

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

Barbara Meisterernst

Stuttgart University,

bmeisterernst@gmail.com

Introduction

- **Morpho-syntax of vP in Archaic Chinese and its diachronic development in Middle Chinese**
- Proposal: Archaic Chinese (10th – 3rd 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 yuān qí dé yú yě dà

Compare 3Obj be.like to.fish deep swirl GEN get fish NOM big

‘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;' (Zuǒzhuàn, LAC)

b. 於是 宋 治。
yúshì Sòng zhì(*r-de-s)
thereupon Song ordered
'... and thereupon Song was
well ordered.' (Zuǒzhuàn)

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.)

d. 張三 擦乾了 玻璃。
Zhāngsān cā-gān-le bōli.
Zhang San wipe-dry-LE glass
'Zhang San has wiped the glass dry.'
(Sybesma 1999:69)

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	b.	治:	直	吏	切 (cf. Jin 2006: 322)
	MM	chí:	zhí	jī (qiē)		zhì:	zhí	lì	(qiē)
	EMC	dri:	dr(ik-k)i	(ts ^h ɛt)		dri ^h :	dr(ik-l)i ^h		(ts ^h ɛt)

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 *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 2nd c. BCE – 5th c. CE).
- Syntactically, EMC: starting at the end of the Late Archaic period (5th – 3rd 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)

Word	AC: Mei/B&S	MC	MM	Meaning
敗	*brads/N-p ^ɿ rat-s	bwai [baejH]	bài	ruined/defeated
敗	*s-brads/ p ^ɿ rat-s	pwai [paejH]	bài	to ruin, to defeat
別	*brjat/ N-pret	bjat [bjet]	bié	to be different/leave
別	*s-brjat/pret	pjat [pjet]	bié	'lift up'

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:

Word	Function	AC	MC	MM	Meaning
高/高	Nominalization	OCM*kâu/ kâu ^h	kaw/kaw ^h	gāo/gào	high/hight
家/嫁	Verbalization	*k ^ɚ ra/ *k ^ɚ ra-s	kae/kae ^h	jiā/jià	family/marry
買/賣	Causitivation	*m ^ɚ rajʔ/ *m ^ɚ rajʔ-s	mea ^x / mea ^h	mǎi/mài	buy/sell

Function of the reconstructed *-s suffix of Archaic Chinese

a) The valency decreasing suffix *-s indicating result

Word	AC: tone A,B/C	MC	MM	Meaning
治	*lɾə/*lɾə-s	dri/dri ^H	chí/zhì	order/be ordered
過	*k ^w aj/*k ^w aj-s	kwa/kwa ^H	guō/guò	pass/passed, overstepped (mistake)
散	OCM*sân?/*sâns	san ^x /san ^H	sǎn/sàn	scatter/be scattered

- 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 deverbalization process, resulting in adjectives and nominals. Comparison with the Tibetan verbal system:

(5) a.

	Imp (Present)	Perf (Past)	Future	Imperative
<i>make</i>	cha	bcas	bca'	chos (Saxena 1997: 280)
<i>chop</i>	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

- Basis for the investigation: *qusheng* words in *Glossar des Klassischen Chinesisch* (Unger 1989), in Pulleyblank (1991), Jin (2006), Baxter & Sagart (2014).
- *Qusheng words in Unger*

	total	Verbs, including adjectives, (deverbal nouns)		Noun only
	960	636		217
Tone alternation		178 (6 + initial alternation)	Nres/theme	27
Initial alternation		11		

- 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 zhězhī **zhuàn**(*N-tron-s) lòu zhězhī 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 son each.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 xìng yě Jìn bù gèng(*k^ɿraŋ-s) jǔ yǐ
Be.at thisbehavior SFPJin NEG again riseSFP

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

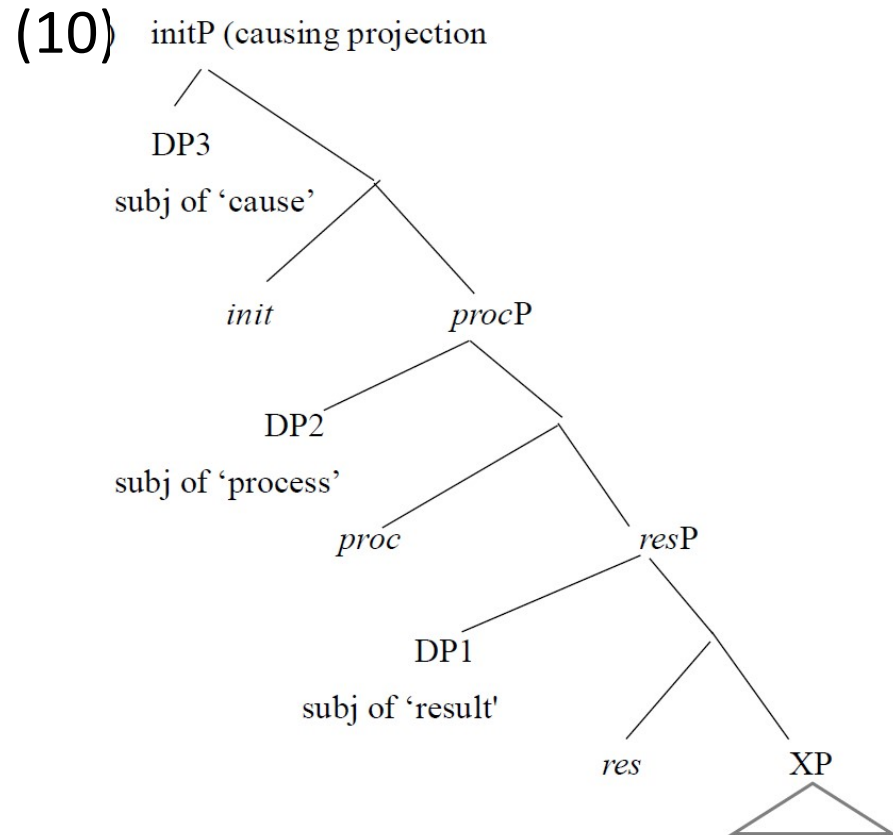
b. 吾曰，猶將更之， (*Zuozhuan, Xiang 28*)

Wú yuēyóujiāng gēng(*k^ɿraŋ) 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.



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 hýre to brýdguman*

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 initiational 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 UNDERGOER_i-RESULTEE_i

(12) a. 若以邪臨民，陷而不振， (*Guoyu, Luyu shang*)

Ruò yǐ xiélín mǐn xiànr ér bù zhèn (*tər-s)

If with bad approach people sink CON NEG regulate

‘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 tiānxià yǐ dìng(*N-tʻeŋ-s) fǎ lìng 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) INITIATOR₁- UNDERGOER₁-RESULTEE₁

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

Yuē huàn (OCM*gwrâns) sān nián yǐ
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)

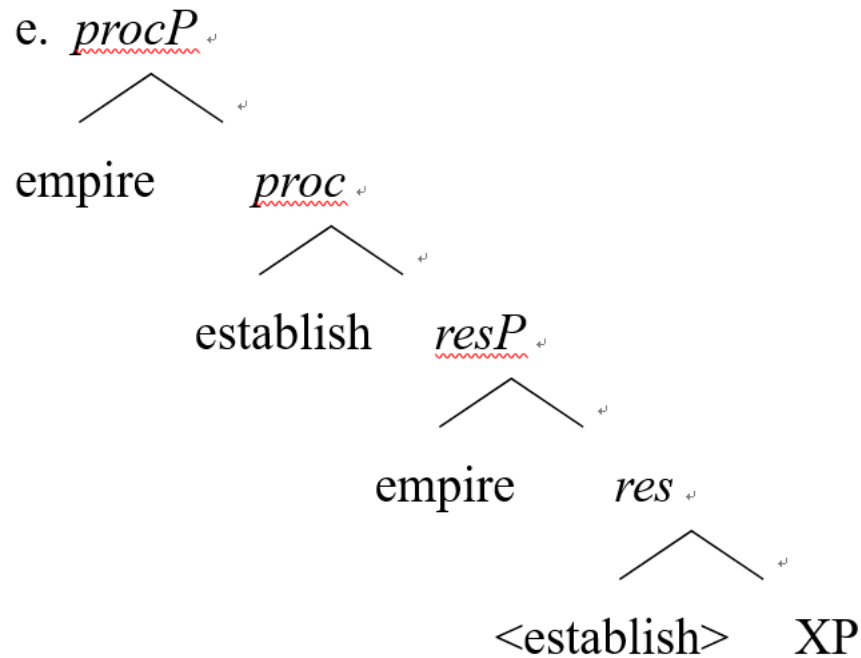
bù duì ér tuì(*ŋ^ʰ[u]p-s) jiàn tài zǐ

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



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-UNDERGOER_i-RESULTEE_i

(14) 召莊公于鄭而立之， (*Zuozhuan, Huan 2*)

zhào(*[d]raw-s) Zhuāng gōng yú Zhèng ér lì zhī

Call Zhuang duke to Zheng CON enthrone 3Obj

‘He called duke Zhuang **to Zheng** and enthroned him.’

- Unaccusative/intransitive: UNDERGOER_i-RESULTEE_i

(15) 我小人也，衣服附在吾身， (*Zuozhuan, Xianggong 31*)

Wǒ xiǎo rén yě yī fú fù(*N-p(r)o?-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. 地南至于餽陰 , (*Guoyu, Qiyu*)

Dì nán zhì yú Táoyīn

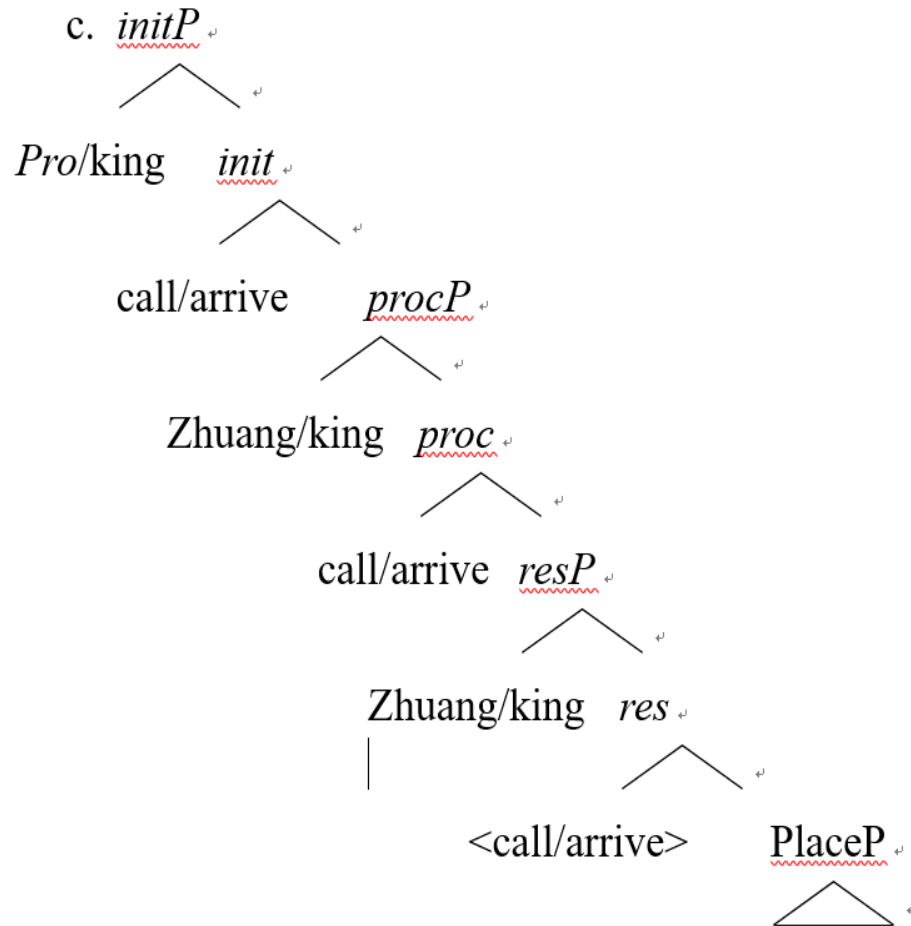
Land south reach Prep Taoyin

‘In the south, the land reached up to Taoyin.’

Discussion of verbs: Morphologically marked verbs

- Analysis of intransitive and transitive INITIATOR-UNDERGOER_i-RESULTEE_i

(17)



He called duke Zhuang to Zheng/
The king arrived from Zheng

Newly emerging structures to express [proc] or [res]

- Early Middle Chinese (2nd c. BCE-2nd c. CE), (3rd – 6th 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

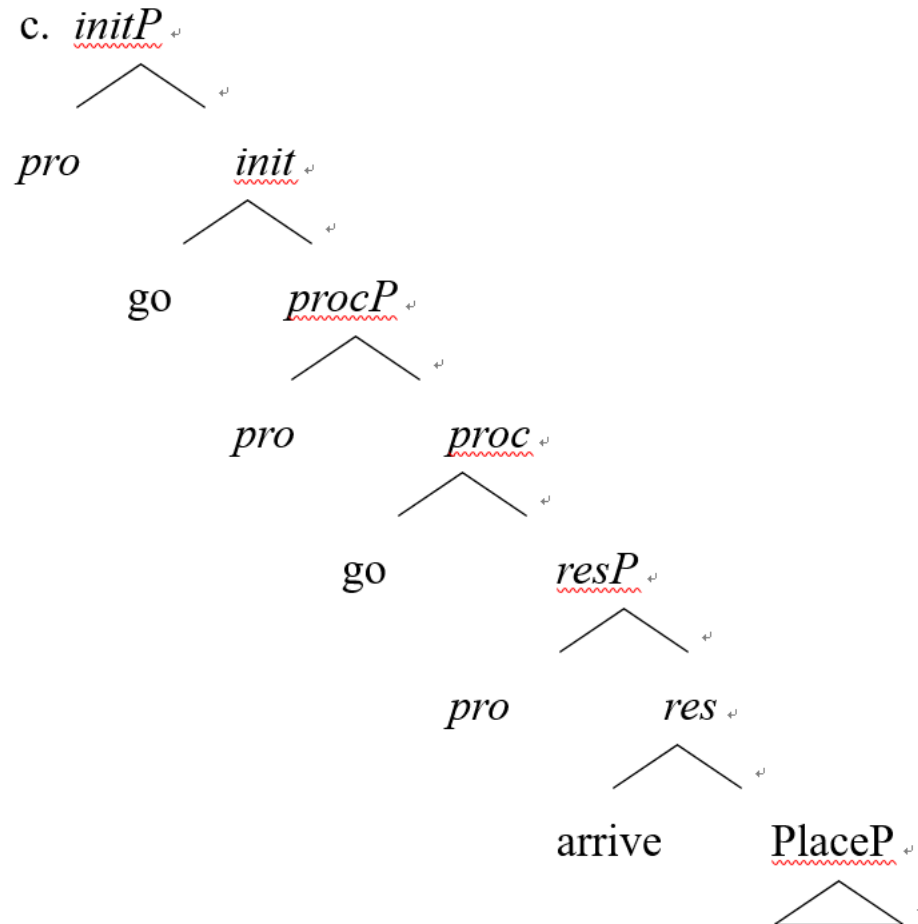
then **go.arrive** house place,

‘... 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 [proc] or [res]

b) New resultative constructions

- Loss of derivational morphology → emergence of new structures, new causatives and resultatives → 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。 (*Taisho* 190, 54, 6th c. CE)

Rúshì **zhì** **yǐ** ér fàndé wáng shuìmián bù jué

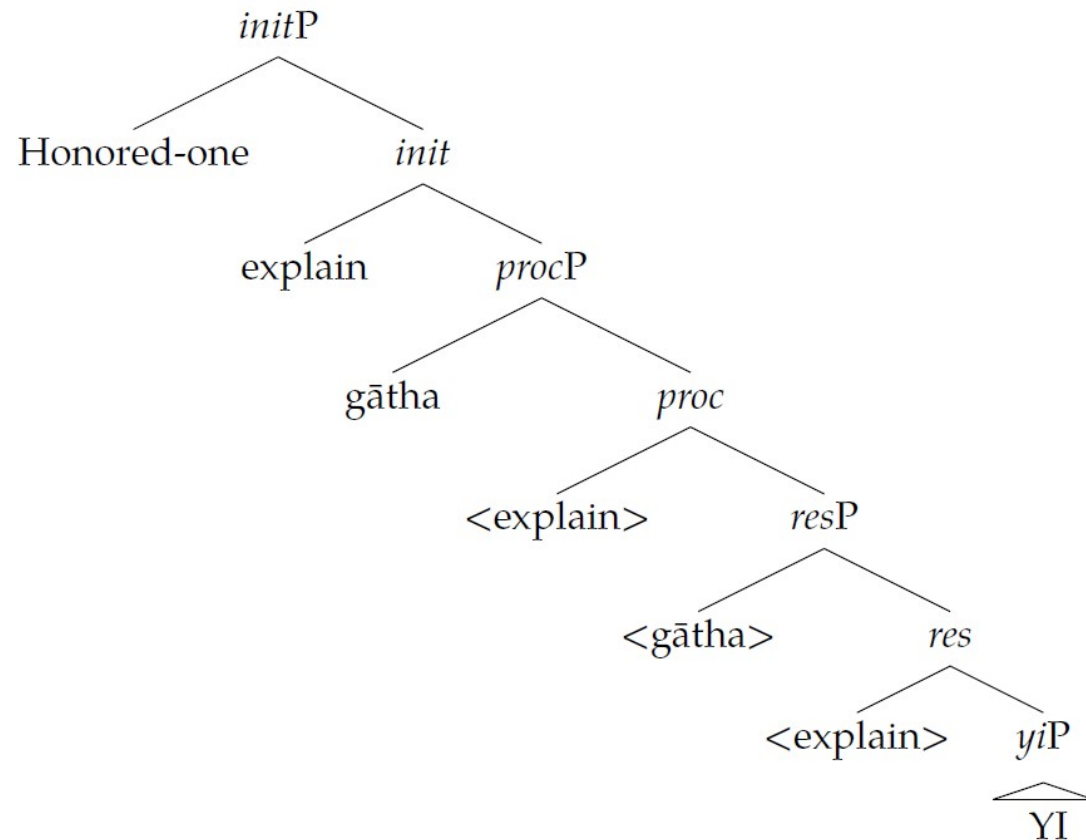
Such ordered YI and brahma-virtue king sleep NEG wake.up

‘After everything was ordered like this, ...

Newly emerging structures to express [proc] or [res]

b) New resultative constructions: UNDERGOER₁-RESULTEE₁

(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

- Basciano, Bianca. 2010. *Verbal compounding and causativity in Mandarin Chinese*, PhD. dissertation, University of Verona.
- Baxter, W. H., and Laurent Sagart (2014). Old Chinese reconstructions.
<http://ocbaxtersagart.lsa.umich.edu/BaxterSagartOCbyMandarinMC2014-09-20.pdf>.
- Huang, James, Roberts, Ian. 2017. Principles and Parameters in Universal Grammar. In Roberts, Ian (ed.). *The Oxford Handbook of Universal Grammar*. Oxford: OUP.
- Jin Lixin. 2006. *Shanggu Hanyu xingtai yuanjiu* [Morphology in Archaic Chinese]. Hefei.
- Meisterernst, B. 2019. A new approach on the modal KE 可 and the relation between the aspectual and the modal system in Archaic Chinese. *New perspectives on Aspect and Modality in Chinese Historical Linguistics, Frontiers in Chinese Linguistics*. B. Meisterernst (ed.), Springer & Peking University Press: 159-189.
- Ramchand, Gillian C. 2008. *Verb Meaning and the Lexicon*. Cambridge: CUP.