

higher correlations, presumably because it best represented the characteristics of the decoding system.

We concluded that the comprehension of a self-embedded sentence such as "The teacher, above whom the grocer, beside whom the lawyer, above whom the doctor lives, lives, lives, lives in room six" requires a left-to-right, start-to-finish scan of the text; that each time a clause is interrupted by the beginning of another, parenthetically interpolated clause, a new temporary store is opened in memory for the new clause while the previous store remains open but quiescent; and that while material is being placed in an active store this generates interference in any previously opened, quiescent stores. In this way 'noise', arising as a consequence of the sentence structure and the way it is handled, causes the subject to make errors and also to allocate more time to the task. Individuals with intrinsically disorganised, 'noisy' minds would be especially vulnerable to this effect.

Similar mechanisms would presumably be engaged in the planning of sentences about to be uttered; so that people with 'cooler', less noisy minds should be capable of generating more complex, more parenthetical sentences; although they might not be motivated to do so and in terms of style and comprehensibility it might well be undesirable.

From this standpoint, the results of Dr Thomas *et al* would imply that chronic schizophrenics, although often less behaviourally disturbed than acute schizophrenics, have the more disordered, 'noisy' minds; that longer education is associated with less, and greater age with more, inherent susceptibility to parenthetical load and so on.

Parentheses are interruptions of a special kind. Dealing effectively with PL calls for the ability to place one or more uncompleted jobs 'on hold' in separate mental compartments and to insulate these as far as possible from mental activity elsewhere. This ability must be required for many kinds of thinking and in many everyday situations, as well as for handling language. A deficiency in this regard, if it is not the underlying cause of all thought disorder, must surely be an important component of it. A simplified version of our task, perhaps administered and scored by a small computer, could be of use in a variety of clinical, developmental and educational settings. It would be less time-consuming than an exhaustive linguistic analysis while still capturing much the same aspect of thought disorder, whether normal or psychotic in degree.

HUGH B. G. THOMAS

Middlewood Hospital  
Sheffield S6 1TP

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#### Understanding Capgras syndrome

SIR: I was interested to read the report by Rastogi (*Journal*, June 1990, 156, 883-884) but disappointed to see once again the delusion of inanimate doubles explained away by psychological symbolism. This variant of the Capgras phenomenon is of particular significance for our understanding of delusional misidentification syndromes (Anderson, 1988).

I have seen three cases of Capgras in elderly patients during the last 12 months who all subsequently developed dementias. Global cognitive impairment had not been clinically apparent at presentation although mild impairment was demonstrated by detailed neuropsychological testing in case three.

Case one, a 76-year-old woman, developed delusional replacement of her husband three weeks after collapse, and her later cognitive decline following further collapse with right homonymous hemianopia suggested a multi-infarct pathology. Case two, an 84-year-old woman, insisted her entire home had been replaced by an identical home, and showed me each room in the house containing furniture identical to her own which belonged to the delusional owner of the house. Case three, a 79-year-old woman, refused to eat with her daughter who she maintained was an identical imposter. Cases two and three went on to develop gradually progressive cognitive decline suggestive of an Alzheimer process. Similar cases of Capgras have been described in association with dementias (Kumar, 1987; Lipkin, 1988) and most psychogeriatricians see such cases with some regularity.

An organic basis for the Capgras phenomenon is becoming increasingly likely (Cummings, 1985; Lewis, 1987; Anderson, 1988), and the continued preoccupation with psychodynamic formulations which have not furthered our understanding of these interesting conditions over the last 60 years is unhelpful and unrewarding.

D. N. ANDERSON

Fazakerly Hospital  
Longmoor Lane  
Liverpool L9 7AL

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### Multifactorial intoxication?

SIR: I read with interest the article by Peh *et al* (*Journal*, June 1990, **156**, 891–893). However I fear that the discussion of possible mechanisms is perfunctory and potentially misleading.

Hyponatraemia is a relatively common finding in clinical practice, and numerous possible causes have been recognised (Foote, 1990). Spurious analytical errors may occur either from 'drip artefacts' or from conditions of hypertriglyceridaemia or hyperproteinaemia. Convincing evidence against these potential errors is lacking in the case described.

The limited clinical data given indicate the presence of a cardiomyopathy in a relatively young woman, apparent from early 1984, and the injudicious use of small quantities of intravenous fluid is dangerous, with disastrous consequences in this case. Biochemically, a picture of hypervolaemic hyponatraemia would be expected.

The syndrome of inappropriate antidiuretic hormone (SIADH) is rightly discussed, albeit briefly, by the authors. However no mention is made of tolbutamide's recognised ability as a sulphonylurea to induce this endocrinological abnormality. Moreover, head injury, convulsions and 'psychosis' are all described as individual causes of the same syndrome of excess antidiuretic hormone secretion in the face of low serum osmolality.

I would propose that the reasons for this unfortunate woman's hyponatraemia are at least multifactorial rather than isolated water intoxication as suggested.

ROBERT COLGATE

East Glamorgan General Hospital  
Church Village  
Pontypridd CF38 1AB

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### Memories in depression: pleasant or unpleasant?

SIR: It is generally accepted that depression is associated with unpleasant memories which are congruent with the affective state (e.g. Dunbar & Lishman,

1984; Teasdale & Dent, 1987). However, we have repeatedly been finding contradictory results regarding memory while studying other phenomena in pre-electroconvulsive therapy (ECT), drug-free, depressed (DSM-III-R diagnosed) patients admitted to hospital. For example, we unexpectedly found that over a period of 72 hours, depressives forgot significantly ( $F=6.283$ , d.f. 1,20:  $P<0.021$ ) more negative than positive affect words, as compared with normals and schizophrenics (e.g. Calev, 1988).

In another study (Bachar *et al*, 1987), pre-ECT depressed patients tended to produce, during a reminiscing interview (encouraging subjects to speak about events which happened five years or more previously), more positive memories (mean = 51%; s.d. = 37) than did normal controls (mean = 44; s.d. = 15), although this difference was not significant. In a reminiscing group (Bachar, submitted), depressed patients produced a mean of 83% (s.d. = 18) positive affect memories. In a study of dream recall (Bachar, in preparation), we found that depressives tended to recall more positive than negative dream contents. Twenty-one out of 37 dreams were classified as positive (using Hole & Castle's (1966) classification system), and only 16 dreams were classified as negative. While dream recall norms are lacking, this finding once again shows that depressives tend to recall more positive than negative contents.

The common denominator of all our findings, in contrast to most former findings, is *delayed testing* for the 'to-be-remembered' materials. It is thus possible that positive emotional contents may be suppressed and temporarily unretrievable during depression because of state-dependent negative thought-processes. These negative materials may be well consolidated in memory, as shown by our paradigms (delayed recall, remote memory reminiscing, and dream recall). Depressives may retrieve these memories later and use them as a means for recovery.

EYTAN BACHAR  
AVRAHAM CALEV  
BARUCH SHAPIRA  
BERNARD LERER

Sarah Herzog Memorial Hospital  
The Hebrew University Hadassah Medical School  
PO Box 140  
Jerusalem 91001

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