Katherine Gerke & Dennis Ryan Storoshenko

Picturing Syntax: Cross-Linguistic Variation in the Interpretation of Emoji Strings

Presented at the Canadian Linguistic Association - May 30-June 1, 2018

1 Multimodal Architecture

Cohn (2016) proposes an extension to Jackendoff's parallel architecture:

This suggests that graphical elements can interact with syntax to construct meaning, as in

I 💖 SK

But, Cohn provides no more tests for this.

2 Suggestive Facts, Good Reasons

Cohn et al (2012) establish that different cultures draw/ read comics differently:

A “Objective” motion lines B “Subjective” motion lines

Will there be cultural differences in reading emoji strings, or will speakers follow their syntax?

Some emoji have different orientations on different devices:

Is it possible that a message will be changed depending on the sending/receiving device?

3 Judgement Task

Participants in three L1 cohorts (English (12), Japanese (12), Lebanese Arabic (6)) were given emoji strings along with a suggested translation. Participants answered “YES” or “NO”

With three emoji orders and two possible interpretations each, all six S-V-O orders were tested.

12 "verbs" were tested, controlling for the direction of action

If speakers impose their syntax to Emoji, we expect different patterns for each group.

If speakers treat Emoji the same way they treat graphical media generally, we may still see differences, but not ones that align to their L1.

4 Results (% Acceptances)

Arabic

<table>
<thead>
<tr>
<th>Arabic</th>
<th>VSO</th>
<th>VO</th>
<th>OSV</th>
<th>VS</th>
<th>OVS</th>
<th>SOV</th>
<th>OSV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leftward</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>16.67%</td>
<td>66.67%</td>
<td>33.33%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rightward</td>
<td>41.67%</td>
<td>41.67%</td>
<td>41.67%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

English

<table>
<thead>
<tr>
<th>English</th>
<th>VSO</th>
<th>VO</th>
<th>OSV</th>
<th>VS</th>
<th>OVS</th>
<th>SOV</th>
<th>OSV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leftward</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>29.17%</td>
<td>4.17%</td>
<td>62.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rightward</td>
<td>37.50%</td>
<td>12.50%</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Japanese

<table>
<thead>
<tr>
<th>Japanese</th>
<th>VSO</th>
<th>VO</th>
<th>OSV</th>
<th>VS</th>
<th>OVS</th>
<th>SOV</th>
<th>OSV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leftward</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>37.50%</td>
<td>4.17%</td>
<td>41.67%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rightward</td>
<td>25.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Arabic participants show a clear reading direction effect, preferring interpretations with the subject at the right.

Arabic participants show little modulation based on symbol direction, sometimes counter to expectation.

Japanese participants show no preference to their L1 SOV word order, instead showing clear judgement patterns based on the image composition and symbol direction.

English participants only reach 100% acceptance when there is no conflict between the SVO syntax and the emoji direction.

5 Conclusion and Next Steps

Free translations were also solicited, but need to be more systematically coded for use of coordination and passive.

Emoji are integrated into L1 syntax as well as cultural norms for interpreting images. There is no evidence for a “universal” emoji language.

Will it always be VSO for Arabic speakers, but SOV for Japanese?

What about 🐱🗡🐮?

Will 🌹 be VSO for Arabic speakers, but SOV for Japanese?

References and Acknowledgements

- Research funded by a University of Calgary Start-Up grant.