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# The road to an adaptive orienting account for error monitoring

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## Abstract

The textbook explanation for error monitoring had not been challenged for decades: performance errors are detected by a specialized neuronal system and detection triggers strategic slowing intended to prevent more errors. Ten years ago, we challenged this idea and showed that participants slow down after any surprising event (oddballs, errors, even infrequent correct trials). We also showed that error rates increase following errors and that simple target detection is worse following errors (error-induced attentional blink). Subsequently, by means of EEG we showed that early attentional processes are disturbed following errors. In the orienting account, we propose that participants slow down (and are generally distracted) because they automatically orient to errors (and other surprising events). It has recently been proposed that this reflects the initial orienting response in an overall adaptive reaction intended to improve performance. I will present data that are in line with this idea.

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