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Sommario/riassunto	Cognitive processing is commonly conceptualized as being restricted to the cerebral cortex. Accordingly, electrophysiology, neuroimaging and lesion studies involving human and animal subjects have almost exclusively focused on defining roles for cerebral cortical areas in cognition. Roles for the thalamus in cognition have been largely ignored despite the fact that the extensive connectivity between the thalamus and cerebral cortex gives rise to a closely coupled thalamo-cortical system. However, in recent years, growing interest in the thalamus as much more than a passive sensory structure, as well as methodological advances such as high-resolution functional magnetic resonance imaging of the thalamus and improved electrode targeting to subregions of thalamic nuclei using electrical stimulation and diffusion tensor imaging, have fostered research into thalamic contributions to cognition. Evidence suggests that behavioral context modulates processing in primary sensory, or first-order, thalamic nuclei (for example, the lateral geniculate and ventral posterior nuclei), allowing attentional filtering of incoming sensory information at an

early stage of brain processing. Behavioral context appears to more strongly influence higher-order thalamic nuclei (for example, the pulvinar and mediodorsal nucleus), which receive major input from the cortex rather than the sensory periphery. Such higher-order thalamic nuclei have been shown to regulate information transmission in frontal and higher-order sensory cortex according to cognitive demands. This Research Topic aims to bring together neuroscientists who study different parts of the thalamus, particularly thalamic nuclei other than the primary sensory relays, and highlight the thalamic contributions to attention, memory, reward processing, decision-making, and language. By doing so, an emphasis is also placed on neural mechanisms common to many, if not all, of these cognitive operations, such as thalamo-cortical interactions and modulatory influences from sources in the brainstem and basal ganglia. The overall view that emerges is that the thalamus is a vital node in brain networks supporting cognition.