

PROCEEDINGS

Proceedings of the joint winter meeting of the British Neuropsychiatric Association and the British Neuropsychological Society, London Zoo (Regent's Park) 19 January 1996

The topic of the meeting was disorders of reasoning and perception.

The morning session started with Dr M Kopelman's (London) contribution **what's wrong and what's right with neuropsychiatry and neuropsychology?** Recent advances in these disciplines have focused the interest of neuropsychologists and neuropsychiatrists on the same abnormal mental phenomena (confabulation, amnesia, delusional memory, and face processing deficits). Useful insights have resulted from this interaction, but it has also become evident that neuropsychiatrists need to know more about neuropsychology to avoid misinterpreting neuropsychological findings, whereas neuropsychologists need to understand more about neuropsychiatry to appreciate the limitations of neuroimaging and to take greater account of the clinical context of neuropsychological findings. The nature of cognitive neuropsychiatry, an emerging discipline, remains to be determined, but initial impressions suggest that the single case approach to the cognitive evaluation of psychiatric symptoms is likely to be useful.

Dr P Burgess (London) discussed **content specific confabulation**. He presented a single case study of a patient who, after a subarachnoid haemorrhage from an anterior communicating aneurysm, developed an isolated, stable confabulation that persisted for many weeks. Similar cases of persistent, stable confabulation have been previously reported, but unlike in the patient presented, confabulation tended to be pervasive. Confabulations of this type challenge existing theoretical models and Dr Burgess suggested that dysfunction of the processes involved in autobiographical recollection, together with a failure to estimate the recency of events accurately, could explain this type of confabulation.

Dr A David (London) presented his paper **are people with delusions rational?** based on the idea that delusions may represent a failure of reasoning. He discussed the performance of schizophrenic patients with delusions and normal controls on formal reasoning tasks including syllogisms and judgements of probability. Both patients and controls tended to endorse syllogisms with greater validity and

were influenced by their believability. The emotional content of the syllogisms had a greater effect on schizophrenic patients making them more likely to be swayed by believability. The deluded group also tended to be less influenced by prior expectation when making probabilistic judgments. The results suggest that normal people are liable to be irrational and deluded people fractionally more so.

Dr J Marshall (Oxford) discussed his views of **what is a delusion?** using the definitions from current classification systems to highlight the conceptual pitfalls and drawing on the philosophy of science to illustrate his presentation.

The morning session ended with a lecture on **hallucinations** by Professor C Frith (London). Hallucinations have traditionally been considered to be independent of delusions and several studies, including his own, have suggested that hallucinations arise when internally generated linguistic material (thoughts, inner speech, etc) is incorrectly perceived as coming from an external source. A possible mechanism for distinguishing self generated from external signals relies on "corollary discharges". Information about intended motor acts can be used to modify the perceptual response to the sensory effects of these motor acts (for example, hearing the sound of one's own voice). It is plausible that such modulation could depend on the interaction between frontal areas, concerned with response generation, and sensory areas and there is some evidence that functional disconnection between these areas may occur in schizophrenia. Professor Frith presented the results of his work using distorted real time feedback of the patient's own voice. Patients with acute schizophrenia were very prone to attribute their own distorted voice to an external agent, but this abnormality was more closely related to the presence of delusions than hallucinations. This suggests that psychotic phenomena may arise when an unusual perceptual experience interacts with an abnormal mechanism for belief formation. It also suggests that hallucinations and delusions are intimately related.

The following short papers were presented

in the afternoon session: Dr Markowitsch (Bielefeld) presented **PET correlates of persistent psychogenic amnesia**. He discussed a patient of above average intelligence who had a psychogenic amnesia lasting eight months with severe loss of memory for personal events, but no anterograde amnesia and well preserved factual knowledge. A PET activation study resulted in selective activation of left hemisphere memory related areas when presented with episodic information relating to events before and after the onset of amnesia. Comparison with control data suggests that the patient treated incoming personal-autobiographical information in a neutral "semantic" way. This seems to be the first description of the neuronal correlates of psychogenic amnesia.

Dr J McNeill (London) reported a patient in whom **post-traumatic stress disorder (PTSD) occurred with amnesia for the precipitating event**. The patient involved in a road traffic accident had a post-traumatic amnesia of four weeks, but later experienced anxiety symptoms including nightmares and intrusive thoughts consistent with the diagnosis of PTSD. The patient responded to cognitive therapy. Such cases are in conflict with some of the traditional views of the aetiology of PTSD.

Dr S Baker (London) gave a paper entitled **The anatomy of logic: functional imaging studies of human reasoning**. Using PET, grammatical reasoning was found to activate the left frontal operculum and right rostrolateral prefrontal cortex, whereas activation of the inferior frontal cortex correlated with increasing syntactic complexity. When the subjects performed a three term series of problems (relational syllogisms) activation was found in the right dorsolateral prefrontal and medial parietal cortices in addition to the auditory-verbal working memory system.

Dr P Brugger (Zurich) presented work on **the neuropsychology of paranormal belief**. Using a guessing paradigm and a multiple choice category fluency task, belief in the paranormal was found to be associated with a relative overrepresentation of semantic similarities and a preference for remote rather than close associations. These findings may be relevant for a neuropsychological interpretation of delusional beliefs which assumes a disinhibition of semantic-associative processing.

Dr K Laws (Cambridge) discussed **the relationship between symptoms and cognitive deficits in schizophrenia**. Two patients were presented in whom treatment with clozapine had produced a dramatic clinical improvement with disappearance of positive and negative symptoms. Single case neuropsychological examination, however, disclosed the presence of profound memory deficits, especially for semantic memory, and recognition of familiar faces. These results confirm previous findings that improvement in clinical symptoms is not accompanied by cognitive recovery.

Dr R O'Carroll (Edinburgh) presented the

results of his study of **memory dysfunction and delusions** using proactive interference as an experimental paradigm. Schizophrenic patients failed to show a weakening of the effects of previous experience on new learning. Similarly, no such effect was found using associative word learning as an alternative paradigm. These results are in conflict with the theory that proactive interference may explain the neuropsychological deficits of schizophrenia. On the other hand there is mounting evidence that semantic memory dysfunction may be more relevant in these patients and may be related to delusion formation.

Mr D Nathaniel-James (London) described a study of **confabulation in schizophrenia**. Variable amounts of confabulations were elicited in schizophrenic patients, but very rarely in normal controls when asked to recall a narrative. Schizophrenic patients spontaneously arranged the original narratives to produce new ideas, something not described in other types of confabulation. The amount of confabulation was significantly related to difficulties in suppressing appropriate responses and to a lesser extent to thought disorder, but it was unrelated to the subjects' ability to understand the gist of the narratives. Difficulties in response monitoring and response suppression are likely to be relevant in this type of confabulation.

Dr R Corcoran (London) presented her study of **conversational conduct and the symptoms of schizophrenia** which aimed to explore the problems schizophrenic patients have in understanding the mental states of other people. Patients presented with sets of stories were asked to choose the likely final piece of speech of one of the characters. Two choices were given, only one of which adhered to the maxims of quantity, quality, and relation and to the request to be polite. Patients with negative symptoms tended to flout all maxims with the exception of the maxim of relation, whereas patients with paranoid delusions performed much the same as normal controls, but often failed to respond in a polite fashion. These effects were largely independent of current intellectual level.

Dr P McKenna (Cambridge) presented the results of a study of **probabilistic reasoning in schizophrenia: lack of relationship with delusions**. Using a task of probabilistic reasoning administered under "blind" conditions to schizophrenic patients and controls, schizophrenic patients had a significantly greater tendency to "jump to conclusions", but correlational analysis failed to find significant links between this cognitive abnormality and the presence of delusions.

The **BNPA summer** meeting will take place in Cambridge on 14–16 July. The topics for the meeting will be **neurodevelopment and language** and members will be invited to present papers and clinical cases.

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