Erratum

Erratum: Coen-Cagli and Solomon, “Relating Divisive Normalization to Neuronal Response Variability”

In the article “Relating Divisive Normalization to Neuronal Response Variability” by Ruben Coen-Cagli and Selina S. Solomon, which appeared on pages 7344–7356 of the September 11, 2019 issue, the authors report an error in Materials and Methods in Equations 1.11–1.13, concerning the estimation of the normalization signal from the single-trial spike count. The authors regret the error.

The error led to a biased estimate (underestimation) of the normalization signal, impacting the results of Figures 4 (validation of the estimator on synthetic data) and Figures 5–7 (analyses of experimental data that rely on the estimator). The authors repeated the analyses after correcting the equations and code, and did not find any qualitative difference in the results or any change to the conclusions of the article. They also compared on synthetic data the correct estimator to the biased estimator of the published article and found that the bias led to a 1.1% average increase in the mean squared error of the estimator.

Although the error does not change any of the conclusions and interpretations, the presence of a bias in the estimator may pose an issue for future studies that adopt the method. Therefore, the Materials and Methods subsection “Inference of the single-trial normalization signal” has been corrected, the Materials and Methods subsection “Code accessibility” now includes the updated URL to download the code, Figure 4 has been revised for estimator validation, Figures 5–7 have been revised for experimental data analysis, and the Results subsection “Inference of single-trial normalization strength” has been revised relative to the revised Figures 4–7. The authors thank Oren Weiss for bringing the error to their attention. The online version has been updated.

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