CHAPTER 21: TRAINING THE MIND: WHAT THE COGNITIVE SCIENCES HAVE TO SAY


5. Among the many researchers involved in these studies, we'll cite by way of example: Julie Brefczynski-Lewis, Linda Carlson, Richard Davidson, Gaelle Desbordes, Sona Dimidjian, Brooke Dodson-Lavelle, Paul Ekman, Brent Field, Barbara Fredrickson, Brita Hölzel, Amishi Jha, Jon Kabat-Zinn, Olga Klimecki, Bethany Kok, Sara Lazar, Antoine Lutz, Brendan Ozawa-de Silva, David Perlman, Chuck Raison, Cliff Saron, Tania Singer, Heleen Slagter, John Teasdale, Elen Weng, Mark Williams, Fadel Zeidan, to cite only those with whom I have had the opportunity to interact over the past few years.


9. This stems from the fact that the brain is always involved in dealing with consciously perceived stimulus and does not have enough attentive resources to deal with stimuli that follow. The term “attentional blink” is given to the inability to deal with the images that follow. The most surprising discovery was that experienced meditators, even if they were older (attentional blink increases with age because the mechanisms of attention become slower) had remarkably short attentional blinks. One 65-year-old meditator, in particular, didn't have any at all, and perceived all the stimuli, even though they went by very quickly (unpublished results of research carried out at the

10. Gamma waves have rapid oscillation frequencies between 25 and 42 Hz.


18. Lazar, S. W., Kerr, C. E., Wasserman, R. H., Gray, J. R., Greve, D. N., Treadway, M. T.,… Fischl, B. (2005). Meditation experience is associated with increased cortical thickness. *Neuroreport, 16*(17), 1893. This growth in volume is caused by an increase of areas of gray matter that contain inter-neural connections and are linked to the process of learning. The number and size of synapses and dendritic ramifications increase phenomena also observed in other forms of training and learning. The term “neuropil” is given to the areas of gray matter situated between neuronal cell bodies, glial cell bodies, and blood vessels. Neuropil is constituted by a complex web of a multiplicity of neuronal cytoplasmic continuations (axons and dendrites) and glials, of varying caliber.


28. The activity of the amygdala and the anterior insulate cortex is markedly weaker among meditators than novices.


