Pinning down prominence relations in action events – evidence from Mandarin sentence production

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Speakers manipulate word order to indicate the prominence of a particular entity. For example, the prominent entity is Patient in English passive sentences (e.g., Putin in "*Putin was kicked by Obama"*) but Agent in active sentences (e.g., Obama in "*Obama kicked Putin*"). Is there a scale of prominence? In other words, is there a difference between secondary prominence and no prominence? Our study tested 183 Mandarin speakers in four experiments to investigate this. Mandarin's canonical order is SVO (1) but it also has non-canonical constructions for highlighting Patient: topicalisation (2), left-dislocation (3), focalisation (4), *BEI*-structure (5) and *BA*-structure (6).

(1) SVO *Obama ti-dao le Putin.*
(2) Topicalisation *Putin, Obama ti-dao le*
(3) Left-dislocation *Putin, Obama ti-dao le ta.*
(4) Focalisation *Shi Putin bei Obama ti-dao le.*
(5) *BEI*-structure *Putin bei Obama ti-dao le.*
(6) *BA*-structure *Obama ba Putin ti-dao le.*

Ti-dao (kick-fall); *le* (aspect-marker ASP); ta (3rd-person-singular); *shi* (focus-marker)

Experiment 1-3 used confederate-scripted priming paradigm (Branigan, Pickering, & Cleland, 2000) where a participant and a confederate took turns to describe pictures and judge if the other's description matched their own picture. Confederate always gave description first using (1), (2), (3) or an intransitive (e.g. *Pujing ku le*, "Putin cried") in Experiment 1 and 2, or using (1), (2), (4) or an intransitive (e.g. *Xia yu le*, "it's raining") in Experiment 3. Participants then described a different picture. In all experiments, participants favoured (1) highlighting Agent across conditions but they were more likely to highlight Patient using (2), (5), or (6) after exposure to (2), (3) or (4) than after (1) ($P < .001$, LMER). We interpret these results as showing interlocutors persist in highlighting a particular thematic role across utterances.

Interestingly, when participants highlighted Patient, they tended to assign it secondary prominence (encoding it after Agent but before verb) using (6) in Experiment 1 (mean = 96%) and 3 (mean = 85%), but primary prominence (encoding it before Agent) using (2), (3) or (5) in Experiment 2 where they were additionally asked a question about the to-be-described picture (mean=85%). This suggests a prior question can influence prominence allocation to different thematic roles. To further test this effect, Experiment 4 had naïve participants describe or ask a scripted question about the to-be-described picture to each other. When questions highlighted Patient (QHP, e.g. *Pujing zenme le*, "what happened to Putin?"), participants dominantly produced (5) assigning Patient primary prominence (84%). However, they tended to assign Patient secondary prominence using (6) when questions highlighted Agent (QHA, e.g. *Aobama zenme le*, 70%) or event as a whole (QHE, e.g. *Fasheng shenme shi le* 'occur what matter ASP', 70%; QHV, e.g. *Fasheng le shenme shi*, 'occur ASP what matter', 64%). These results show an effect of discourse context on prominence assignment ($P < .001$, LMER).

Taken together, our results suggest that there is a scale of prominence and different thematic roles are assigned a different gradient of prominence, at least in Mandarin action events, and that both priming effects and discourse factors can influence speakers in prominence assignment.

Reference:

Branigan, H., Pickering, M., & Cleland, A. (2000). Syntactic co-ordination in dialogue. *Cognition, 75*(2), B13-B25.

Appendix:

Table 1. Prominence allocation in different constructions

Construction	Example	Prominence assignment		
		Primary prominence	Secondary prominence	No prominence
(1) SVO	*Obama ti-dao le Putin.*	Agent	Ø	Patient
(2) Topicalisation	*Putin, Obama ti-dao le.*	Patient	Agent	Ø
(3) Left-dislocation	*Putin, Obama ti-dao le ta.*	Patient	Agent	Ø
(4) Focalisation	*Shi Putin bei Obama ti-dao le.*	Patient	Agent	Ø
(5) *BEI*-structure	*Putin bei Obama ti-dao le.*	Patient	Agent	Ø
(6) *BA*-structure	*Obama ba Putin ti-dao le.*	Agent	Patient	Ø

Table 2. Participants' responses in Experiment 1 (N=48)

Response / Prime	Proportion of patient-prominent responses			Proportion of patient-not-prominent responses
	Primary prominence	Secondary prominence	Secondary prominence out of all patient-prominent responses	No prominence
Topicalisation	1.2%	24.2%	95.5%	74.6%
Left-Dislocation	0.3%	20.3%	98.2%	79.4%
SVO	0	12.6%	100%	87.4%
Intransitive	0.4%	19.5%	98.1%	80.1%

Table 3. Participants' responses in Experiment 2 (N=39)

Response / Prime	Proportion of patient-prominent responses			Proportion of patient-not-prominent responses
	Primary prominence	Secondary prominence	Primary prominence out of all patient-prominent responses	No prominence
Topicalisation	16.4%	5.3%	75.6%	78.3%
Left-Dislocation	15.1%	2.2%	87.1%	82.7%
SVO	10.4%	1.6%	86.4%	88.0%
Intransitive	21.5%	2.4%	90.0%	76.1%

Table 4. Participants' responses in Experiment 3 (N=64)

Response / Prime	Proportion of patient-prominent responses			Proportion of patient-not-prominent responses
	Primary prominence	Secondary prominence	Secondary prominence out of all patient-prominent responses	No prominence
Topicalisation	1.3%	14.6%	91.8%	84.1%
Focalisation	4.2%	13.5%	76.2%	82.3%
SVO	0.3%	5.2%	95.0%	94.5%
Intransitive	1.9%	13.0%	86.8%	85.1%

Table 5. Participants' responses in Experiment 4 (N=32)

Response / Prior question	Proportion of patient-primarily-prominent responses	Proportion of patient-secondarily-prominent responses	Proportion of patient-not-prominent responses
QHP	83.9%	11.6%	4.5%
QHA	0	69.9%	30.1%
QHE	1.5%	69.9%	28.6%
QHV	2.6%	63.6%	33.8%