Adults’ expression of voluntary and caused motion events in Chinese and in English

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Satellite-framed and Verb-framed languages (Talmy)

<table>
<thead>
<tr>
<th>Main verb root</th>
<th>Other</th>
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<tr>
<td>S-framed: MANNER/CAUSE</td>
<td>PATH</td>
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<tr>
<td>V-framed: PATH/CAUSE</td>
<td>MANNER/CAUSE</td>
</tr>
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**English: Satellite-framed**

a. The man **ran across** the street.
b. Hoppy **rolls** the ball **across** the street.

**French: Verb-framed**

a. Le garçon **traverse la rue en courant**
   (‘The boy crosses the street running.’)
b. Popi **traverse la rue en faisant rouler le ballon.**
   (‘Hoppy crosses the street making roll the ball.’)
Chinese in motion event typology (1)

Expressing motion events in Chinese: Resultative Verb Compound (RVC=V1+V2)

[V1 - V2]
Niao    fei - chu        le    dong.
bird   fly - exit/out of -ASP nest
‘The bird flew out of the nest.’

• V1 fei ‘fly’: Manner verb
• Conflicting views regarding the second constituent:
  chu ‘exit’/ ‘out of’: Verb or Particle?
Chinese in motion event typology (2)

Talmy: Chinese is satellite-framed like English

• The second constituent in RVC is a satellite.
  a. Like English verb particles, they form a closed class set with limited members.
     e.g. shang ‘up/ascend’, xia ‘down/descend’, jin ‘into/enter’, chu ‘out of/exit’, guo ‘across/cross’, etc.
  b. It encodes the same semantic content as in English verb particles (i.e. Path).
     English: The bird flies out of the nest.
     Chinese: Niao fei - chu le dong.
Chinese in motion event typology (3)

Slobin: Chinese is “equipollently-framed”

• The second constituent in RVC is better treated as a verb: it can function as a predicate independently (vs. English particles)

  e.g. Niao fei-chu le dong. (‘The bird flew out of the nest.’)
  Niao chu le dong.
  bird exit -ASP nest
  (‘The bird came out of the nest.’)
  Compare: *The bird out of the nest.

• “equipollent”: Manner and Path are expressed by equivalent grammatical forms (e.g. constituent verbs in Chinese RVC).
Chinese in motion event typology (4)

- **Problem in deciding between the two views:** no verb inflections or any other morphological devices are available in Chinese to differentiate a verb from its supporting elements.

- **Present study:** goes beyond the part of speech of a given linguistic element while examining the selection and distribution of spatial information over the entire clause and across utterances in discourse.

Is Chinese satellite-framed or equipollently-framed?
The experiment

• 12 adult native speakers of English;
  12 adult native speakers of Chinese.

• Two spatial production tasks in the form of cartoons:
  a. Voluntary motion (VM) task
  b. Caused motion (CM) task;
Voluntary motion cartoons

- VM: A figure moves in a particular manner (e.g. crawling, swimming) along different paths: up, down and across.
Caused motion cartoons

- **CM:** An agent, by *(pulling or pushing)* causes a figure to move in a certain manner *(rolling or sliding)* along different paths: up, down, into and across.
pull-roll-into

pull-slide-across

push-roll-up

push-slide-down
Information components in VM and CM

Voluntary motion (VM):

- **PATH**: Agent’s path of motion  → up/down/ across
- **MANNER**: Agent’s manner of motion  → crawl/swim/run...

Caused motion (CM):

- **O-PATH**: Object’s path of motion (same as A-path)  → up / down / into / across
- **A-PATH**: Agent’s path of motion (same as O-path)  → up / down / into / across

Different kinds of MANNER information:

- **A**: Agent’s action causing O’s motion  → push/pull
- **AM**: Agent’s manner of motion  → walk (all items)
- **OM**: Object’s manner of motion  → roll/slide
VM and CM: the analyses (1)

- **Information selection** (i.e. Path, Cause and Manner);
- **Information locus** (i.e. position – MAIN VERB or OTHER devices) in which a given motion component characteristically occurs;

Other devices (OTH): prepositions, particles, gerunds (leave swimming), nouns (runner, swimmer), subordinated clauses (go up the hill pushing the ball), etc.

**Note:** Path constituent in Chinese RVC:
- first coded as a verb;
- then re-coded as a satellite.
Voluntary motion

M+P responses are very frequent in both languages:

a. A man jogging across the screen over some grass.

b. Yi ge xiaohuozi pao-guo le malu.
   (‘A young man ran across the street.’)
Voluntary motion: Results of the re-coding

• Similarity between Chinese and English significantly increases under the same “satellital” coding:

   English                               Chinese
Voluntary Motion: Conclusion

When analysing Voluntary Motion situations only, and when coding the second constituent in the RVC as a satellite, Chinese indeed looks exactly like the typical satellite-framed language English. But what if we look at another Motion situation?
CM: information selection

- A language-independent preference for the expression of **Cause = Path > Agent’s action (push / pull) > Manner (walk / roll / slide)**
CM: information locus

[Bar chart showing distribution of information locus in Chinese and English, with categories such as Cause, Path, Action, and Manner.]
Chinese: information locus (1)

Chinese: expressing C and A equally frequently between VERB and OTH

a. BA construction (stressing “affectedness” of objects): 42%
b. ZHE construction (similar to English complex sentences of the type while V-ing): 58%
Chinese: information locus (2)

- BA construction (42%)

Agent  BA  Object  RVC
Ground
Hoppy  ba  pram  pull-cross  street
(‘Hoppy pulled the pram across the street.’)

Information in VERB: C+A+P
Information in OTHER devices: 0
Chinese: info locus and density (3)

- **ZHE construction (58%)**

  
  ![Diagram]

  - **V2=RVC (‘walk-cross’)**
    
    ‘Hoppy walked across the street pushing a pram.’

  - **V2=simplex verb (‘cross’)**
    
    ‘Hoppy crossed the street pushing a pram.’
Chinese: ZHE vs. BA construction

ZHE construction (58%):

- Allows to express additional information component: AM ‘walking’ (i.e. V2=RVC)

- Expresses more sub motion events than BA (i.e. V2=simplex verb)
  e.g. ‘Hoppy went up the hill rolling the ball.’
  --- Hoppy rolled the ball;
  --- The ball went up the hill;
  --- Hoppy went up the hill.
  (compare: ‘Hoppy BA the ball rolled up the hill.’)
CM: information distribution

![Bar charts showing information distribution in English and Chinese.](image)
Re-coding Chinese data “satellitally” (1)

- still striking differences between the two languages:

  English

  Chinese
Re-coding Chinese data “satellitally” (2)

- Re-coding affects Path component only;
- Utterances with a single Path verb are not affected; (e.g. ‘Hoppy ascended the hill pushing a ball.’);
- Chinese shows systematic verb-framing properties (similar to French).
Chinese: an “equipollent” language

• Chinese exhibits both “satellite-framing” (VM) and “verb-framing” (CM) features, depending on specific motion contexts;

• The best way to describe Chinese in motion event typology seems to require placing it mid-way along a verb-framed/satellite-framed continuum, that is, in an “equipollent” position.
Thank You!