

XVIIIth World Congress of Neurology

Sydney, Australia, 6-11 December, 2005.

Sydney is deservedly developing a reputation for managing large scale events of global significance - first the Olympics and now the XVIIIth World Congress of Neurology. Both attending and reporting on the congress demand a highly selective approach: two days of teaching courses, five days of the conference proper (running 0700 to 1930 with up to eight parallel sessions) and almost 1700 posters. One of the concerns of attending a conference of this scale is that, having come to terms with the fact that at any one time you're missing at least five-sixths of what's going on, the additional leap into truancy to miss the sixth isn't so hard. As the conference was competing for attention with one of the world's most beautiful cities set in a cluster of near perfect beaches, it is a tribute to the organisers that the standard of the programme in a flawless conference centre seemed to pull the crowds in off the harbour bay.

Over the course of one week the entire canon of neurology was reviewed. Having, by necessity, missed huge chunks of the meeting (due to the parallel programme design rather than the call of extracurricular pursuits) I can only give a very personal account of the meeting highlights.

The core programme of the WCN is a series of invited reviews rather than presentations of original work. Coming at the end of the specialist conference season, this provides encouragement to go to all the sessions one would normally avoid, allowing oneself to be brought up to date in the obscure backwaters of neurology, like Parkinson's disease and stroke. Those who made the mistake of going to their 'home' sessions (especially during the teaching programme) seemed invariably to compensate for the fact they were not the invited lecturer by providing a running commentary in their less-informed neighbour's ear. This latter unfortunate frequently seemed to be me, allowing me to perfect my trick of functional unilateral auditory neglect.

From the main programme, the 'Frontiers of Neuroscience' lectures boasted two Nobel laureates among the five speakers. Whilst any of the speakers could have filled the time recapping their CVs, all appeared to consciously avoid this, providing the peaks of the confer-

ence with a series of excellent overviews. Peter Doherty in particular exemplified the nature of these sessions in his address comparing the CNS and the immune system, exploring concepts of self and memory, drawing from a wide range of work from several disciplines.

Revealing too much of what was new to me in the teaching courses and review lectures would unfortunately betray the pre-existing gaps in my knowledge. I shall thus give only the main points gleaned per subject area:

Parkinson's disease: The North Americans have unbounded enthusiasm for Neuroprotection - it would seem the main national debate is whether to put fluoride or selegiline in the water. Rasagiline is creating interest and seems to be finding a place in very early treatment, combining symptomatic relief with a hint of the holy grail of neuroprotection. L-dopa seems very good or very bad depending on your choice of study.

Headache: The tip of asking whether photophobia was bilateral (96% of migraine) or unilateral (>90% cluster headache) - a discriminator I have been using to great effect since. Aura does not exclude a diagnosis of cluster headache.

Idiopathic intracranial hypertension remains an evidence free zone, open to all opinions and therapeutic options.

Menstrual migraine may be due to too much or too little of one or several sex hormones and may or may not respond to hormonal alteration (this talk was a little short on specifics).

New persistent daily headache are four words which, when put together, seem to form an allowable diagnosis - albeit one without a specific prognosis, aetiology or treatment.

Epilepsy: The MESS trial results show no benefit in the long term from immediate rather than delayed treatment of first seizures, which is a reassuring validation of conventional practice. A simple model of risk for further seizures can be generated from the data which is dependent on number of seizures, EEG abnormalities and pre-existing brain pathology.

Genetics: there was an excellent session on genetics for amateurs which, for me, captured the purpose of the congress - perfectly pitched for people who knew a bit about the subject but don't do it everyday and don't get to keep up with the literature. I am not revealing anything from this session - I have laminated my notes on the genetics of peripheral neuropathy and the SCAs for cheating at clinical meetings.

Sleep: There is a complex interaction between the sleep disorders and the neurodegenerative disorders, which should raise their profile in clinical practice.

Some neurologists take an interest in obstructive sleep apnoea (a revelation in itself).

Hypocretin deficiency in narcolepsy is mostly restricted to forms associated with cataplexy and there is emerging evidence that the aetiology of this combination might be a destructive monophasic autoimmune disease - an interesting prospect for future therapies.

Multiple sclerosis: the pathologists continue to disagree on the fundamental point of whether there is more than one subtype of disease, but continue to be nice to one another in public. The clinicians also have disagreements, but are much less coy about expressing themselves.

Stroke: Palm Beach is where they film *Home and Away* and is exceptionally beautiful.

Mitochondrial disease: is commoner than previously thought (UK estimate 6.6/100 000). The genotype/phenotype correlations appear increasingly blurred, but the mechanisms whereby specific mutations lead to differing phenotypes is being clarified.

Outside the mainstream programme were a series of special feature meetings. Each day started with a 'Meet the Professor' session. Many of these were familiar names from the UK, so most delegates seemed to settle for the 'Meet the Consultant' breakfast session which, if you weren't too fussy about which consultant you wanted, could be done in any of the city centre hotels up to about 11 am, thus saving an early morning trip to the conference centre.



Poster 416 was on 'Marathon Related Death'. I fear this is the outcome for anyone who braved the completely overwhelming poster hall. In the absence of any discernable reviewing policy (I'd be fascinated to see what actually did get rejected), I took the free CD home to review at leisure. Haven't quite got round to it yet.

From the sponsored symposia, I attended the world première of 'Brainstorm', a specially commissioned play by Polly Toynbee. The appearance of five actors in matching white pyjamas (the doctor given away by a white coat – a subtle touch), accompanied by suitably dramatic electronica should have set the alarm bells ringing, evoking suppressed memories of well meaning sixth form drama groups. 'Distilled essence of horror' and 'watch in silent mortification' are quotes from the play which conveniently double as reviews. The saintly good doctor of the piece at one

point cries in desperation that the saintly patient 'needs to join a support group'. After 45 minutes of it all, she wasn't the only one. Apparently it is going to be made available on DVD, but unfortunately not in time for this Christmas, for those who were stuck for an idea for their Clinical Director.

In a year when England reclaimed the Ashes, national expectations were high for the international 'Tournament of the Minds'. The heats saw the UK through to the final four. There appeared to be certain injustices in the scoring system which resulted in the final four becoming six on appeal and the elimination of the Irish team, who, despite having eligibility criteria laxer than those for their international football team, mistakenly went for looks, charm and integrity – none of which appeared to count (this last line may reflect the only moment of personal bias in this article). The

UK went on to take the final on a narrow finish. Somehow the event missed the national tabloid press, but I suspect will be picked up next year as consolation for defeat in the World Cup.

While the host city easily leads to a rose-tinted view of the week, this really was an excellent conference. When so many meetings get bogged down in overly edited presentations of complex original work, or invited reviews where the speaker rarely strays beyond their own two most recent papers, this was a genuinely comprehensive refresher course in clinical neurology leaving me a lot more educated and enthused than when I arrived. The next congress is set for Bangkok in 2009. I advise planning to go, but don't bring a poster.

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Joint meeting of the Association of British Neurologists and Society of British Neurological Surgeons, with the Netherlands Society of Neurology and Netherlands Society of Neurosurgeons

Torquay, UK, 7-9 September, 2005.

The usual suspects of ABN members gathered once again, this time in faded Torquay, to fraternise and debate research. Clinical Neurosciences 2005 was much enlivened by the presence of good friends from Dutch neurology and – dare I say – even more so by UK and Dutch neurosurgeons. I am afraid that, more than once, the parallel neurosurgery sessions were more interesting and lively than the neurology programme. There was a particular emphasis in the neurological platform sessions on neurological workforce issues which contained either little or no research, to the exclusion of vastly better work confined to poster presentation.

The main messages of the meeting for this reviewer were:

Stick at it! Charles Warlow, on accepting the ABN Gold Medal, resisted the temptation to maudlin reminiscence. Instead he assembled a powerful argument for prolonged and repeated observation of disease, based on the accomplishments of former teachers and colleagues. At the heart of his case, in more than one way, was the example of John Fry, his former family GP, who made a systematic epidemiology of his practice.

The management of low grade glioma is confused. In a combined neurology-neurosurgery session, five distinguished doctors discussed their approach to a case and four management plans were offered, ranging from doing nothing to giving chemotherapy. Reassuring, rather than enlightening.

Neurologist-assisted suicide is imminent. The final session of the meeting was devoted to a lively discussion of the prospective Assisted Dying Bill in the UK. Those neurologists who contributed were against the bill. However, the message sent to Lord Joffy by the ABN on our behalf was rather neutral.

Cerebral AVMs presenting as haemorrhage are more likely to bleed in the future than AVMs presenting in other ways. This paper, from Edinburgh, following the fate of 229 people with untreated AVMs since 1999, rightly won Al-Shahi the ABN platform prize.

Many spastin mutations can cause HSP. McDermott, from Sheffield, gave a lovely account of the clinical and genetic features of 61 patients with 47 different mutations in the spastin gene. On the whole, they had a 'pure HSP' phenotype and the mutations seem to converge on a hot spot in exon 1.

Atrophy in multiple sclerosis MRI scans is due to axonal loss. Proving this axiom of multiple sclerosis research has been difficult. But Trip and colleagues, from Queen Square, nicely show that atrophy of the optic nerve correlates with loss

of thickness of the retinal nerve fibre layer measured by optical coherence tomography, a technique with a bright future.

GPs refer patients with headache for social reasons. An analysis of 489 people presenting to their GP with headache, by Ridsdale at King's,

suggested the following: an average GP will see one patient with headache a week and refer one per year to a neurologist. Those referred were more likely to be men, to believe there was a physical explanation for their symptoms and to consult more frequently.

Microvascular decompression works for hemifacial spasm. Coakham, from Frenchay, reported the long-term (6 months to 22 years) follow-up of 126 patients with hemifacial spasm treated with microvascular decompression. In all cases, a compressive vessel was seen at surgery (PICA in 59%). 8 patients required a second operation, CSF leak was caused in 3% and deafness in 9%. At follow-up 80% were classified as cured.

Nogo is found in the spinal cord of ALS and MS patients. Nogo inhibits axonal regeneration and trials into neutralising its effect in spinal injury are already taking place. The implication of this study, from Durrenberger at Imperial, is that similar manoeuvres might help in degenerative diseases.

The immune response in head injury might be beneficial. Cox, from Cambridge, won the ABN poster prize with her study comparing clinical outcomes, radiology and immune responses in acute head injury.

Alasdair Coles, University of Cambridge, UK.



Professor Charles Warlow was awarded the ABN Gold Medal.



Torquay Harbour.

The Neurosurgical Perspective

Clinical Neurosciences 2005 was hosted by the Department of Clinical Neurosciences, Peninsula Medical School. The meeting opened with a Trainees teaching session, entitled 'Getting out of trouble'. This was a great success – firstly, because it was free, and secondly, because the trainees had not previously known that their consultants had ever been in trouble. However, the topics remained professional, and some useful insights and experiences were eloquently passed on to the next generation. This session occurred in parallel with a Neurosciences Nurses Session, a first and long overdue addition to the SBNS meetings. With the increasing role that nurses are playing in the clinical and academic neurosciences, we anticipate that this successful session will set a precedent for future meetings.

Delegates then were welcomed to the meeting proper by Mr James Palmer and Professor John Zajicek, with a historical perspective covering the naval connections and development of Neurosurgery in the region. The move from lectures towards debate has become a trend in recent meetings that continued here with a lively session on 'Neurologists should look after patients with subarachnoid haemorrhage'. Voting involved each member of the audience pointing to a yes or no section of the stage with a laser pointer. Some interesting points were energetically made, but the only clear conclusion was that neurosurgeons had steadier hands with laser pointers.

The second plenary session was a high quality combination of four talks representing Neurosurgery and Neurology from the UK and Holland. Mr Richard Kerr, Oxford, presented

the latest data from the International Subarachnoid Aneurysm Trial (including 7 year mortality data) and Dr Martin van den Bent, Rotterdam, presented the results of a phase III study of combination chemotherapy for anaplastic oligodendroglioma.

The sponsored satellite symposia were a great success, with Professor David Miller chairing developments in the treatment of MS, and Professor John Pickard presiding over current opinions on normal pressure hydrocephalus and its management. The delegates were then witness to the delights of Torquay by night, and the sponsors' contributions were both enjoyed and appreciated.

The third plenary session provided an excellent synopsis of the current management of low-grade glioma with contributions from both sides of the Atlantic. Professor Peter Black, Boston, USA, provided a contemporary view on the surgical management of low-grade gliomas, where important advances in technology, notably intra-operative MRI scanning, were demonstrated. Clearly this intervention will have a significant impact on whether and how patients are treated early with radical resection over watchful waiting.

The breakout SBNS sessions comprised neurovascular, neuro-oncology, spine/trauma, movement disorder and audit. There was a lively session chaired by Mr Richard Nelson (Bristol) and Mr Peter Whitfield (Plymouth) on neurovascular developments in the management of subarachnoid haemorrhage, while Mr James Palmer (Plymouth) and Mr Michael Powell (London) looked over advances in tumour management with a particular focus on adjuvant therapies. Mr Robin Johnston

(Glasgow) and Mr Lou Pobereskin (Plymouth) chaired an eclectic session that could have been titled 'pain in the neck', covering topics such as the role of neuronavigation in cervical surgery to the problems we face in getting neurotrauma patients to appropriate centres quickly. Finally, Mr Ken Lindsay (Glasgow) and Miss Anne Moore (Plymouth) chaired an interesting session on the surgical management of movement disorder.

The meeting concluded with a debate on physician assisted dying with arguments presented by Deborah Annetts from the Voluntary Euthanasia Society, Dr Bert Keizer discussing physician assisted dying in Holland, and Dr Helen Watt, ethicist. As anticipated, strong views were expressed by both speakers and audience. The pros and cons of the Joffe Bill, due to go before the House of Lords, in November were discussed at length.

Overall, Clinical Neurosciences 2005 was a hugely successful meeting with healthy interaction between surgeons / physicians and Dutch / British alike. An enjoyable social programme, the pinnacle of which was a Gala Banquet at the Britannia Naval College, Dartmouth, supported its strong scientific content.

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Acknowledgements

Many thanks to the local organising committee comprising James Palmer, Peter Whitfield, Anne Moore, John Zajicek, Martin Sadler, Simon Edwards, Louise Davies, Jo Henley and Tracey Holman.

The 17th Annual Scientific Meeting of the British Sleep Society

Cambridge, UK, 25-27 September, 2005.

Having previously been a peripatetic symposium, the 2005 BSS scientific meeting was held for a fifth consecutive year at Robinson. A negative view might suggest this implies (small 'c') conservatism and a fear of change. However, the positive alternative is true. There exists a growing and compelling seasonal urge that keeps the eclectic British sleep community returning to this corner of Cambridge. Some propose this has a basis in melatonin secretion and breeding habits, others are probably attracted by the superb Robinson cuisine. One not altogether fanciful reason for return is that the BSS meeting invariably coincides with a visit from a fun-loving group of Portuguese proctologists famed for their disinhibited dancing techniques. Rather more soberly, however, the excellent nearby parking probably provides the main rationale. Whatever the reasons for coming, the meeting invariably provides the delegate with a veritable pot pourri of reviews and new data, relating to every conceivable aspect of sleep medicine. This year was certainly no exception with a stated theme of 'From

Genotype to Phenotype: what's sleep got to do with it?'

The programme kicked off with an evening symposium chaired by Jonathan Bird that addressed sleep from a psychiatric perspective, stretching from cradle to grave. It is a sobering thought that psychiatrists receive even less training than neurologists in sleep medicine, yet probably see a greater proportion of patients with significantly disordered sleep. Distinguishing between the deleterious effects of mood disorder on sleep and the consequences of a defined sleep disorder on mood is a minefield within which even those experienced in sleep medicine tread carefully. This is particularly true at the extremes of age. Professor Gregory Stores, an acknowledged expert in adolescent sleep problems, addressed the area with an overview of those sleep disorders frequently mistaken for psychiatric or psychological distress. Dr Chris Hawley then addressed the issue of excessive daytime sleepiness, as opposed to fatigue, in a general psychiatric population, emphasising a much needed systematic approach to assessment and treat-

ment. This meat of the symposium was enclosed by two entertaining and enlightening personal reviews by Dr Paul Gringras and Dr Avi Dhariwal. The former discussed how herbs, hormones and hypnotics are used (and abused) in children, the latter how sleep problems may severely affect the elderly, yet remain completely off the radar of the physicians in charge.

The first day of the meeting proper started with a superb overview of gene research in the field of intracellular clock mechanisms by Simon Archer from Surrey University. Having leapt to popular fame on a recent Robert Winston sleep documentary, Simon gave an authoritative and particularly comprehensive account of 'clock' genes, highlighting the surprising extent to which humans remain hostage to our internal clocks. He focused particularly on how polymorphisms in certain key clock genes may determine whether we are 'night owls' or 'morning larks' and therefore better suited to careers as croupiers or milkmen. Cyclical production and degradation of a small number of proteins as they pass between

the nucleus and cytoplasm provides the basis of circadian timing. The tightly orchestrated mechanism is essentially the same in fruit flies as it is in humans and represents a truly fascinating area of biology. We are only just beginning to comprehend the effects these primitive processes have on functions such as repair, metabolism and the immune system. The potential application of such knowledge is colossal.

The second keynote speaker was Patrick Levy from Grenoble whose pivotal work in unravelling the unholy trinity of (visceral) obesity, the metabolic syndrome and obstructive sleep apnoea is widely acknowledged. The talk focused on how intermittent hypoxia due to OSA may independently lead to impaired glucose tolerance and leptin (the 'satiety' peptide) gene dysregulation. One current theme of such research is that OSA sufferers will gain visceral fat independently and directly because of their fragmented sleep, thereby worsening their OSA. Whether appropriate treatment of OSA can offset this proposed vicious cycle remains an area of debate. Subsequent talks through the morning addressed these issues further, broadening the topical discussion to include the potential damaging effects of increased cytokines and oxidative stress secondary to severe OSA.

The first afternoon was dominated by further insights into the metabolic consequences of OSA, followed by the 'free communications' session. The latter included talks on topics as diverse as CRP levels in sleep-disordered breathing and the effects of behavioural intervention for sleeplessness in autistic children. There then followed a relatively painless AGM before the feverishly anticipated gala dinner. With so much education in the previous 10 hours on matters germane to sleep hygiene and the metabolic syndrome, one might have expected a sober and reflective evening. Of course, the adage 'do what I say, not what I do' applied with the inevitable consequences of overindulgence and sleep deprivation the following morning for the majority.

The second day of the meeting was dominated by matters paediatric, from womb to adolescence, a much neglected area of sleep medicine particularly in the UK. Fascinating material was presented concerning the activity-rest cycles of the foetus and their relations to autonomic function and dysfunction. It is extremely interesting to reflect that the foetus in its latter stages of development spends well over 50% of its existence in a state akin to REM sleep, a fact rarely incorporated into theories of REM (dream) sleep. Moving into the first year of life, a lecture by Dr Helen Ball, an anthro-



pologist from Durham University, was equally enlightening and somewhat leftfield to those of us working in more conventional areas of medicine. It mostly dealt with how we sleep, or, rather, don't sleep, with our infant offspring. Since Victorian times or a little before, it can be argued that humans in Westernised societies have fought an evolutionary and natural instinct to sleep along side our infants. Certainly in 'underdeveloped' cultures, it is the norm to sleep with the very young and breast feed through the night. Interesting video data were shown, outlining how the maternal position is generally stereotyped in the shared bed. When deviations from this pattern were observed, accompanying problems with sleep for the mother and infant became evident. A cogent argument was made that having infants sleeping in distant beds or rooms to the parent was often the primary cause of psychosocial problems and disrupted sleep. The final talk of the paediatric session was an inspirational and wide-ranging discourse from Ron Dahl, a professor from Pittsburgh, on 'Sleep and Emotion Regulation in Children and Adolescents'. Combining 'hard' data with psychological theory, he addressed the myriad of potential sleep problems and associated behavioural difficulties that can affect teenagers.

The final session of the meeting was devoted to 3 case studies from different areas of sleep medicine, each of which had a 'message'. We heard from Sophie West about a patient with dreadful OSA, diabetes and extreme obe-

sity (BMI > 50) whose long term management was helped immensely by gastric (bariatric) surgery. Renata Riha presented an interesting parasomnia case with videos showing a young man exhibiting a so-called 'rhythmic movement disorder' of sleep. This is thought to represent the persistence into adulthood of a disorder akin to 'head banging', a common childhood sleep phenomenon, usually at sleep-wake transition. The rhythmical movements can involve various body parts and affect the patient in any sleep stage, including REM. Invariably it is the bed partner who suffers in this situation. Indeed, one commonly held theory is that the movements are, in a sense, gratifying to the subject and best viewed as a form of sleep-related tic. The third case from Ron Dahl was a teenager with delayed sleep phase syndrome, a not uncommon circadian rhythm disorder, usually misdiagnosed as 'lazyitis'. Good evidence suggest that sufferers have an inherent phase delay in their circadian timing such they are compelled to sleep a few hours later than average, the resulting lay-in often causing major upset with parents and educators alike. Cultural and sociological factors are also clearly important in fuelling the abnormal sleep-wake pattern. The case study described one behavioural way of treating this problem which, paradoxically, involved sequentially delaying sleep further by 3 hours each night over 6 days until a conventional sleep onset time was achieved. This tight schedule appeared successful in the patient discussed and the need for medication obviated.

In conclusion, speaking as a veteran of the last 6 annual BSS meetings, I think this was probably the most rewarding to date, despite concentrating on areas largely foreign to my clinical practice. Particular credit must go to Dr Mary Morrell from the National Heart and Lung Institute who was the main driving force on the scientific committee that organised the meeting. It never ceases to amaze me how broad are the horizons for sleep medicine. Although it is still very much a 'Cinderella' discipline in the UK, even compared to continental Europe, the enthusiasm generated by mutli-disciplinary meetings such as those organised by the BSS bodes well for the future. A working knowledge of sleep biology and the wide-ranging consequences of when it goes wrong should surely be essential to all health practitioners dealing with the brain and mind.

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Additional web content www.acnr.co.uk

EuroYapMeet - European Conference for Younger People with Parkinson's disease, was held in Dublin, 7-9 October 2005.

For a report on this event see www.epda.eu.com/

For a report on 'Innovations in Brain Injury Rehabilitation' (Manchester, September 28-30 2005), see www.acnr.co.uk/events.htm

Innovations in Brain Injury Rehabilitation

Manchester September 28-30, 2005

After attending a conference if you have ever thought "that was excellent but I would have liked a more clinical focus with ideas I can use to improve my practice", then you would share Professor Michael Oddy's (Brain Injury Rehabilitation Trust - BIRT) purpose when organising the Innovations in Brain Injury Rehabilitation conference that was held in Manchester from September 28-30, 2005. The first day was devoted to current developments in theory and rehabilitation method with presentations from international experts from Canada and the USA as well as Britain. The following two days were packed with workshops presented by over 25 clinical specialists from the UK covering a wide range of practice topics.

The concept of 'Cognitive Reserve' was the topic of Professor Yaakov Stern (Sergievsky Centre, New York). Addressing the fact that the degree of clinical disability is not directly related to the severity of brain damage, he presented a variety of types of evidence in support of cognitive reserve as a viable concept. It is suggested to be a factor that accounts for the fact that some people show less cognitive decline with age, others have a reduced incidence of dementia and why recovery after a traumatic brain injury is better in some than others. Cognitive reserve is related to IQ, educational and occupational attainment as well as the level of

physical and leisure activity.

Preventing neural cell death that occurs as part of the "cascade of events" following a brain injury, was the topic of Professor Donald Stein's (Emory University and the Department of Emergency Medicine Atlanta, Georgia) paper that focused on the role of sex hormones. Progesterone reduces neural damage from secondary processes, such as oedema, and also prevents liver damage. Evidence from studies by Professor Stein and colleagues indicates that if progesterone treatment is provided within no more than 24 hours of injury, mortality rate can be halved and recovery from TBI or stroke can be enhanced. The proposed mechanisms include prevention of necrosis, stimulation of remyelination and glial development.

Understanding the frontal lobes continues to be a major topic of research and discussion and Dr Donald Stuss (Rotman Research Institute, Baycrest Centre, University of Toronto) addressed this in his overview. Summarising research that he and his colleagues have produced over several years he suggests four frontal functional domains. Behavioural self regulation is attributed to the ventromedial and ventral (i.e. orbital) areas of the frontal lobes while activation regulation involves the superior medial region. Executive cognitive functions are related to the lateral prefrontal regions and meta-cognitive processes are associated with the frontal poles, particularly the right. Linking this to rehabilitation approaches, Dr Stuss mentioned Goal Management Training, about which he and others have written, and finished raising several questions for further study,

including whether or not separate treatments for the different functional domains can be developed.

Professor Ian Robertson's (Trinity College, Dublin) paper about attention deficits and rehabilitation also related to the role of the frontal lobes, particularly with vigilant attention. Linking his work with attentional failures, such as train drivers 'missing' a danger signal, he summarised findings that have used the Sustained Attention to Response Task (SART). This measure has been used to explore errors of commission, such as the phenomena of failing to inhibit an ongoing or automatic response, in contrast with traditional vigilance studies that focused on errors of omission. He mentioned studies that he has his colleagues have published elaborating various components of attention including a vigilant, sustained attention system (right hemisphere) and an arousal system (midbrain). The parietal cortex seems to be involved in readiness while control and regulation involves the frontal area. He also spoke about the use of a generalised alerting signal in rehabilitation.

The potential use of 'virtual reality' (VR) was the topic of Professor David Rose (University of East London) as he provided a look into the possible future of assessment and rehabilitation. Through presentation of a variety of demonstrations he illustrated not only the use that he and his colleagues have made of VR but also its possible uses in neuro-rehabilitation. Using an example of the use of VR to rehabilitation a person who had suffered a subarachnoid haemorrhage, he showed its benefits and discussed its advantages. These include being able to prevent or regulate the distractions that can interfere with learning, which in this case was route learning.

It is difficult to summarise a three-day conference, particularly when it is impossible to attend all





the available workshops provided during the latter two days. I will therefore aim mainly to provide an indication of the range of topics that were covered with brief mention about those I did attend.

Challenging behaviour was the topic of various workshops including Dr Nick Alderman's (Kemsley Division, St Andrews Hospital) - which covered the use of behaviour therapy techniques in neurorehabilitation, Helen O'Neil's (Kemsley Division) - discussing the use of CBT methods for managing anger, Dr John Freeland's (BIRT, York House) which included description of a new aggression rating scale (BIRT Aggression Rating Scale; BARS) and a workshop by Julianne Kinch (BIRT) and Diana Toseland (Selby & York

Trust) about managing challenging behaviour in the community. Psychiatric illness pre- and post-brain injury was discussed by Dr Alf White (BIRT, Birmingham) while Dr Hugh Rickards (QE Psychiatric Hospital, Birmingham) outlined the drugs often used in neuropsychiatric treatment.

Treatments for various disorders included dysexecutive problems (Professor Jonathan Evans, University of Glasgow), memory problems (Professor Barbara Wilson, Oliver Zangwill Centre and MRC CBSU, Cambridge) and mild head injury and post-concussion syndrome (Dr Nigel King, Cambourne Centre, Aylesbury). Motivational problems were addressed by Professor Roger L Wood (University of Wales, Swansea) who offered a

conceptual framework for understanding a the variety of motivational problems and by Dr David Manchester (Motivational Interviewing Network of Trainers) who demonstrated the impact of using motivational interviewing. Vocational rehabilitation was discussed by Dr Andy Tyerman (Vale of Aylesbury Community Head Injury Service) and community re-integration was the workshop topic of Dorothy Iglesias and Emma Gale's (Royal Hospital for Neurodisability, Putney). Professor Oddy (BIRT) spoke about psychological adjustment and working with families was covered by Jenny Garber and Jackie Parker (JS Parker Associates). The approaches of other therapists was also represented including physiotherapy (Anna Marritt, BIRT, Leeds) and speech and language therapy (Sinead Corkey and Mandy Kay, BIRT, York and Milton Keynes). Increasing independence in activities of daily living was discussed by Dr Andrew Worthington (BIRT, Birmingham).

Assessment was the focus of two workshops, one focusing on assessment of capacity (Dr Camilla Herbert (BIRT) and another on risk assessment (Dr Andrew Worthington and Nichola Archer, BIRT, Birmingham). I was able to attend the latter in which it was proposed that the 'value' or potential benefits for the person of engaging in risky activities should be considered in addition to the severity of consequences and the probability that these will occur. Finally, the talk by Dr Sandy Clyne (Chester) entitled "Story of a psychologist with a brain injury" provided the audience with a unique insight into the personal and professional challenges following a significant brain injury. Attendees were able to take away important tips for improving service delivery and patient care.

Drew Alcott, Regional Consultant Clinical Neuropsychologist with the Brain Injury Rehabilitation Trust and Surrey & Borders Partnership