Neuroplasticity is a well-known cornerstone of vision development and rehabilitation, the title of our journal. The concept of neuroplasticity opens the door to therapy from the vantage point of guiding habilitation as well as facilitating rehabilitation. Although it’s safe to say that there is no singular source to which the concept can or should be attributed, a watershed event took place ten years ago through a meeting that focused on critical periods in brain development and adult plasticity in the context of the visual system. A September 24, 2007, meeting of the Academy’s Imaging Discussion Group focused on critical periods in brain development and adult plasticity in the context of the visual system. J. Anthony Movshon (New York University), Brian Wandell (Stanford University), Charles Gilbert (The Rockefeller University), and Takao Hensch (Harvard University) presented pioneering work on the specific mechanisms of experience-dependent changes linked to adult learning and structural damage, as well as the complex mechanisms that drive and regulate critical periods. This eBriefing also includes summaries of presentations by Len Press (Family Eyecare Associates) and Susan Barry (Mount Holyoke College).”

Ten years hence the Academy has moved on from the building blocks of neuroplasticity to the evolving frontiers of neuroregeneration and neurorestoration. The confluence of these neurorehabilitative concepts will be evident in a meeting that the New York Academy of Sciences is hosting this year to translate this global knowledge into more effective treatments that restore function to the central nervous system.

Meetings of this nature tend to focus on pathophysiologic mechanisms at the cellular level with emphasis on pharmacologic interventions.

A complement to this is our upcoming COVD meeting featuring clinical processes, with emphasis on neurorehabilitative strategies that bootstrap neuroregeneration and neurorestoration in a functional framework. In that regard I’m looking forward to the presentation by Michael Gallaway, OD, FAAO, FCOVD and Christina Master, MD, FAAP, CAQSM on issues pertaining to return-to-learn post-concussion. Dr. Gallaway is a member of our VDR journal review board with expertise in neuro-optometric rehabilitation, and Dr.
Master is a pediatrician at Children’s Hospital of Philadelphia with expertise in brain injury medicine. With that background, it is a pleasure to feature the work of Dr. Gordon Dutton in this issue of VDR through an innovative case series presentation. Dr. Dutton is a pediatric ophthalmologist in Glasgow, Scotland with expertise in neuro-ophthalmology, and Emeritus Professor of Vision Science at Glasgow Caledonian University. He frequently collaborates with Optometry, and I originally discovered his work through an optometric colleague, Dr. Barry Kran. Dr. Dutton’s case presentations center on maldevelopment or injury to the posterior parietal lobes leading to inaccurate 3D mind mapping of the visual scene owing to dysfunction of the dorsal stream pathways. In addition to explaining heretofore puzzling observations, such as why some children with normal visual acuity get very close to objects, Dr. Dutton’s case series elaborates on his deeply rooted Tree of Vision (see figure below).

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