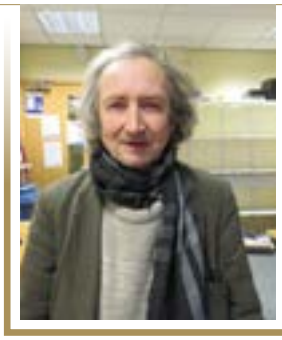
2nd International Conference on
NEUROSCIENCE AND NEUROLOGICAL DISORDERS

April 11-12, 2019 | Barcelona, Spain

Arthur Ernst van Woerkom, J Neurol Neurorehabil Res 2019, Volume 4



Arthur Ernst van Woerkom

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BIOGRAPHY

Arthur Ernst van Woerkom is a general adult psychiatrist. Completed his training in natural sciences for medicine at Trinity Hall, and Addenbrookes, Cambridge), and he have a long standing interest in the biochemistry of mood disorders, schizophrenia and psychosis. Many years ago, before he started working in the field of psychiatry, he proposed that major hallucinogens such as LSD and mescaline act in key part by disrupting the fine structure of consciousness by causing the collapse of tubulin and actin related cytoskeletal mechanisms.

For a few years he was in an NHS funded research fellowship at the department of psychiatry with Prof Martin Roth. For a time, he was an honory senior clinical lecturer in psychiatry in Birmingham.

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LITHIUM UTILIZES HIDDEN CELLULAR 'FAIL-SAFE-MECHANISMS'

A new unified model for Lithium's mode of therapeutic action has recently been proposed.

Lithium's many protective actions provide evidence for the existence of a set of low-cell [Mg++] sensitive, cell-protection systems. To survive in conditions associated with a very low cell [Mg++], (neuronal) cells will require 'Fail-Safe' mechanisms, as below a critically low intracellular [Mg++], many Mg++ requiring systems risk grinding to a halt. This latent vulnerability implies the existence of specific protective responses, activated by a low-intracellular [Mg++], at times, (particularly post head- injury), and used as a metabolic 'alarm-signal'. These 'fail-safe' systems would also help regulate, buffer, and restore cell [Mg++], and as Li+ mimics a low cell [Mg++] level, activating these pre-existing systems provides the underlying basis of Lithium's therapeutic effects.

The 'fail-safe'-model postulates the existence of pre-programmed biochemical responses, adapted to provide protection against t.b.i., mechanical brain injury; involving the activation of pathways sensitive to a low-free cell [Mg++], these appear to be 'parasitically' utilised by Lithium to generate its therapeutic effects. These systems would underpin neuronal cell protection, and provide a key biochemical mechanism for stabilising mood, and providing intrinsic mental and cellular resilience.