These animated slides were designed for the investigation of the syntax of motion events. They may be used as a basis for elicited production (of either narratives or of particular motion events), or for judgments (of either grammaticality or truth value). The narrative was conceived in such a way as to make it accessible to both children and adults.

The Aladdin animation was initially designed to support two judgment tasks, for which sound files with the appropriate stimuli were embedded in the slides. These have been removed to make the presentation easier to adapt for future purposes.

The original target of investigation was the L2 acquisition of the syntax of English prepositional modifiers. The types of modifiers that we investigated can be simply illustrated in English as follows:

<table>
<thead>
<tr>
<th>1 Degree</th>
<th>2 Flow</th>
<th>3 Trajectory</th>
<th>PP</th>
</tr>
</thead>
<tbody>
<tr>
<td>right</td>
<td>on</td>
<td>over</td>
<td>into the cave</td>
</tr>
<tr>
<td>straight</td>
<td>back</td>
<td>through</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>across</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>up</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>down</td>
<td></td>
</tr>
<tr>
<td>Onomatopoeia:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>splash</td>
<td></td>
<td></td>
<td>into the lake</td>
</tr>
</tbody>
</table>

We argued that, rather like modifiers of nouns (i.e. adjectives) and verbs (i.e. adverbs), modifiers of prepositions stack in a fixed order that appears to be universal across languages. Some languages have all three types of spatial modifier (German), some have only the first two types (Hungarian), some have only the first type (French), and some have none (Japanese), but the hierarchy appears to be implicational: if one, then [Degree]; if two, then [Degree [Flow]]; if three, then [Degree [Flow [Trajectory]]]. Sound modifiers in the form of onomatopoeia appear to be in complementary distribution. If there is onomatopoeia in the P-modifier slot, there are no spatial modifiers.

Given that even small differences in real-world context or in the prosody of an utterance can completely change the syntax and the semantic interpretation of a given string, all stimuli in the experiments were tied very closely to particular slides (for context) and particular sound files (for uniformity of delivery).
The combinations of P-modifiers that we targeted were as follows:

<table>
<thead>
<tr>
<th>(a) DEG-FLOW</th>
<th>(a1) straight on, (a2) straight on, (a3) right on, (a4) straight back, (a5) right back, (a6) right back</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) DEG-TRAJECT</td>
<td>(b1) right up, (b2) right down, (b3) straight through, (b4) straight down, (b5) right out, (b6) straight out</td>
</tr>
<tr>
<td>(c) FLOW-TRAJECT</td>
<td>(c1) on through, (c2) on down, (c3) back over</td>
</tr>
<tr>
<td>(d) DEG-FLOW-TRAJECT</td>
<td>(d1) right on up, (d2) right back down, (d3) straight back across</td>
</tr>
</tbody>
</table>

The core descriptions linked to the narrative were as follows, with the italicized elements subject to experimental manipulation.

**EXAMPLE SLIDES**

1: Here is Aladdin. Here is the wizard. Here is a very beautiful lamp.

2: Aladdin and the wizard are going to the cave.

3: Aladdin takes the magic lamp from the wizard.

**STIMULUS SLIDES**

4: He flies right up out of the cave.

5: He flies on through to the outside.

6: He flies straight on over the camels.

7: He flies right on up into the clouds.

8: He goes crash into the birds.

9: The lamp falls right back down onto a tree.

10: The lamp falls on down to the ground.

11: Aladdin flies right down in front of a waterfall.
12: He flies *whoosh over* a lake.

13: Aladdin flies *straight on* under a rock.

14: Aladdin flies *right on* across the desert.

15: He flies *straight through* into the city.

FILLER

16: Oh no! The lamp is not *in his* bag!

17: Aladdin flies *straight back* across the desert.

18: He flies *right back* under the rock.

19: He flies *back over* to the waterfall.

20: He flies *straight down* behind the tree.

21: Aladdin flies *right out* from behind the tree.

22: The wizard falls *splash into* the lake.

23: Aladdin comes *straight out* from behind the waterfall.

24: He flies *straight back across* to the rock.

25: He flies *right back* into the desert.

FILLER

26: Aladdin touches *the lamp*. The genie appears!

Reference: