

# BOOK REVIEWS

## **Origin and Mechanisms of Hallucinations**

**Wolfram Keup, Editor, Plenum Press, New York and London, 1970, 479 pages**

Hallucinations have always been puzzling, terrifying or, rarely, valued for their divinatory meaning but seldom are they understood, especially by the vast majority of men who have never experienced them. The increasing use of hallucinogenic drugs will increase the familiarity with illusions and hallucinations and may increase the tolerance for bizarre or unusual behavior of patients responding to their illusions and/or hallucinations.

This volume, the edited proceedings of the 14th annual meeting of the Eastern Psychiatric Research Association held in New York City, Nov. 14 and 15, 1969, summarizes some of the ideas, hypotheses and facts being examined by psychiatrists and scientists researching a portion of perceptual changes—the hallucinations.

The book is divided into four sections. Each section contains a number of reports, some very valuable, some trivial, but I will allow each reader to determine for himself how they might be classed.

Inevitably, some contributors deal primarily with schizophrenics who may or may not suffer from hallucinations but this is not surprising since, as Lewinsohn showed, any patient having

them has an 84% probability of being diagnosed schizophrenic.

In the first section, "The Organic Basis of Hallucinations," it is shown that these hallucinations are related to neurological syndromes, to depth stimulation of the temporal lobe of the brain, to parieto occipital lesions which produce palinopsia (prolonged images) and prolonged after images. It is also shown that patients with organic brain damage (produced by prefrontal lobotomy many years ago) react differently to hallucinogenic drugs.

In the second section, "Psychological Basis of Hallucinations/" the authors are less definitive because much less is known. Hallucinations in children are described and the changes which occur as they grow older. A research report shows it may be difficult to distinguish between imagery and real images using certain clearly defined techniques for confusing subjects. Sensory deprivation is quickly disposed of, but lessons drawn from these experiments are drawn for preventing natural sensory deprivation in pilots, etc.

The third section, "Biochemistry and Pharmacology of Hallucinations," contains a report by Marrazzi who reviews evidence which leads to the conclusion that hallucinogens modify neurohormonal synaptic environments.

Hallucinations during alcohol withdrawal are described, followed by a report containing the suggestion that auditory hallucinations during withdrawal are merely objective tinnitus, i.e., hearing one's own inner ear tensions.

There is a good discussion of the relationship of tryptophan metabolism to psychoses and a fairly good chapter by Keup on structure activity relationship among hallucinogenic agents.

I was interested in the 17 different classes of hallucinogens listed here. When we first used the term "hallucinogens" in 1954 (Hoffer, A., Osmond, H., Smythies, J.: *J. Ment. Science* 100:29-45), we could refer only to five different hallucinogens, divided among three classes.

Keup's references to the hallucinogenic properties of adrenochrome are sloppy. He fails to refer to the double blind controlled studies of Grof, S., Vojtechovsky, M., Vitek, V. and Prankova, S.: *J. Neuropsychiatry* 5: 33-50, 1963, which corroborated our reports; and in listing two authors whom he believes have failed to corroborate, it turns out that one author had not tested adreno-

chrome and the other used very small quantities of an undescribed substance.

The last section, "Psychopathology of Hallucinations," did not appeal to me much except for Cowan's report showing an association between schizophrenia and trans-cephalic direct current potentials. This paper would have been more appropriate in the third section.

The last section is marked by an interesting omission. Had they invited Dr. John Conolly (see *Indications of Insanity*, Reprinted 1964 by Dawsons of Pall Mall, London) to present a paper, they would have heard of an entirely new area of psycho-pathology, i.e. the role of perceptual changes in influencing or determining behavior.

Perhaps the 50 or so contributors would profit from reading *How To Live With Schizophrenia* by Hoffer, A. and Osmond, H., University Books Inc., New Hyde Park, New York, 1966.

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