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Eye movement correlates of reading speed

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The goal of the present study was to investigate the processes of oculomotor control underlying reading speed. To this end we measured eye movements during reading horizontal and vertical Hungarian text. In agreement with previous research we found that reading vertical texts is approximately half as fast as reading horizontal texts. Analysis of the eye movement data revealed that amplitudes and peak velocities of the forward saccades are significantly larger during horizontal as compared to vertical reading. On the other hand, we found no difference in the forward saccade frequencies between the horizontal and vertical reading conditions. It was also found that subjects make more backward saccades during horizontal reading. These results suggest that experience-dependent differences in reading speed are reflected in the saccade amplitude and velocity but not in the saccade frequency, which might be primarily determined by low-level oculomotor constraints.