

## CHAPTER 6

# BRAIN AND MIND: HOW NEURAL NETWORKS ACQUIRE PHENOMENAL AWARENESS BY TAPPING INTO A UBIQUITOUS FIELD OF CONSCIOUSNESS

JOACHIM KEPPLER

### **Abstract**

A novel approach to the scientific understanding of phenomenal awareness is presented that accepts consciousness as ontologically fundamental and is based on the hypothesis that the whole range of phenomenal nuances is inherent in the frequency spectrum of a ubiquitous field of consciousness. Pursuing this idea, it is postulated that the brain employs a universal interaction mechanism through which it taps into this field, thereby acquiring phenomenal qualities. I argue that the edifice of modern physics can not only offer a promising candidate for the field of consciousness, consisting in the zero-point field (ZPF), but also an appropriate interaction mechanism. What is more, the empirical body of evidence supports the conclusion that conscious processes make use of exactly this mechanism. More specifically, the neural correlates of consciousness suggest that in the stimulus-oriented operating mode the brain produces streams of consciousness by periodically writing information states into the ZPF, while in the stimulus-independent operating mode the brain is receptive to previously generated ZPF information states that constitute the repository of conscious experiences, implying that self-referential conscious states are retrieved by periodically reading information states from the ZPF. Beyond its explanatory power the presented approach opens up new horizons for the future research strategy.