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Global consequences of local complexity: evidence from recall of visually presented nonwords

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Abstract: There is extensive evidence that structural regularities affect the processing of visually-presented words. However, it is not known whether the processing consequences of an orthographic violation are limited to the offending subpart (e.g., an unattested onset cluster) or apply more globally (e.g., to the entire word). We provide evidence of global disruption from the recall of briefly-presented nonwords that were manipulated for degree of orthographic markedness and length. Error rates were higher for both the initial and final portions of nonwords beginning with more marked onsets; symmetrically, report of marked onsets was degraded in words with longer endings. These effects suggest that, as in other visual tasks, the fidelity with which one element can be represented depends on the overall stimulus complexity. We present a modified version of rational models of visual word perception in which global effects result from the distribution of a limited processing resource over letter positions.