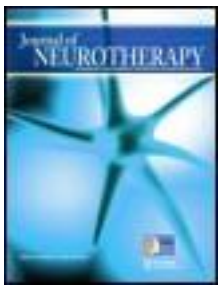

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Responsive Quiescence

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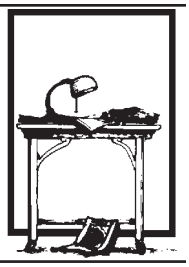
EDITORIAL



Responsive Quiescence

The sensorimotor rhythm was identified when cats were forced to wait. Each cat was trained to press a lever for food; but only when a tone was not sounding. Whenever the tone was played, the animal stood alertly and quietly, waiting for the moment when it could press the lever and receive a reward. The cat was in a state of anticipation, moving without movement, inhibiting all action until the moment was right. In the EEG record appeared a relatively unknown rhythm, soon to be called the sensorimotor rhythm, a motor quiescence rhythm, which occurs whenever motor pathways are inhibited (Sterman, Wyrwicka, & Howe, 1969). This inhibition presumably occurred at the corticothalamic level, which means it involved volition (Roberts, Penny, & Rezek, 1999; Haggard, 2005). The sensorimotor rhythm is akin to the posterior alpha rhythm, our sensory quiescence rhythm, which occurs whenever sensory pathways are volitionally dampened, and it is nearly a harmonic of frontal theta, an executive quiescence rhythm, which likely occurs whenever anterior contribution to posterior function is momentarily disengaged. All of these rhythms act like school marms, quieting the chatter so the group may respond in an orderly fashion to new information.

Joseph Bogen, the neurosurgeon involved in the California series of split brain patients, summarized brain function with the following: *The brain consists of inhibitory systems which inhibit inhibitory systems which inhibit other inhibitory systems.* . . . Neurotherapy allows volition to directly enter this feedback loop. Volition is the most powerful source of action we have. Once something falls under volitional control, it can be reorganized to our benefit, and this includes the brain. So far our field has mostly focused on EEG rhythms associated with thalamocortical circuitry, which is extensive and inhibitory in nature, but others have ventured into slow cortical potentials, gamma training, and other forms of excitatory training to begin to complete the toolset. Brain function is now elevated to a tangibility never before known. With proper techniques and tools any individual can adjust the amount of activity or shared activity (connectivity) between accessible regions of his or her brain.

The knowledge and insights emerging from this field are gaining steady acceptance in the larger and various scientific and clinical com-

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munities. That it has taken so long to get where we are today should not be discouraging. We need to remind ourselves how change never occurs at the center, always at the periphery, and from there it moves in. What follows are reviews and original research in the study of EEG rhythm training which should help all of us move further in.

David A. Kaiser, PhD
Editor

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