

An OT analysis for *guping* in regulated verse

Overview: This paper provides an OT analysis of the *guping* 孤平 phenomenon and one of its remedies (拗救) in regulated verse and shows that *guping* does not need to be formulated as a separate rule; it naturally falls out from the interaction between constraints that require tones to alternate in a line and those that require tones to *not* alternate too abruptly at the same time.

Background (Wang 1957, 1962): Regulated verse has templates that specify the tone category (either even 平 or oblique 仄) allowed in each position (1). Position 1 of pentasyllabic lines and positions 1 and 3 in heptasyllabic lines are generally ‘free’ and permit the use of the opposite tone category (aka. ‘inversions’). Line-final positions (grey) are never free.

(3) Position 1 in the EOOE line and position 3 in the OOEEOE line (yellow), which could have been free, are in fact not free. This is because using O instead of E in these positions leads to *guping*, a phenomenon where only one E tone appears in the non-final positions of a line (red, 2a), and *guping* must be avoided. When the use of O in these positions is inevitable, one way to

save the line is to change the O in the position immediately after the ‘lone E’ into E (green, 2b). The templates show that: ① Only odd-numbered positions can be free. ② Non-final characters must have at least one neighbour from the same tone category.

Proposal: Based on the generalisations made above, one can arrive at the constraints in OT (Prince & Smolensky 1993) terms shown in (3). Hence, with the optimal line shape being the UR, the solution to *guping* can be chosen from candidates with the possible changes to the line, using the interaction of these constraints (4). BIN-E and BIN-O are the key constraints for non-alternation, and the *guping* case (4b) is penalised for lacking binarity. ODD-INVER ensures that, even if an E ends up having no neighbour from the same category, remedies should be sought in odd-numbered positions only i.e., removing the non-binary E (4c) or adding an E (4d) is not a solution. NO-INVER-FIN keeps ‘EOE’ at the end of a line as it is (i.e., don’t change to ‘EOO’) even though non-alternation is violated, because no inversion is allowed at line-final positions (5e). Seven-syllable lines work analogously (5). Under this proposal, *guping* does not need to be construed as a separate rule and why it is banned can be explained by the existing tonal preferences of regulated verse.

(1) Templates		initial tone	
		Even	Oblique
length	5	EEEEOO	OOEEO
		OOOEEO	EEOOE
		OOEEOO	EEEEOO
		EEOOEO	OOOEEO
	7	EEOOEEEO	OOEEEOO
		OOEEOOE	EEOOOEEO
		OOEEEOO	EEOOEEO
		EEOOEEEO	OOEEOOE
		OOEEOOE	OOEEOOE
		EEOOEEEO	OOEEOOE
(2)	a. with <i>guping</i>	b. solution	
5O	OEOOL	OEOOE	
7L	OOEEOOL	OOEEOOE	

(3) Constraint	Assign one violation for ...
BIN-E	each non-final E tone being flanked by two O tones.
BIN-O	each non-final O tone being flanked by two E tones.
ODD-INVER	each inversion occurring in an even-numbered position.
NO-INVER-FIN	each inversion occurring in the line-final position.

(4)	EEOOE	BIN-L	ODD-INVER	NO-INVER-FIN	BIN-O
a. ☞	OEEEOE				**
b.	OEOOE	*!			*
c.	OOOEOE		*!		
d.	OEOEE	*!	*		**
e.	OEEEOO			*!	*
(5)	OOEEEOE	BIN-L	ODD-INVER	NO-INVER-FIN	BIN-O
a. ☞	OOOEEEOE				*
b.	OOOEEEOE	*!			
c.	OOOEOOE		*!		
d.	OOOEOEE	*!	*		*
e.	OOOEEEOO			*!	