Hobson presents a critical overview of current conceptions of consciousness, relating it to specific areas of the brain and their chemical and physical states. He charts the various states of waking, dreaming and non-consciousness using the theories and data of neuroscience, psychiatry and neurophysiology, whilst imaginatively conveying the mysterious and seductive nature of his subject.


Dr. A. R. Dickinson. Dept. of Anatomy & Neurobiology Washington University School of Medicine Box 8108, 660 S. Euclid Ave. St. Louis, MO 63110, USA. ...Hobson provides a welcome and scholarly contribution to the literature concerned with explaining the phenomenon of human consciousness. A most fitting extension of his earlier studies of sleep, dreaming and waking, this new volume also includes discussion of abnormal states of consciousness in the context of a coherent functional account of brain activity. In this sense, Hobson's choice remains essentially reductionist, whilst claiming appeal to combine emergentism, holism and subjectivism. Indeed, he quite rightly asserts that it is this very subjective nature of what we call 'consciousness', that we are needing to explain. There are no clear answers to the question of how and why we generate the particular contents of conscious experience 'chosen' by the brain mind (cf Edelman & Tononi, 2000), but we are provided with a rather appealing neurally-based model of dynamic brain function which correlates well with both clinical and pre-clinical experimental data. Consistent at both the anatomical and neurochemical levels, Hobson proposes the secret of consciousness experience to lay in fine interplay of the brain's modular systems of activation, "giving equivalent subdivisions of consciousness in accordance with the activity of [the various] anatomical and physiological modular specialisations of different brain regions". In this model, the modularity is to be based upon purely anatomical distinctions; the
physiological affect according to the dynamic modulatory effects of the various neurotransmitter environment in which the nervous tissues are bathed from one instant to another. The explicit hypothesis here, states that "the brain creates the unity of conscious experience via the synchronisation of its elements". So,... what are the elements? It has for a long time been known that the activity of neural circuitries in the brainstem reticular formation and projecting thalamocortical pathways are involved in the maintenance and variation in reports of conscious experience. A variety of brain activity recording techniques (from EEG to fMRI) have continued to implicate these same regions over time, but, combined with the increasingly detailed resolution of the modern brain scanning machines, the advent of a refined molecular biology and functional psychopharmacology has shed much light upon the dynamics of the component brain circuits involved. For example, we now believe that the aminergic neurotransmitter serotonin (5-HT, an important chemical modulator thought to be involved in sensory perception and memory formation) is not released during normal periods of sleep (a typically 'unconscious' time for most of us). Does its absence therefore explain the lack of memory for dream imagery? Hobson suspects that it does, argues his case well, and proposes the neural origin of consciousness to lay firmly within the thalamocortical projection systems of the forebrain structures. His 'binding' makes no dependence upon the 40 Hz-type of synchrony theory, nor is it reductive enough to evoke the contribution of microtubule quantum effects. His explanation remains firmly within the realms of testable hypotheses involving the conscious phenomenology of both normal and clinical human presentations. The take-home model of Hobson is the AIM model of conscious states, the name an acronym combining the features he proposes to be most important in accounting for the variation(s) of experience reported. A very welcome 3-D, dynamic model (in contrast to the more frequently linear models of the past) accompanied by clear visual illustrations, we are taken through the model with clarity and consistent reference to relevant clinical findings in a way accessible to the informed reader. This is not a book which falls at the last hurdle, a final chapter lacking in solution, leaving the reader feeling let down. In brief, the proposal affords that one's subjective conscious experience be accountable according to the combined AIM three-component vector space ("conscious state space") comprising one's Activation state (high-low), Information source (sensory external-internal) and Mode of processing (cholinergic-aminergic neurochemical modulation). The reasoning is coherent and the neuroscience data accurate to date, with references and further reading offered for those wishing to gain more from the physiological research literature. I will be certainly be adding this volume to my tutorial teaching list. I like the way Hobson writes. I like his clarity, modesty and his perseverance with a difficult subject (he does not claim to have 'explained' consciousness). For me, his work does nonetheless help to explain at least something of the mind-brain unity baggage itself that is so often forgotten about: no brain,...no consciousness, ..(as far as I know). The mechanisms by which my own specific brain functions correlate/cause/effect my conscious
experience, continue to derive explanatory value (if not a fuller understanding) from the type of model recurrent in Hobson's work. This latest, is no exception.

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