

Attention Architectures for Machine Vision and Mobile Robots, Lucas Paletta, Hilary Buxton, in Neurobiology of Attention, 2005

Oculomotor control is not just important for spatial but also for sequential attention. Because eye movements must be executed in a sequential manner, it is crucial to focus visual attention at the right time on the right targets so that subsequent information processes, in particular motor planning and execution, receive relevant information sufficiently fast to update ongoing processes. From this viewpoint, oculomotor control may, for example, be a crucial constraint on how movement of other body parts are planned. Miyashita et al. (1996) showed that anticipatory saccades in sequential procedural learning in monkeys are tightly coupled to the limb-motor system. Similarly, Shibata et al. (2001) developed a biomimetic gaze stabilization that is used for attentional mechanisms in a humanoid robot (Vijayakumar et al., 2001).

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