identical) developmental background of patients with epilepsy on the one hand and dissociative seizures on the other is reflected by similar (but not identical) psychiatric comorbidity profiles. More specifically, epileptic seizures are a risk factor for the development of dissociative seizures, may precipitate or trigger dissociative seizures, and comorbid epilepsy may contribute to the perpetuation of dissociative seizures disorders. My talk will provide some food for thought about two seizure disorders often associated with high levels of disability which are theoretically different but which - in practice - have much in common.

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4 PSYCHOLOGICAL THERAPIES IN PARKINSON'S DISEASE

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Richard Brown is Professor of Neuropsychology and Clinical Neuroscience and Head of Department of Psychology, at the Institute of Psychiatry, Psychology and Neuroscience at King's College London. He is a faculty member of National Institute of Health Research Maudsley Biomedical Research Centre. He has worked extensively in the field of clinical neuroscience and his primary interest is the field of movement disorders and particularly Parkinson's disease. He undertook his PhD with Professor David Marsden and worked for 10 year at the MRC Human Movement and Balance Unit, Queen's Square. He has published over 200 scientific works and his research has involved laboratory-based and clinical research and spanned a range of movement, cognitive, emotional and social aspects of brain disorder. He has been involved in the development and evaluation of novel psychological approaches to management of non-motor symptoms in patients with Parkinson's disease including depression, anxiety and impulse control disorders. He is also an Honorary Consultant Clinical Psychologist with the South London and Maudsley NHS Foundation Trust, Neuropsychiatry Service, where he supports the psychological management of patients with acquired brain injury and neurodegenerative disorders, with a particular focus on Parkinson's disease.

Non-motor symptoms (NMS) are ubiquitous in Parkinson's disease and are increasingly seen as core features of the disease. Often predating the onset of motor symptoms, they typically increase in number and severity as the disease progresses, increasing disability and overall disease burden. The high prevalence of psychiatric disturbance in PD and its impact on outcome has been recognised for many years, with increasing recognition of the emotional distress and social impact associated with other disabling motor and non-motor symptoms.

While medical treatments are available to ameliorate many NMS, management remains problematic. Psychological approaches are increasingly common in the field of long-term conditions; for symptom management as well as tackling wider psychological issues such as adjustment and relationship function. However, they continue to play a relatively minor role (or are inaccessible) in routine PD care. This presentation will summarise some of the main areas where psychological approaches have demonstrated or potential value. Depression, and more recently anxiety, has been the subject of study for many years and supplies most of the existing (if limited) empirical evidence for psychological approaches. The strengths and limitations of that research will be considered to suggest how we might best meet the existing needs of patients using existing treatments, particularly CBT.

Even though evidence is limited or lacking, the talk will consider the potential for psychological approaches to contribute to the management of neurocognitive symptoms including impulse control behaviour and apathy, as well as other disabling and distressing problems such as sleep disturbance, fatigue, pain and motor fluctuations.

The presentation will conclude by considering some of the new or emerging treatment approaches offering alternative to CBT that may have advantages in terms of efficiency, accessibility and acceptability.

5 DEEP BRAIN STIMULATION FOR OCD: AN UPDATE

Eileen Joyce. Professor of Neuropsychiatry at The Institute of Neurology and Honorary Consultant Neuropsychiatrist at the National Hospital for Neurology and Neurosurgery

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Professor Joyce's research focuses on neurocognitive dysfunction in the early stages of schizophrenia and how this relates to brain structural changes and clinical manifestations of the disorder. Professor Joyce received a degree in psychology from the University of Cambridge where she also completed her PhD in dopamine psychopharmacology with Susan Iversen. She went on to study medicine at Cambridge and trained in psychiatry at the Maudsley Hospital. She spent her higher clinical and research training in the neuropsychiatry department of Professor Alwyn Lishman which was followed by a period of time as a research associate at The National Institute on Alcohol Abuse and Alcoholism, USA. She returned to the UK in 1991 to take up a senior lectureship at Imperial College and remained there until 2005 when she moved to University College London.

Deep brain stimulation (DBS) is an emerging treatment for people with severe OCD who have not responded to SSRI medication, prescribed either at high doses or augmented with additional medication, and several courses of CBT including inpatient treatment. Since it was first described in 1999, there have been 5 randomised controlled trials comparing sham and active DBS at two brain targets: the ventral capsule/ventral striatum site (VC/VS) and the anteromedial subthalamic nucleus (amSTN). A study directly comparing DBS at both sites in the same 6 patients with very severe OCD found that they have equivalent efficacy for reducing OCD symptoms.* Neuroimaging evidence suggested that DBS at each site modulates different brain circuits and has different behavioural actions. VC/VS DBS was much more effective than amSTN DBS at improving mood and affected a circuit connecting the

medial orbitofrontal cortex to dorsal thalamus, amygdala and habenula nucleus. amSTN DBS improved cognitive flexibility, whereas VC/VS DBS did not, and affected a circuit connecting the amSTN with lateral orbitofrontal cortex, dorsolateral prefrontal cortex and dorsal anterior cingulate cortex. Both circuits have different functions and are known to be abnormal in OCD. The implications of these findings for the future management of severe OCD will be discussed.

*A Randomised Trial Directly Comparing Ventral Capsule and Anteromedial Subthalamic Nucleus Stimulation in Obsessive Compulsive Disorder: Clinical and Imaging Evidence for Dissociable Effects. Himanshu Tyagi, Annemieke M. Apergis-Schoute, Harith Akram, Tom Foltynie, Patricia Limousin, Lynne M. Drummond, Naomi A. Fineberg, Keith Matthews, Marjan Jahanshahi, Trevor W. Robbins, Barbara J. Sahakian, Ludvic Zrinzo, Marwan Hariz, and Eileen M. Joyce, *Biological Psychiatry*, in press.

6 MENTAL IMAGERY AND MENTAL HEALTH SCIENCE: FROM LAB TO HOSPITAL TO A REFUGEE CAMP?

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Emily Holmes, PhD, DCLinPsych is a Professor in Psychology at the Department of Psychology, Uppsala University, Sweden. She is also affiliated to the Karolinska Institutet's Department of Clinical Neuroscience, and is a Visiting Professor of Clinical Psychology at the Department of Psychiatry, University of Oxford, UK. Holmes received her degree in Experimental Psychology at the University of Oxford, UK. She is also a clinician and completed a clinical psychology training doctorate at Royal Holloway University of London, and a PhD in Cognitive Neuroscience in Cambridge, UK. Holmes' work as a clinical psychologist has fuelled her research questions. She is interested in psychological treatment innovation in mental health – both in creating new techniques and reaching more people. Under the wider umbrella of mental health science, her approach brings together psychology, neuroscience, psychiatry, maths and more. Holmes' research has demonstrated that mental imagery has a more powerful impact on emotion than its verbal counterpart. Her group is particularly interested in understanding and reducing intrusive memories after trauma. This is relevant for people after a traumatic event, whether a severe motor vehicle accident, traumatic childbirth or war. She is an Associate Editor for Behaviour Research and Therapy. She is on the Board of Trustees of the research charity 'MQ; transforming mental health'.

Traumatic events can affect anyone from a road traffic accident, to traumatic childbirth or war-related trauma for refugees. A core clinical symptom for many people who experience trauma comprises intrusive memories to the event. Intrusive memories that 'flash backwards' to past trauma occur in post-traumatic stress disorder (PTSD). They take the form of mental imagery, that is, an experience like perception in the absence of a percept, such as 'seeing in our mind's eye'. Indeed, intrusive, affect-laden mental images can cause distress across mental disorders. Mental images allow us to time travel, and can also 'flash forwards' to the future such as those can occur related to suicide or in bipolar disorder.

My clinical research group has an interest in understanding and treating maladaptive mental imagery via psychological

therapies. To do this, we are curious about what we can learn from cognitive psychology and neuroscience to inform novel treatment development. I will discuss recent work concerning intrusive memory encoding, and a mechanistically informed intervention aiming to disrupt memory re-consolidation via dual task interference, thereby to reduce the frequency of intrusive memories. Recent work on tackling mood instability via focused imagery techniques will be discussed. A broader vision for science-informed psychological treatment innovation will also be explored from working hospitals (Iyadurai et al, 2018, *Molecular Psychiatry*) to further afield with refugees (Holmes, Ghaderi et al, 2018, *Lancet Psychiatry*).

7 HOW NEUROSCIENCE CAN INFORM PUBLIC POLICY

Facundo Manes. *Professor of Behavioural Neurology and Cognitive Neuroscience INECO Foundation for Research in Cognitive Neuroscience and Institute of Neuroscience – Favaloro University. Argentina*

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Facundo Manes is an Argentinian neuroscientist. He was born in 1969, and spent his childhood and adolescence in Salto, Buenos Aires Province. He studied at the Faculty of Medicine, University of Buenos Aires, where he graduated in 1992, and then at the University of Cambridge, England (Master in Sciences). After completing his postgraduate training abroad (USA and England) he returned to the country with the firm commitment to develop local resources to improve clinical standards and research in cognitive neuroscience and neuropsychiatry. He created and currently directs INECO (Institute of Cognitive Neurology) and the Institute of Neurosciences, Favaloro Foundation in Buenos Aires City. Both institutions are world leaders in original scientific publications in cognitive neuroscience. He is also President of the World Federation of Neurology Research Group on Aphasia and Cognitive Disorders (RGACD) and of the Latin American Division of the Society for Social Neuroscience. Facundo Manes has taught at the University of Buenos Aires and the Universidad Católica Argentina. He is currently Professor of Neurology and Cognitive Neuroscience, Faculty of Medicine and Psychology of the Favaloro University and was appointed Professor of Experimental Psychology at the University of South Carolina, USA. He has published over 100 scientific papers in the most prestigious original specialised international journals such as *Brain* and *Nature Neuroscience*. He has also given lectures at several international scientific fora as the 'Royal Society of Medicine' (London) and the 'New York Academy of Sciences', among others. His current area of research is the neurobiology of mental processes. He believes in the importance of scientific disclosure for Society. He led the program 'The Brain Enigmas' on Argentina TV and wrote many scientific articles in the national press. Finally, Prof. Facundo Manes is convinced that the wealth of a country is measured by the value of human capital, education, science and technology, and that there is the basis for social development.

In the last two decades, mainly in the developed world, we have seen a remarkable shift in how policies are made. Until the late 1990's, the ranks of lead policymakers comprised of economists, lawyers, and financial experts. Behavioral scientists are now increasingly being asked to bring their insights and expertise from the laboratory into the 'real' world. As a result, many experts in behavioral sciences are playing a much