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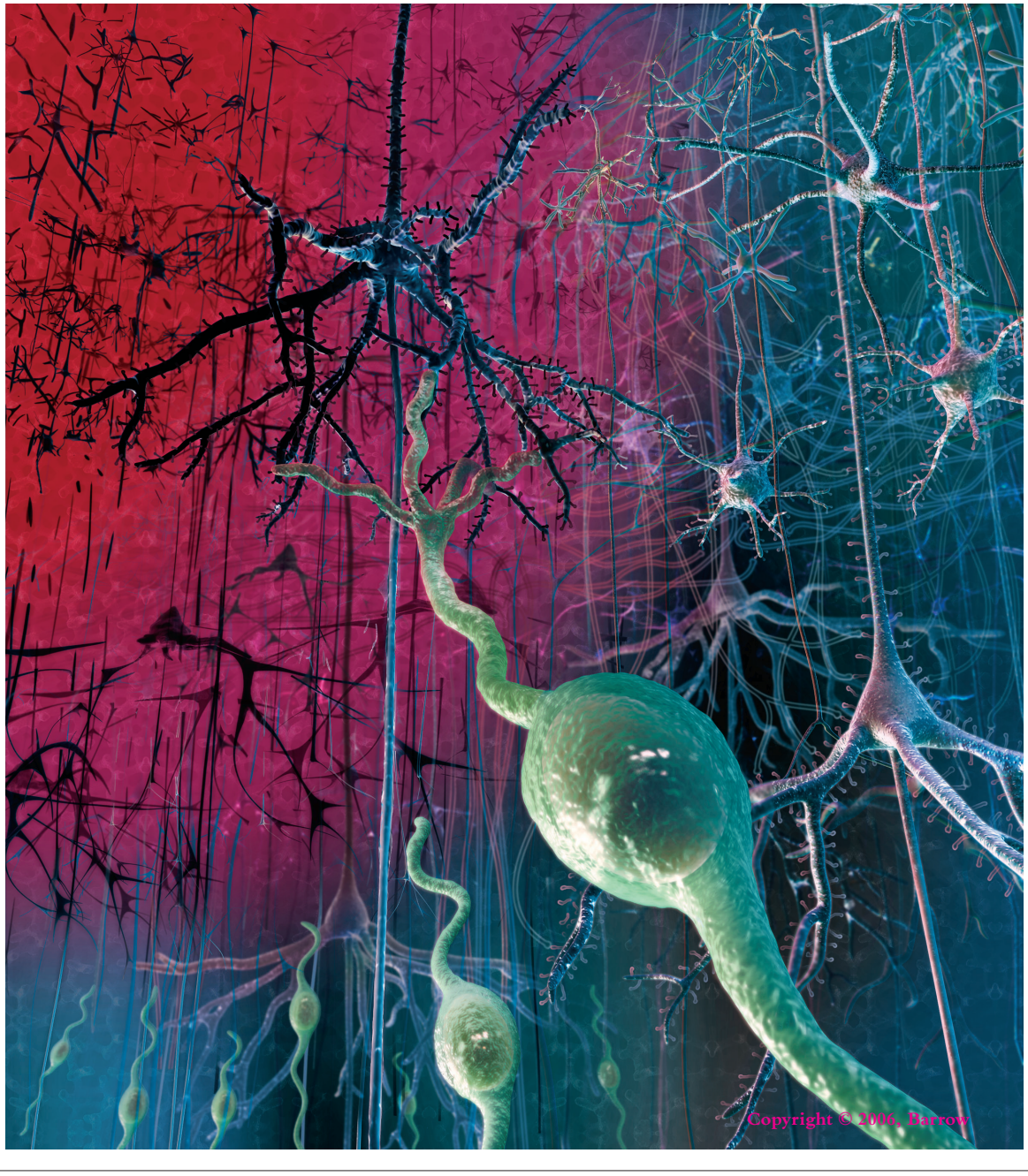

NEURAL REGENERATION

C O M M E N T S

Despite great strides in the treatment of neurosurgical disorders over the past two decades, significant challenges remain. Unlike other organ systems, the capacity of the central nervous system to heal after injury is severely limited. Investigators confront major difficulties in learning to modify this healing response to allow cellular regeneration and restoration of function. The Neuroregeneration Laboratory at Barrow provides a critical forum in which clinicians and basic scientists can collaborate to develop new therapeutic modalities based on cellular regeneration.

This issue of the *Barrow Quarterly* summarizes research performed at Barrow and in collaboration with neurosurgical specialists at the Case Western Reserve University School of Medicine in Cleveland. Ischemic brain injury and stroke, traumatic brain injury, and spinal cord injury remain major national health issues and active arenas of research. Work in the Neuroregeneration Laboratory focuses on unlocking the potential of endogenous stem cells, which lie quiescent in the adult nervous system throughout life. By elucidating the complex relationships of these cells in their microscopic milieu, we hope to learn to modulate their behavior, allowing damaged areas of the nervous system to regenerate.

Neural regeneration could provide hope for thousands of patients with devastating neurological conditions. For example, Maughan et al. report a case that demonstrates the potential for recovery that the adult spinal cord possesses even in the presence of severe neurologic injury. Such cases inspire us to continue investigating the mechanisms underlying neural repair so that eventually good neurological outcomes may become the rule rather than the exception.

The work reported in this issue could not have been completed without collaboration with other scientists. As the scientific community in Phoenix expands, we anticipate further collaborations through partnerships with entities such as the newly formed medical school of Arizona State University and the Translational Genomics Project (T-Gen). Generous support from donors also fosters such work and helps unlock mysteries in neurosciences, which translates into the miracles of treatment for which Barrow is known. Please consider joining their ranks by using the enclosed self-addressed stamped envelope to share a tax-deductible donation that will help us to continue sharing such exciting findings with all those interested in the neurosciences.

Nicholas C. Bambakidis, MD
Guest Editor

The cover illustration is an artistic interpretation of neuronal stem cells migrating to an injury in the cerebral cortex and differentiating into functional neurons. This issue of the Barrow Quarterly is devoted to articles on neural regeneration. The illustration is by Michael Hickman and Mark Schornak.