An OT analysis of *guping*

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Roadmap

- Background
- What is *guping*（孤平）？
- Analysis
- Discussion
- Further questions

History

	Dynasty	Poetry
'gutishi' (古体诗)	Western Zhou	*'The Classics of Poetry'* 《诗经》
	Han	*Yuefu* (乐府) poetry
'jintishi' (近体诗)	Tang –	Regulated Verses

Basics of regulated verses

Regulated verses have strict restrictions on

1. the number of syllables;
2. the tone patterns;
3. the rhyme of each line;
4. antitheses between a pair of lines.

Main focus of this presentation: $1 + 2$

Basics – Lines

4 lines – 绝

登鹳雀楼

王之涣

白日依山尽，
黄河入海流。
欲穷千里目，
更上一层楼。

Lines

- Each poem must have either 4 or 8 lines.
- Each line must have either 5 or 7 syllables.
- Every two lines form a couplet（联）.

8 lines – 律

酬乐天扬州初逢席上见赠

刘禹锡

巴山楚水凄凉地，
二十三年弃置身。
怀旧空吟闻笛赋，
到乡翻似烂柯人。
沉舟侧畔千帆过，
病树前头万木春。
今日听君歌一曲，
暂凭杯酒长精神。

Basics – Tones

Tone categories

Classical	Category	Modern
level（平）	Even	tone 1 + 2
rising（上） departing（去） entering（入）	Oblique	tone 3 + 4

Templates

		initial tone	
		even	oblique
length	five	a. Couplet 5E: **E**EEOO **O**OOEE Couplet 5O: **O**OEEO EEOOE	b. Couplet 5O: **O**OEEO EEOOE Couplet 5E: **E**EEOO **O**OOEE
	seven	c. Couplet 7E: **E**E**O**OEEO **O**OEEOOE Couplet 7O: **O**O**E**EEOO **E**E**O**OOEE	d. Couplet 7O: **O**O**E**EEOO **E**E**O**OOEE Couplet 7E: **E**E**O**OEEO **O**OEEOOE

Observations

- 7-syllable lines are extensions of 5-syllable ones.
- The first four syllables have pairs of repeating tones.
- Each tone has an opposite correspondent at the same position in the other line of the same couplet.
- The final syllables of odd-numbered lines are always oblique, and that of even-numbered line are always even.
- Bold positions allow tones from the opposite category.
    - Odd-numbered positions
    - '1-3-5' Rule: 'Licence for 1, 3, and 5, strictness for 2, 4, and 6' (Wang 1957).

What is *guping*（孤平）？

Lone Even

No inversions are allowed at:

- the 1st character of the second line in a five-syllable O-initial couplet (Couplet-5O), and
- the 3rd character of the second line in a seven-syllable E-initial couplet (Couplet-7E).

to avoid a lone even tone in a line.

	no inversion	with inversion
Couplet-5O	EEOOE	OEOOE
Couplet-7E	OOEOOE	OOOEOOE

Remedies

Remedy 1 – intra-line:

	with 'Lone Even'	remedy
Couplet-5O	OEOOE	OEEOE
Couplet-7E	OOOEOOE	OOOEEOE

Remedy 2 – inter-line:

	with 'Lone Even'	remedy
Couplet-5O	OOEEO OEOOE	EOEEO OEOOE
Couplet-7E	EEOOEEO OOOEOOE	EEEOEEO OOOEOOE

Well ... but ...

Problem

- The generalisation and remedies have little explanatory power.
- Offer few insight as to *why* these positions are prohibited from inversions or *why* it is the E tone that cannot be 'lone' in a line.

Analysis

I believe ...

Guping and its remedies can be derived from more general restrictions found in regulated verses, including:

- alternation;
- non-alternation.

Alternation

To avoid monotony

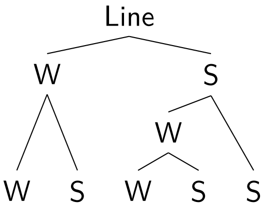
Tones need to **differ from their neighbours** to some extent.

Evidence

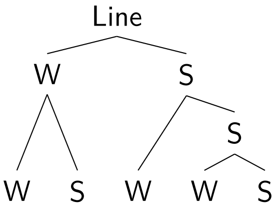
- The number of tones from the same category never exceeds **three**.
- Relative prominence alternates

Arboreal analysis (Yip 1980)

OOEEO and EEOOE lines:

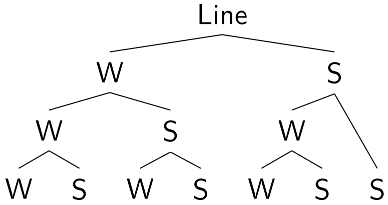


OOOEE and EEEOO lines:

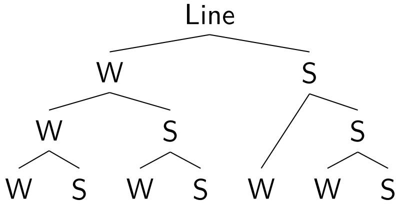


Arboreal analysis (Yip 1980)

OOEEOOE and EEOOEEO lines:



OOEEEOO and EEOOOEE lines:



Grid analysis (Napoli 1989)

EEOOE lines:

			x	x	
x	x	/	x	x	x

OOEEO lines:

x	x				x
x	x	/	x	x	x

EEEOO lines:

				x	x
x	x	/	x	x	x

OOOEE lines:

x	x		x		
x	x	/	x	x	x

OOEEOOE lines:

x	x				x	x	
x	x	x	x	/	x	x	x

EEOOEEO lines:

		x	x				x
x	x	x	x	/	x	x	x

OOEEEOO lines:

x	x					x	x
x	x	x	x	/	x	x	x

EEOOOEE lines:

		x	x		x		
x	x	x	x	/	x	x	x

Non-Alternation

To avoid sudden changes

- Every non-final position has at least one neighbour from the same tone category.
- In other words, no ‘EOE’ or ‘OEO’.

Non-Alternation

		initial tone					
		even			oblique		
length	five	a.	Couplet 5E	**E**EEOO **O**OOEE	b.	Couplet 5O	**O**OEEO EEOOE
			Couplet 5O	**O**OEEO EEOOE		Couplet 5E	**E**EEOO **O**OOEE
	seven	c.	Couplet 7E	**E**E**O**OEEO **O**OEEOOE	d.	Couplet 7O	**O**O**E**EEOO **E**E**O**OOEE
			Couplet 7O	**O**O**E**EEOO **E**E**O**OOEE		Couplet 7E	**E**E**O**OEEO **O**OEEOOE

Proposal – intra-line

Constraint	Assign one violation for ...
a. Bin-E	each non-final E tone being flanked by two O tones.
b. Bin-O	each non-final O tone being flanked by two E tones.
c. Odd-Inver	each inversion occurring in an even-numbered position.
d. No-Inver-Fin	each inversion occurring in the final position of a line.

Result

	EEOOE	Bin-E	Odd-Inver	No-Inver-Fin	Bin-O
a. ☞	OEEOE				*
b.	OEOOE	*!			
c.	OOOOE		*!		
d.	OEOEE	*!	*		*
e.	OEEOO			*!	

Result

	OOEEOOE	Bin-E	Odd-Inver	No-Inver-Fin	Bin-O
a. ☞	OOOEEOE				∗
b.	OOOEOOE	∗!			
c.	OOOOOOE		∗!		
d.	OOOEOEE	∗!	∗		∗
e.	OOOEEOO			∗!	

Discussion

non-alternation	$\Leftrightarrow$	even when looking at abstracted higher-level categories, the tendency for tones to spread across multiple TBUs (Hyman 2011)
neighbours from the same tone category	$\Leftrightarrow$	the generalisation that many tonal languages avoid rapid excursions of pitch in a short time (McPherson 2016, Cahill 2007, Yip 2002)
alternation	$\Leftrightarrow$	The 'up-to-three' pattern resembles the limit on tonal spreading to two adjacent TBUs (Jardine 2020, Odden 2001)

Conclusion & Further questions

Conclusion

The optimal template shape of Regulated Verses is not merely a choice to the poets' liking, but the most balanced option under the tension between natural-language tendency of tones to spread vs. the rhythmic alternation of poetry.

Further questions

Inter-line remedies and sublinearity (Breiss & Albright 2022)?

References

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