Public Lecture Series

A Physicist's Model of Mind

Speaker: **Werner H. Gries**
Honorary Professor, Department of Physics, University of Pretoria

On: Wednesday, 28 October 2015
(Assuming the University of Pretoria is open.)

At: 17h15 (to 18h15)

Venue: Sci-Enza, Main Campus, University of Pretoria
(Note: The Prospect Street entrance is open until 18:00, however the Lynnwood Road or Lunnon Road entrances will be open much later. See http://s2a3.up.ac.za/directions.php for directions and a map.)

Brain researchers currently conduct three major projects for unravelling the intricacies of the human brain, viz. (1) the (European) Human Brain Project funded by the EU with well over one billion (109) Euro over a ten year period (launched 2013), (2) the (US) BRAIN Initiative (Brain Research through Advancing Innovative Neurotechnologies, also referred to as the Brain Activity Map Project) funded by the US Administration with about 3 billion US Dollar over a ten year period (launched 2013), and (3) the (US) Human Connectome Project, a (US) National Institute of Health multi-contributor project, launched in 2009 for a five-year period (and, hence, close to a final report). Clearly, the successful conclusion of these projects will be but a first step towards understanding the working of the human mind, and prospects are that one may have to wait many more years or even decades for an answer to pressing questions about the mind.

A pressing question in physical science is whether an understanding of the human mind may take the science out of its long stagnation in fundamental questions of quantum theory and cosmology. This question has induced the speaker to attempt a shortcut to understanding the human mind by means of a physical-science-typical model. This raises the question of why such a model should be able to explain human reasoning and behaviour so much better than, for instance, psychology, which is focused on the "inquiry into and theory of mental phenomena". The answer is that 'understanding' in physical science means something quite different than in the cognitive sciences. It is this difference which gives rise to the speaker's Modular Mental Structure Model, to be elaborated in the lecture. This model will be shown to have significant implications inside and outside of physical science. Inside in certain highly contentious areas of quantum theory and cosmology. Outside in areas such as the cognitive and related sciences (such as psychology, psychiatry, neuroscience, evolutionary biology, sociology), law, ethology, and philosophy.

Relevant research findings of December 2014 are available at the UPSpace address hdl.handle.net/2263/43388.

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