

GUEST LECTURE

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"The Primary Function of Consciousness: Why Skeletal Muscles are 'Voluntary' Muscles"

Since the nineteenth century it has been known that, though often functioning unconsciously (as in blinking and breathing), skeletal muscle is the only effector that can be consciously controlled, but why this is so has never been explained. Supramodular interaction theory (SIT) introduces a reinterpretation of this age-old fact: Skeletomotor actions are at times 'consciously mediated' because they are directed by multiple systems that, when in conflict, require consciousness to cross talk and yield adaptive action. Based on the integration consensus, SIT proposes that consciousness is required to integrate agentic, high-level systems that are vying for (specifically) skeletomotor control, as described by the principle of parallel responses into skeletal muscle (PRISM).

We present new behavioral and neuroimaging evidence in support of this framework and illuminate why some processes are conscious while others are not, and why skeletal muscle is the only muscle that is controlled 'voluntarily.'

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