The loss of morphology and the emergence of analytic structures in Chinese

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Introduction

- **Morpho-syntax of vP in Archaic Chinese and its diachronic development in Middle Chinese**
  - Proposal: Archaic Chinese (10\(^{th}\) – 3\(^{rd}\) c. BCE) had derivational morphology, which was hosted in little vP (adopting the structure proposed in Ramchand (2008)), its loss was one of the triggers for a change of Chinese from a more synthetic to an analytic language.
  - A distinction in terms of analyticity between Modern and Old Chinese proposed e.g. in Huang (2010, 2015), Huang and Roberts (2017), and Feng (2015), despite the fact that traditionally Chinese has been considered highly analytic throughout its history.

- The relevant property of Modern Chinese:
  - Overt light verb constructions, indicating “a general property of ‘high analyticity’” (Huang and Roberts 2017), where Old Chinese lacks light verbs (see e.g. Feng 2015) and resorts to denominalized unergative intransitives, similar to English.
Introduction

• Typical cases are: *da yu* ‘do fish’, English ‘to fish’, *da dianhua* ‘do phone’, English ‘to phone’ etc. ↔ Archaic Chinese without a light verb.

(1) 譬之 若[vP 漁 深 淵], 其[vP 得魚] 也 大，
Pì zhī ruò yú shēn yuan qí dé yú yě dà
‘It is like fishing in a deep swirl, the fish one catches will be big.’ (*Lüshi chunqiu* 8·4·2·4)

• Changes in vP in Chinese: attributed to the loss of former affixation (e.g. Mei 1980), phonetic simplification, and changes in the prosodic structure of the word (Feng 2017).

• Numerous proposals for the function of the affixes of Archaic Chinese.
Introduction

• Morphologically marked causatives in Archaic Chinese

(2) a. 遠之則怨 a’. 明德遠矣
yuàn zhī zé yuàn míng dé yuǎn yǐ
cause.distant Obj then angry bright virtue distant SFP
‘If one keeps them at a distance, ‘his brilliant virtue is far reaching.’
then they become angry.’ (Analects, LAC)(Zuozhuan, LAC).

b. 當 [使 遠] 是 因緣]
dāng shǐ yuǎn shì yīnyuán
should cause distant this cause
‘... you should remove these causes, ...’ (Daoxing borejing, EMC)
Introduction

• Morphologically marked resultatives in Archaic Chinese:

(3) a. 政 以 治 民，
Zhèng yǐ chí(*r-de) mín
Government YI regulate people,
‘The government is necessary in order to regulate the people;’ (Zuŏzhuàn, LAC)

c. 如是 治 已，而 梵 德 王，
Rúshì zhì yǐ ér fàn dé wáng
Such ordered YI and brahma-virtue king
‘After everything was ordered like this, ... (Taisho 190, 54, 6th c.)
Function of the reconstructed *-s suffix of Archaic Chinese

- Chinese writing system
- Phonological studies: the core of indigenous philological studies in China since the Han period (202 BCE–9 CE, 25–220 CE); this is since Early Middle Chinese.
- Representation of the pronunciation of one character by two separate characters in commentaries to Classical Chinese – possibly under the influence of Indian philology;
- The first character representing the initial, and a second representing the rime of the word written by the respective character: the so-called fanqie 反切 system.
- The basis for the systematic collection of characters in rime dictionaries and rime tables.

(4) a. 治: 直 基切  
   MM chí: zhí jī (qiē)  
   EMC dri: dr(ik k)i (tsʰɛt)

   b. 治: 直 吏切  
   zhì: zhí lì (qiē)  
   driʰ: dr(ik l)iʰ (tsʰɛt)

(cf. Jin 2006: 322)
Function of the reconstructed *-s suffix of Archaic Chinese

• Chinese writing system

• The phonology of Archaic Chinese: reconstructed to a great extent on the basis of this system, on cross-linguistic comparison with other Tibeto-Burman languages (Hill 2019 and references therein), on transcriptions of Buddhist terminology, and on evidence from Modern Chinese dialects.

• EMC in historical phonology (Pulleyblank: 1991): the beginning of the 7th century, when the \textit{Qieyun}, the first extant Chinese rime dictionary, had been compiled (601 CE).

• EMC phonologically ≠ EMC discussed in my project, which is established according to syntactic changes (roughly 2\textsuperscript{nd} c. BCE – 5\textsuperscript{th} c. CE).

• Syntactically, EMC: starting at the end of the Late Archaic period (5\textsuperscript{th} – 3\textsuperscript{rd} c. BCE) when the loss of transparency of the former morphological system caused multiple changes in the grammar of the language.
Function of the reconstructed *-s suffix of Archaic Chinese

• Chinese writing system
• Phonological changes and the loss of affixation: also generated the tonal system of Chinese (probably starting during the Han period (206 BCE–220 CE).
• Two different features as triggers for tonogenesis in Chinese:
  • 1) the loss of the suffixes *-ʔ, and *-s, which caused a distinction in contour tones, resulting in the rising (shangsheng) and the falling (qusheng) tones, respectively, and
  • 2) a register distinction caused by a voicing alternation in the initial consonant.
• Particularly the latter is subject to debate.
Function of the reconstructed *-s suffix of Archaic Chinese

• Chinese writing system
• Voicing alternations in Mei (2012), Sagart & Baxter (2012) (from Sagart & Baxter 2012: 45)

<table>
<thead>
<tr>
<th>Word</th>
<th>AC: Mei/B&amp;S</th>
<th>MC</th>
<th>MM</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>敗</td>
<td>*brads/N-pʼrat-s</td>
<td>bwai [baejH]</td>
<td>bèi</td>
<td>ruined/defeated</td>
</tr>
<tr>
<td>敗</td>
<td>*s-brads/ pʼrat-s</td>
<td>pwai [paejH]</td>
<td>bèi</td>
<td>to ruin, to defeat</td>
</tr>
<tr>
<td>別</td>
<td>*brjat/ N-pret</td>
<td>bjat [bjet]</td>
<td>bié</td>
<td>to be different/leave</td>
</tr>
<tr>
<td>別</td>
<td>*s-brjat/pret</td>
<td>pjat [pjet]</td>
<td>bié</td>
<td>‘lift up’</td>
</tr>
</tbody>
</table>
Function of the reconstructed "*-s" suffix of Archaic Chinese

• Archaic Chinese: two different affixes that were realized as *s: 1) a denominalizing (causative) prefix *s-; and 2) a suffix *-s (Haudricourt 1954), which is relevant in the present project.

• For readings related to resultativity, two different derivational affixes have been proposed in the literature:
  a) a suffix *-s and; b) a prefix which causes a voicing alternation.

  a) The suffix *-s (Haudricourt 1954, Downer 1959, Unger 1983, Sagart 1999, Jin Lixin 2006, etc.) (‘Derivation by tone change’: an alternation of stems of one of the three tones (even, rising, entering) into the falling tone qùshēng; developed from an *–s coda, weakening to -h and further to the qùshēng (Haudricourt (1954).
Function of the reconstructed *-s suffix of Archaic Chinese

- Downer (1959) on suffix *-s: (a) derives nouns from verbs; (b) derives verbs from nouns; (c) derive causatives; (d) derives effectives; (e) restricts the meaning of a word; (f) derives passives or neutrals; (g) derives adverbials; (h) derives basic forms for lexical composition
- More recent analyses: a) a valency decreasing and b) a valency increasing suffix (e.g. Schuessler 2007, Xing and Schuessler 2020)
- A few examples (from Jacques 2016) for some of the derivations:

<table>
<thead>
<tr>
<th>Word</th>
<th>Function</th>
<th>AC</th>
<th>MC</th>
<th>MM</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>高/高</td>
<td>Nominalization</td>
<td>OCM*kâu/ kâuʰ</td>
<td>kaw/kawʰ</td>
<td>gāo/gào</td>
<td>high/hight</td>
</tr>
<tr>
<td>家/嫁</td>
<td>Verbalization</td>
<td>*kˤra/ *kˤra-s</td>
<td>kae/kaeʰ</td>
<td>jiā/jià</td>
<td>family/marry</td>
</tr>
<tr>
<td>買/賣</td>
<td>Causitivization</td>
<td>*mˤrajʔ/ *mˤrajʔ-s</td>
<td>meaʸ/ meaʰ</td>
<td>mài/mài</td>
<td>buy/sell</td>
</tr>
</tbody>
</table>
Function of the reconstructed *-s suffix of Archaic Chinese

a) The valency decreasing suffix *-s indicating result

<table>
<thead>
<tr>
<th>Word</th>
<th>AC: tone A,B/C</th>
<th>MC</th>
<th>MM</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>治</td>
<td>*lrə/*lrə-s</td>
<td>dri/dri</td>
<td>chí/zhì</td>
<td>order/be ordered</td>
</tr>
<tr>
<td>過</td>
<td>*kʷˤaj/*kʷˤaj-s</td>
<td>kwa</td>
<td>guō/guò</td>
<td>pass/passed, overstepped (mistake)</td>
</tr>
<tr>
<td>散</td>
<td>OCM*sânʔ/*sâns</td>
<td>san</td>
<td>sàn/sàn</td>
<td>scatter/be scattered</td>
</tr>
</tbody>
</table>

- Chinese derivational process: compared to Tibetan and other Tibeto-Burman languages;
- The suffix (OC *-s, *-h) has been proposed to be related to the Tibeto-Burman suffix –s (Unger 1983, Schuessler 2007: 42, Huang 1992, Jin 2006, Jacques 2016), still to a certain extent productive in the earliest Tibetan documents from the 6th c. CE (Saxena (1997)).
Function of the reconstructed *-s suffix of Archaic Chinese

- Jin (2006): many of the changes are subsumable under a change from the imperfective to the perfective aspect

- Perfective form, referring to a resultant state, has subsequently been employed as an adjective or a noun → perfective aspect often involves a deverbialization process, resulting in adjectives and nominals. Comparison with the Tibetan verbal system:

(5) a. Imp (Present) Perf (Past) Future Imperative
   *make cha bcas bca’ chos (Saxena 1997: 280)
   *chop nthub btubs btu thubs (Beyer 1992: 252)

b. nags-la rgyal-po-s sin-∅ btubs
   forest-loc king-agent[ERG] wood-patient chop-Perf/past
   ‘The king chopped wood in the forest.’ (Beyer 1992: 252)
Function of the reconstructed *-s suffix of Archaic Chinese

b) The suffix *-s indicating an increase of valency (can appear in alternation with the rising tone)

- Jin’s (2006): a ‘giving’ derivation (2006: 360f); one of the major derivational classes of the *-s –suffix, applies to many verbs with an outward reading such as verbs of giving, helping etc.

(6) a. 買 mǎi *mrê-ʔ tr. ‘to buy’
    b. 賣 mài *mrê-s tr. (‘to let buy’:) ‘to sell’

(7) a. 視 shì *gi-ʔ tr. ‘to look at’
    b. 示/視 shì *gi-s tr. (‘to let someone look at sth.’:) ‘to show’
Function of the reconstructed *-s suffix of Archaic Chinese


• *Qu*sheng words in Unger

<table>
<thead>
<tr>
<th></th>
<th>total</th>
<th>Verbs, including adjectives, (deverbal nouns)</th>
<th>Noun only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>960</td>
<td>636</td>
<td>217</td>
</tr>
<tr>
<td>Tone alternation</td>
<td></td>
<td>178 (6 + initial alternation)</td>
<td>Nres/theme</td>
</tr>
<tr>
<td>Initial alternation</td>
<td></td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

• This is checked against the word list of Baxter and Sagart and against Pulleyblank, which causes considerable additions.
Function of the reconstructed *-s suffix of Archaic Chinese

• Example of a noun in *qusheng* alternating with a verb in the even tone

(8) a. 是淺者之傳，陋者之說也， (Xunzi, Zhenglun)

Shì qiǎn zhě zhī zhuàn(*N-tron-s*)  lòu zhě zhī shuō yě

This lowRELGEN tradition poorRELGEN speech SFP

‘This is the tradition of the low and the speech of the poor.’

b. 父子相傳， (Xunzi, Rongru)

Fù zǐ xiāng chuán(*m-tron*)

Father soneach. other pass.on

‘Father and son pass on to each other.’
Function of the reconstructed *-s suffix of Archaic Chinese

• Example of an adverb in *qusheng* alternating with a verb in the even tone

(9) a. 在此行也，晉不更舉矣，(Zuozhuan, Xi 5)

Zài cǐ xíng yě Jìn bù gèng(*kʕraŋ-s) jǔ yǐ

Be.at thisbehavior SFPJin NEG again riseSFP

‘Due to this behavior, Jin did not rise again.’

b. 吾曰，猶將更之， (Zuozhuan, Xiang 28)

Wú yuē yóu jiāng gēng(*kʕraŋ) zhī

1P say still FUT change 3Obj

‘I say, we will still change it ...’
Discussion of verbs: Morphologically marked verbs

- Proposal: The basic function of the suffix *-s as an overt res head in the sense of Ramchand (2008) with both unaccusative/intransitive and causative/transitive verbs.

(10) initP (causing projection

    DP3
    subj of ‘cause’

    init

    procP

    DP2
    subj of ‘process’

    proc

    resP

    DP1
    subj of ‘result’

    res

    XP
Discussion of verbs: Morphologically marked verbs

• Similar to McFadden’s (2015) proposal for the Old English prefix *ge-, for which proposals are similarly diverse as they have been for the Old Chinese suffix *-s.

\(11\)a. *ac hēo hæfde gecoren Crist hŷre to brŷdguman*
   
   But she had chosen Crist her to bridegroom
   
   ‘... but she had chosen Christ as her bridegroom.

b. *Sē geworhte ealle þing*
   
   He created all things
   
   ‘He created all things.’ (McFadden 2015)
Discussion of verbs: Morphologically marked verbs

• Tests proposed in Ramchand (2008) for the determination of verbs with a res-head:

  • a) resultant state PPs: describing the final location of the UNDERGOER-RESULTEE in a dynamic event.

  • b) incompatible with ‘for an hour’ in English (Ramchand: 2008: 84) in predications as ‘enter the room’: they do not form explicit resultatives because the rhematic position is already filled by the DP object, but they are like typical [init, proc, res] class with respect to this constraint.

  • This is different in Chinese which allows durational adverbials with resultant states (Ernst, 1987, Meisterernst 2015).

  • c) anchoring of the event structure to tense: a single lexical item identifies both proc and res, the event expressed is punctual. The verb identifies both an initiaional state and the result state → all three subevents must be interpreted as overlapping: the process portion is reduced to a single instantaneous change.
Discussion of verbs: Morphologically marked verbs

• The most straightforward cases: Simple resultatives in unaccusative constructions UNDERGOER₁-RESULTEE₁

(12) a. 若以邪臨民，陷而不振，(Guoyu, Luyu shang)
Ruò yǐ xié lín mín xiàn ér bù zhèn (*tər-s)
If with bad approach people sink CON NEGregulate
‘If one approaches the people with badness, they will sink and not be consolidated.’

b. 今天下已定，法出一，(Shiji: 6; 255, EMC)
Jīn tiān xià yǐ dìng (*N-tʻen-s) fǎ líng chū yī,
Now empire Perf establish law order go.out one ...
‘Now, the empire has been / is pacified and all the laws and orders are issued from one point; ...’
Discussion of verbs: Morphologically marked verbs

- Simple resultatives in unaccusative constructions; (12d) INITIATOR, UNDERGOER, RESULTEE

(12) c. 曰：宦三年矣，未知母之存否。 (Zuozhuan, Xuangong 2)

Yuē huàn (OCM*gwrâns) sān nián yī
Say employ three year SFF_COS
wèi zhī mǔ zhī cún fǒu
NEG Asp know mother GEN be.there NEG
‘He said: I have been employed for three years, and I haven’t learned whether my mother is still alive or not.’ → resultant state duration

d. 不對而退，見大子。 (Zuozhuan, Min 2)

bù duì ér tuī(*n'[u]p-s) jiàn tàizǐ
NEG answer CON withdraw meet heir
‘he did not answer and withdrew and met the heir.’
Discussion of verbs: Morphologically marked verbs

• Analysis of intransitive/unaccusative UNDERGOER₁-RESULTEE₁

(13) the empire has been / is pacified

e. \textit{procP}

\begin{center}
\begin{tikzpicture}

\node (e) {empire} child {node (p) {\textit{empire}} child {node (r) {\textit{res}} child {node (x) {<establish> \ \textit{XP}}}} child {node (o) {\textit{establish}} child {node (c) {\textit{proc}}}}}
\end{tikzpicture}
\end{center}
Discussion of verbs: Morphologically marked verbs

- With a local PP, expression a final point
- Examples with resultant state PPs: describing the final location of the UNDERGOER-RESULTEE in a dynamic event (Ramchand 2008)
- Transitive/causative: INITIATOR-UNDERGOERI-RESULTEEI

(14) 召莊公于鄭而立之，(Zuozhuan, Huan 2)
zhào(*[d]raw-s)Zhuāng gōng yú Zhèngér lì zhī
Call Zhuang duke to Zheng CON enthrone 3Obj
‘He called duke Zhuang to Zheng and enthroned him.’

- Unaccusative/intransitive: UNDERGOERI-RESULTEEI

(15) 我小人也，衣服附在吾身，(Zuozhuan, Xianggong 31)
Wǒ xiǎo rén yě yī fú fù(*N-p(r)οʔ-s) zài wú shēn
1P small person NOM clothes clothes attach at 1P body
‘I am a small man, the clothes are attached to my body.’
Discussion of verbs: Morphologically marked verbs

• With a local PP, expression a final point
• Intransitive
• Verbs such as ‘arrive’: INITIATOR₁-UNDERGOER₁-RESULTEE₁ (Ramchand 2008)

(16) a. 王 至 自 鄭， (Guoyu, Zhouyu zhong)
   Wáng zhì(*ti[t]-s) zì Zhèng
   King arrive from Zheng
   ‘the king arrived from Zheng,’

b. 地 南 至 于 餅 隱， (Guoyu, Qiyu)
   Dì nán zhì yú Táoyīn
   Land south reach Prep Taoyin
   ‘In the south, the land reached up to Taoyin.’
Discussion of verbs: Morphologically marked verbs

• Analysis of intransitive and transitive INITIATOR-UNDERGOER₁-RESULTEE₁

(17) He called duke Zhuang to Zheng
    The king arrived from Zheng

```
c. initP
  |    |
  Pro/king init
    |    |
  call/arrive procP
    |    |
  Zhuang/king proc
    |    |
  call/arrive resP
    |    |
  Zhuang/king res
    |<call/arrive> PlaceP
```
Newly emerging structures to express [proc] or [res]

- Early Middle Chinese (2\textsuperscript{nd} c. BCE-2\textsuperscript{nd} c. CE), (3\textsuperscript{rd} – 6\textsuperscript{th} c. CE): syntactic changes due to the loss of the former morphology
  a) Disyllabification in order to make the process or result heads of the verb visible
  b) The emergence of new syntactic structures expressing result

- Important in diachronic syntax: six criteria which have to be met in order to establish a syntactic cognacy relation: (i) the verbs, with which the case marking patterns are associated, are entirely cognate; (ii) the tense, aspect and verb class are the same in each pair, (iii) the individual verbal morphemes are cognate, (iv) the meaning is the same, (v) cases occur regularly in the context of other cases and in the context of particular verb morphology, (vi) the examples are representative of all regular verbs. (Harris & Campbell 1995, cf. Walkden 2013.)
Newly emerging structures to express [proc] or [res]

a) Disyllabification in order to make the process or result heads of the verb visible

• 至 zhì(*ti[t]-s) ‘arrive’ > 往至 wǎngzhì ‘go arrive’ (Hu 2016), [proc] visibly added, Modern Mandarin (Basciano 2010)

(20) a. 三戰三北，乃至于吳。 (Guoyu, Jinyu 2)

Sān zhàn sān bèi nǎi zhì(*ti[t]-s) yú Wú
three fight three flight then arrive PREP Wu
‘After three fights and three flights, they arrived in Wu.’

b. 即往至屋所，

jí wǎngzhì wū suǒ
then go.arrive house place,
‘... they went and arrived at the place of the house, ...’ (Taisho 1462, 8, 6th c)
Newly emerging structures to express [proc] or [res]

a) Analysis of 往至 wǎngzhì ‘go arrive’ (Hu 2016), [proc] visibly added

(21) INITIATOR₁-UNDERGOER₁-RESULTEE₁
Newly emerging structures to express \[\text{proc}\] or \[\text{res}\]

b) New resultative constructions

- Loss of derivational morphology $\rightarrow$ emergence of new structures, new causatives and resultatives $\rightarrow$ emergence of the Modern Chinese system of aspectual markers.

- EMC: resultative marker \(yǐ\) 已 grammaticalized (among others) from a verb ‘finish’, the source structure of the Modern Chinese perfective marker (Aldridge and Meisterernst 2018) \(le\) 了.

(25) a. 如是治已，而梵德王，睡眠不覺。\textit{(Taisho 190, 54, 6^{th} c. CE)}

\begin{verbatim}
Rúshì zhì yǐ ěr fàndé wáng shuìmián bù jué
Such ordered YI and brahma-virtue king sleep NEG wake.up
‘After everything was ordered like this, ...'
\end{verbatim}
Newly emerging structures to express [proc] or [res]

b) New resultative constructions: UNDERGOER$_1$-RESULTEE$_1$

(27)
Conclusion

• This preliminary study of the *-s suffix in Archaic Chinese as basis of my project proposes:
• The basic function of the suffix is the overt morphological realization of a res head, following Ramchand’s first phase syntax.
• This generally accounts not only for intransitive/unaccusative verbs, but also for transitive/ causative verbs.
• EMC: The function of the suffix had become entirely opaque for the language learner.
• Different structures develop, which in different ways replace the former morphological marking of the res-head.
• An overt res-head has been proposed for Modern Mandarin in Basciano (2010).
References


