Undermining Cognitive Constraints:
Revealing Threats Buried Beneath Mounds of Data

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PMA–3 landmine (image courtesy wikipedia)
PSS 14 mine detector Image: www.cyterra.com
DECISION

MENTAL REPRESENTATION

PERCEIVED DATA
Low-level observations (symptoms and signs)

Intermediate constructs (meaningful patterns)

Effective problem solvers

Less effective problem solvers

Diagnosis

Patel, Arocha, Kaufman 1994
Intermediate constructs (meaningful patterns)
We report the case of a 31 year old man who had an 11 year history of delusional idea that he was transparent ("like a piece of glass") associated with alcohol abuse. He discovered that alcohol suppressed these symptoms and therefore during episodes when his delusion was most manifest he drank heavily.

The intense fear he experienced when people seemed able to look right through him caused him to hurry along the streets seeking shadows or darkness in order to hide his face as far as possible.

He had been referred to neurologists on previous occasions for their opinion especially because there was a history of head injury at the age of 17.

The full case-notes have not been available to us but no abnormal findings resulted.

Antipsychotic agents and one anti-epileptic agent (carbamazepine) had been ineffective in moderating his feelings of transparency.

These various medications had been prescribed at another hospital over the course of the previous 10 years and we have been unable to discover the dosages used although compliance was probably poor.

The episodic alcoholic binges continued and were associated with increasing social isolation and by the end of 1993 he was drinking to a consistently heavy degree.

He was referred to a Community Mental Health Team and was admitted to an inpatient unit for assessment.

At this point his mental state was difficult to assess because of intoxication.

However the following day he was relaxed and well-spoken and apologetic for his previous state.

He had good cognitive function and there were no delusional ideas expressed at that time.

He was de-toxified from alcohol according to British National Formulary guidelines over a seven day period.

On high doses of chlorpromazine he had been able to speak normally but as the dose was reduced he began to stammer and develop a tic on the right side of his mouth.

This tic was noted to be much worse when he was in stressful situations and the patient reported that he had had it before.
6/7 with interface vs. 2/8 without interface
Decompensating patient

Has myocardial infarction shortly after period displayed to participants

“I don’t think I would do anything”

“I won't do any intervention just wait and watch”

“I would be very concerned that this patient is acutely decompensating”

“I am concerned” “This is something I would need to investigate and intervene on”

KNOWLEDGE MODEL
Cognitive support

Intermediate constructs (meaningful patterns)

Less effective problem solvers
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