To conclude, the chapters of this thesis shed new light on a) how memory representations guide attention in the external world, and b) how allocation of attention internally to VWM representations affect attended and unattended representations.

In the thesis, I have shown that only a prioritized VWM representation, or a so-called attentional template, guides visual attention. Moreover, repeated search for the same target results in the handoff of the attentional template from VWM, thus changing the status of task-irrelevant representations within VWM. This consequently affects whether task-irrelevant representations can guide attention on the external world. Therefore, automatizing search via learning comes at the expense of greater distraction because it leaves VWM free for prioritizing task-irrelevant information.

Attending to a representation within VWM, as directed by retro-cues, has been known to improve its recall performance. However, the fate of unattended VWM representations has been less clear. Reconciling previous contradictory findings, I have shown that the effects of retro-cues on cued and non-cued VWM representations are modulated by the reliability of these cues. If a retro-cue has a high reliability, participants focus on the cued representation and drop non-cued representations. Whereas, if a retro-cue has a low reliability, the cued representation is attended while non-cued representations are kept in VWM with none or minor loss of information. By showing that the allocation of attention to a VWM representation does not entail the loss of others, I have provided direct evidence for the claim that internal attention and VWM maintenance are not the same, though they are intertwined.

In sum, the chapters of this thesis support the interactive relationship between attention and VWM and clarify some aspects of this interaction by providing explanations for the conflicting findings and by eliminating alternative explanations of the existing results in the literature.