## Supplementary material 3 (Serial Position Curves beyond lag -1)

When it comes to the shape of the serial position curve, and specifically when it comes to the last-item benefit, there seem to be at least two possibilities. According to the first possibility, the fast response to the last item reflects that item being in the focus of attention, as opposed to the other items not being in the focus of attention (the focus-of-attention hypothesis). According to the second possibility, the shape of the serial position curve is reflecting the different activation levels of the different items in working memory, with the last item having the highest activation level (the activation-level hypothesis). One could argue that the serial position curve beyond lag -1 (i.e., beyond the last-presented item) might help to distinguish between the two possibilities. While the focus-of-attention hypothesis has no straightforward way of accounting why the portion of the serial position curve beyond lag -1 might not be flat, the activation-level hypothesis can quite easily account for a non-flat shape because different items might have different activation levels. It can thus be argued that observing a non-flat serial position curve beyond lag -1 might be more consistent with the activation-level hypothesis than with the focus-of-attention hypothesis.[1]

We examined the serial position curves beyond lag 1 for probe positions 3 and 4 in each of the four experiments. As can be seen in Figure 2, most curves do not seem to be flat but the pattern is not so consistent across experiments. This was confirmed in the statistical analysis. We used the same BANOVAs as reported in the main text, with Delay Before Probe and Serial Position as within-subject factors, excluding the last-presented memory item. As can be seen in the Table below, in three out of the four experiments, there is good evidence that the serial position curve is not flat beyond lag -1. In the last experiment, however, there is some evidence for the serial position curve being flat beyond lag -1. Thus, while, across experiments, there is more evidence for the serial position curves not being flat beyond lag -1, the current analysis does not allow us to draw any firm conclusions as to whether serial position curves are reflecting activation levels or the focus of attention. Moreover, it should be noted that, when supplemented with some additional mechanism responsible for some primacy gradient, the focus-of-attention hypothesis could also account for non-flat portions of serial position curves. Evidence for non-flat curves was found when participants saw each memory item for 1000 ms (i.e., in the first three experiments) while there was more evidence for flat curves when participants saw each memory item for only 500 ms (i.e., Experiment 4). It is thus possible that some sort of strategic encoding strategy is used for early list items, requiring more than 500 ms and resulting in somewhat faster responses to these items. One possibility might be that a second code is formed, different from whatever kind of code is used for the later items. It is worth noting that the other kind of code, in any case, exerted only a small effect compared to the larger, last-item benefit.

| | Probe 3 | Probe 4 |
|---|---|---|
| **Experiment 1** | 33.84 to 1<br>Against flat curve | 3.17 to 1<br>Against flat curve |
| **Experiment 2** | 7.26 to 1<br>Against flat curve | 1265.32 to 1<br>Against flat curve |
| **Experiment 3** | 17.63 to 1<br>Against flat curve | 2.31 to 1<br>Against flat curve |
| **Experiment 4** | 1.51 to 1<br>For flat curve | 3.30 to 1<br>For flat curve |

Footnote 1: We thank an anonymous reviewer for this suggestion.