

PL01-01 - THE IMPACT OF NEUROSCIENCE ON A REDEFINITION OF MENTAL DISORDER: A NOVEL EPISTEMOLOGY - THE HUMAN BRAIN PROJECT

R.Frackowiak

CHUV-UNIL, Lausanne, Switzerland

Two disciplines are changing our views and approach to psychopathology. The first is genetics. The advent of complete genotyping of individuals at a reasonable cost coupled to the knowledge acquired by the Human Genome Project promise major insights into psychiatric pathogenesis. Human brain imaging developed over the last three decades now generates information in normal and diseased humans of structural and functional alterations with great sensitivity and accuracy. No longer are brain doctors exclusively dependent on post-mortem anatomy to obtain pathogenic insights. Imaging provides information about normal population variance in cerebral physiology and anatomy to associate with genetic variance in the same populations for comparison with diseased populations. In relation to psychopathology, the association of information about local anatomical pathology and pathophysiology with genetic abnormalities and variation is a radically new approach to understanding the symptoms of psychiatric diseases and the risks of acquiring them.

I believe we are on a trajectory, facilitated by advances in biology and informatics, which will lead to a more objective, epistemologically valid nosology that will be of benefit to doctors, patients and those interested in how the brain is constructed and organised in health and disease. Those interested in contributing to this effort, which has the aim of modelling the human brain *in silico* to provide a realistic, biologically based, test bed for disease identification and therapeutic intervention should follow the progress of the HUMAN BRAIN PROJECT (<http://www.humanbrainproject.eu/index.html>), to be submitted for EU funding in 2012 by a group of scientists, informaticians and clinicians.