
Preface

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Preface

Until a very few years ago, the biological genesis of human consciousness appeared to be not only indescribable, but what many persons believed to be ineffable and permanently beyond scientific understanding. Despite strong evidence derived from case descriptions, clinical neuropathology and the identification of the brain stem–lower thalamic circadian arousing systems, lay persons, philosophers and even a few scientists remained dualists. Their arguments were that the subjective experience of awareness must necessarily be spiritual and beyond the mere functional constructions of every man's brain. Knowledge gained during the past decade or so has changed the minds of many of the early scientific misbelievers and a good many lay persons as well. In large part, these results reflect the increasing interdigitation between fundamental and clinical neuroscientists interested in the challenges of understanding human consciousness. Furthermore, advances in new technology have made it possible for cognitive neuroscientists to interdigitate comfortably with investigators coming from wet-bench neurobiology as well as those working with nonhuman and human primates. This programme includes examples of these new fusions of subspecialities and indicates how far the new neurobiology has come to explaining the minds that make up all of our consciousness.

The Association for Research in Nervous and Mental Disease has produced an annual December programme in New York City for 75 continuous years. The programmes have directed their topics to new developments in neurology and psychiatry with, in most instances, strong interdigitations between fundamental and clinical contributions about the subject chosen. Several of these annual proceedings provided benchmarks for up to date knowledge of their chosen topics and some have become classic sources. These efforts to bring important information to rapidly evolving neurologic and psychiatric problems were continued in the present meeting as is illustrated by the topics abstracted in this issue of the Royal Society of London. Unfortunately, costs of publishing full papers and figures into full volumes have become prohibitive in recent years. Fortunately, however, Editor Semir Zeki and the distinguished Editorial Board of *Philosophical Transactions of the Royal Society of London* generously agreed to publish in this issue relatively long reports provided by all of the contributors of the original meeting.

The presentations of 'The conscious brain: normal and abnormal' were divided into three main sections as indicated in the table of contents. The first five topics provide important fundamental evidence of mechanisms underlying visual perception, cortical memory mechanisms, contributions of the frontal lobe to consciousness, the role of temporal correlations in generating cognition and the oscillatory, fast brain activity that appears to be necessary for cognitive perception. The subsequent presentations discuss false illusions of body image in the injured awake brain, memory and consciousness, a putative neuroanatomy for consciousness and the functional basis of auditory hallucinations in aware persons. The final section discusses mechanisms of abnormal and normal consciousness as they relate to the damaged or normal brain. These include, the unsettling uncertainty of the neurobiology of anosognosia, the autonomous modularity of vision and its contributions to awareness, attention and self regulation in the conscious brain and the presence of isolated, semi-functional behavioural modules as they may appear in unconscious brains.

Finally, the philosopher, John Searle, provides nine philosophical 'principles' which insist that conscious awareness and thought cannot possibly be scientifically generated, then proceeds to shoot them down, one by one with great enthusiasm.

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