
   he should luckily stay at home then can escape Exp Prf that one disaster
   ‘It should be the case that luckily he stayed at home so that he could escape the disaster.’

(4) *Akiu yinggai/keyi qu le Taipei.
   Akiu be-required/be-premitted/be-able go Prf Taipei

(5) Zhangsan bixu/ken/keyi kanqilai xiang Hushi.
   Zhangsan must/can look like Hushi
   ‘Zhangsan is required/is able to look like Hushi.’ ≠ ‘Hushi is required/is able to look like Zhangsan.’

(6) ta yinggai keneng chuxi.
   he should be-likely present
   ‘It should be the case that he is likely to be present.’

(7) ta keneng hui/bixu chuxi.
   he be-likely will/must present
   ‘It is likely that he will/is required to be present.’

(8) ta *(hui) bixu/dei/yao/yinggai *(hui) chuxi.
   he will must will present
   ‘He is required to be present.’

(9) ta hui/bixu ken/keyi/neng chuxi.
   he will/must be-willing/can/can present.
   ‘He will/must be willing/be able/be permitted to be present.’

(10) subji > epistemic necessity > epistemic possibility > ti > future/obligation >
     permission/volition/ability

Selected References


