Corrections

CORRECTIONS TO: Han, P., Saunders, D. R., Woods, R. L., & Luo, G. (2013). Trajectory prediction of saccadic eye movements using a compressed exponential model. *Journal of Vision*, *13*(8):27, 1–13, doi:10.1167/13.8.27.

In our publication (Han, Saunders, Woods, & Luo, 2013), we made some errors that we amend here. These errors relate to (a) the criteria used for saccade detection and (b) the calculation of the proportion of the saccade that had occurred.

The speed criterion was 30°/s, and the duration threshold was 10 ms, rather than the parameters of the algorithm reported in the publication (speed >20°/s; duration >20 ms; first paragraph in Results section, p. 6). The number of detected saccades was 3,033 saccades (1,162 with the Eyelink and 1,871 with the DPI system). The revised Figure 4 (below) shows the correct histograms of the distribution of saccade amplitudes. The sample size was incorrectly reported throughout the publication, including in the abstract.

The proportion of saccade amplitude was not calculated correctly. This affected Figures 7c, 7d, 8c, 8d, 9a, 9b, 9c, and 9d, introducing a slight upward shift of the data, which has been fixed in the revised Figures 7, 8, and 9 (below).

This does not change the overall interpretation of the results or our conclusions.

Citation: Han, P., Saunders, D. R., Woods, R. L., & Luo, G. (2016). Corrections to: Trajectory prediction of saccadic eye movements using a compressed exponential model. *Journal of Vision*, *16*(14):17, 1–4 doi:10.1167/16.14.17.
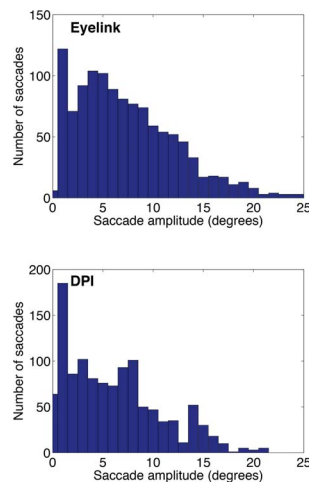

Revised Figure 4. Histogram of the amplitude of detected saccades in the (upper) EyeLink eye tracker ($n = 1,162$) and (lower) DPI eye tracker ($n = 1,871$) data.
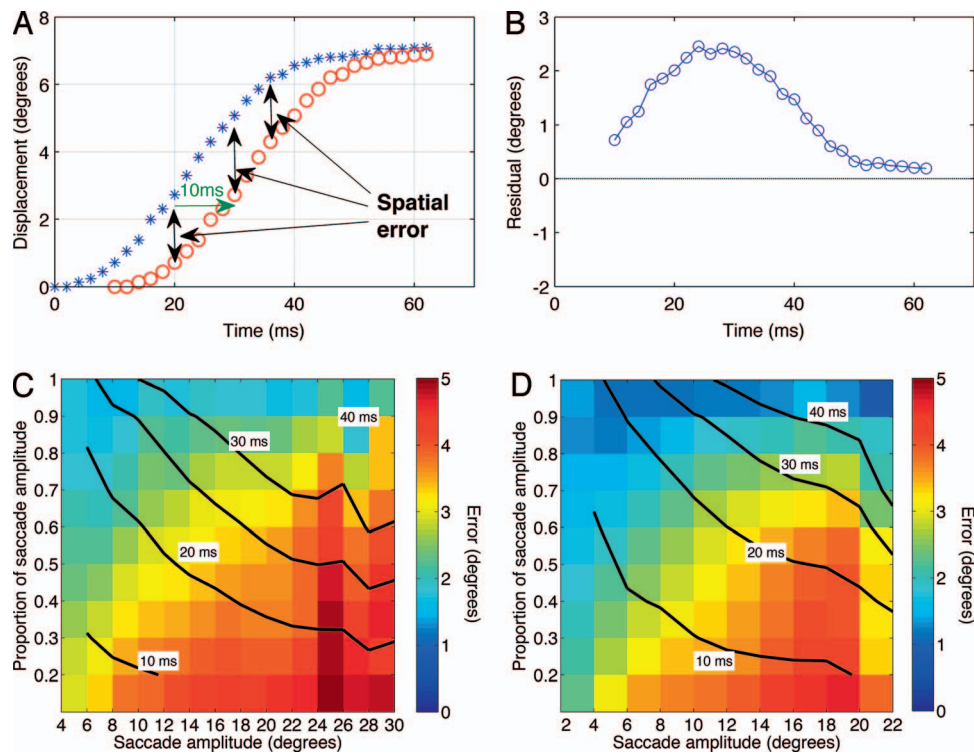
Revised Figure 7. Updating using the current practice approach (Aguilar & Castet, 2011). (Upper left) The gaze position (asterisks) and the location of a gaze-contingent stimulus that should be at the gaze location (red circle) for a representative (7°) saccade. The vertical gap between the two curves is the misalignment. Data points are plotted every 2 ms for clarity. (Upper right) The error (misalignment) for that 7° saccade. (Lower panels) A summary of the misalignment errors for all the saccades measured using the EyeLink (left) and the DPI (right) system. The average error in degrees (colored scale to the right) is shown for each saccade-amplitude bin (x-axis) by proportion-of-saccade amplitude bin (y-axis). Contour lines indicate bins that are 10, 20, 30, and 40 ms after saccade onset.
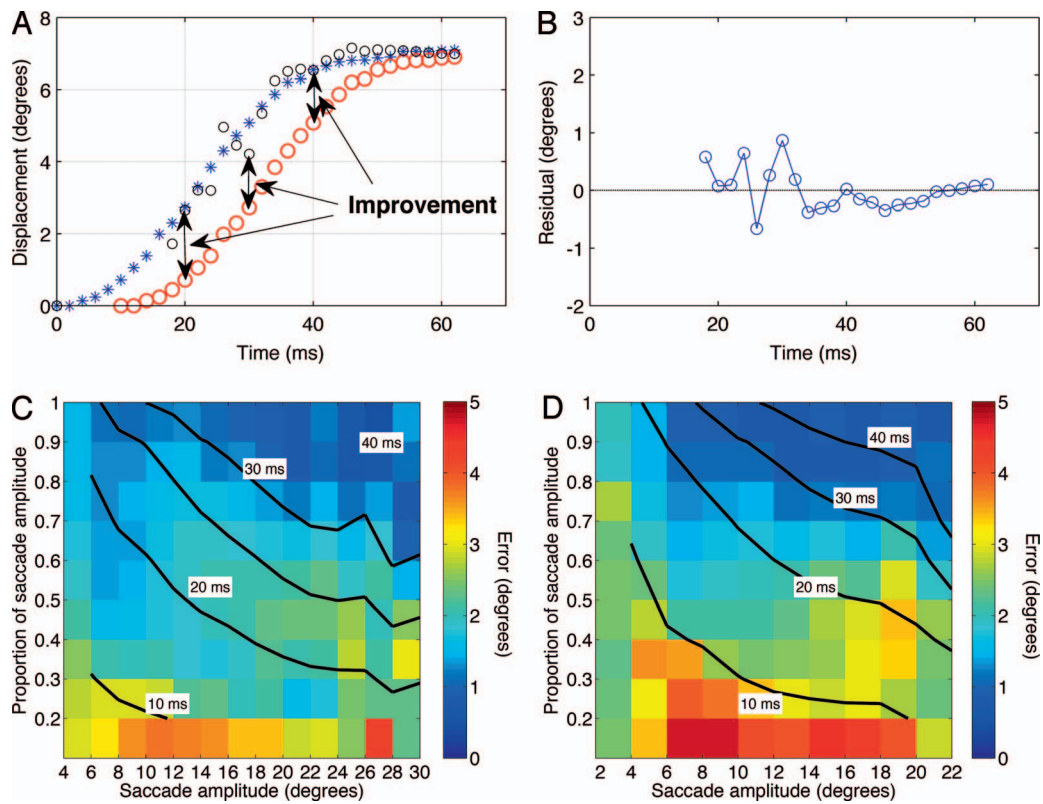
Revised Figure 8. Updating using our saccade-prediction approach. (Top left) Illustration of the misalignment between gaze position and a gaze-contingent stimulus that should be at the gaze location, for a representative (7°) saccade. (Top right) The error (misalignment) for that 7° saccade. Lower panels show the misalignment error for all saccades measured using the EyeLink (left) and the DPI (right) systems. As in Revised Figure 7, the average error in each bin is shown. Compared with the current-practice approach shown in Figure 7, the errors were generally smaller after 10 ms from saccade onset, which is when the prediction was first available.
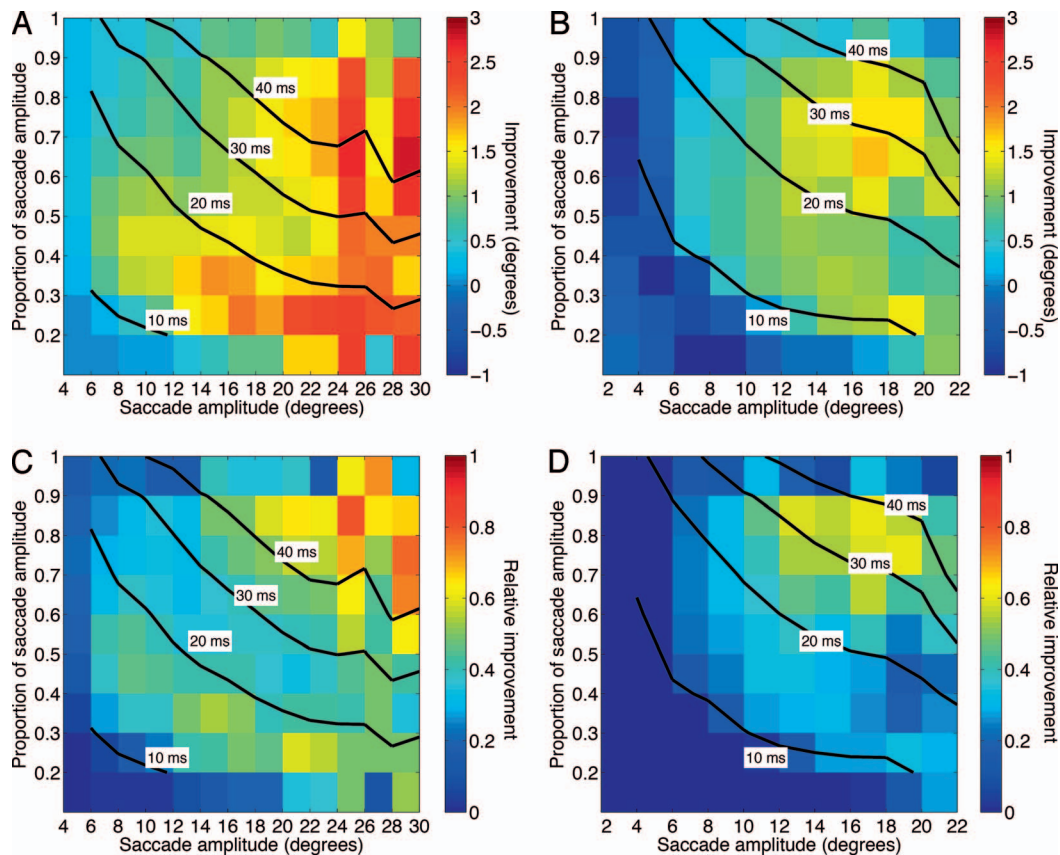
Revised Figure 9. The upper panels show the absolute improvement of misalignment with saccade prediction over the last available approach (Aguilar & Castet, 2011) for the EyeLink data (left) and the DPI data (right). The lower panels show the relative improvement with saccade prediction for the EyeLink data (left) and the DPI data (right). The contour lines show that the improvement occurred from 10 ms after saccade onset.

References

Aguilar, C., & Castet, E. (2011). Gaze-contingent simulation of retinopathy: Some potential pitfalls and remedies. *Vision Research*, *51*, 997–1012.

Han, P., Saunders, D. R., Woods, R. L., & Luo, G. (2013). Trajectory prediction of saccadic eye movements using a compressed exponential model. *Journal of Vision*, *13*(8):27, 1–13, doi:10.1167/13.8.27.