Emotion and confabulation

Prof Oliver Turnbull
Centre for Cognitive Neuroscience
School of Psychology
Bangor University
Wales, UK
Confabulation: The clinical phenomenon

The disorder

Striking false beliefs
Sustained despite contrary evidence
Bilateral medial frontal lesions?

Examples:
Spouse as imposter
Hospital as hotel/home
Today’s talk

Confabulation in neurological patients

Cognitive accounts

A role for emotion - defence

Treatment implications

Links to confabulations in psychiatric patients
Delusions about place

Lived Grimsby, recovering Edinburgh

“Where are we? … in Scotland”
“Are we in Grimsby? I class it as Grimsby, I always do”
“Is Grimsby in Scotland? No, Linconshire… I could be in Linconshire in two minutes”
“We class this as Scotland, but we don’t say ‘Scotland’ we say ‘Grimsby’ here”
“Grimsby and Scotland are the same place”

Behaviour: “He would call loudly for his wife, and on receiving no reply would remark that she must be out shopping”

Patterson & Zangwill (1944)
A cognitive account: *Amnesia*

Traditional explanation: Bonhoffer (1901) confabulation is secondary to amnesia ‘gap-filling’ motivated by embarrassment.

*Evidence*: Most confabulators are amnesic
Problems with the *amnesic* account

a. Most confabulators are amnesic but most amnesics don’t confabulate…

b. The development of Korsakoff psychosis confabulation is common in the acute stages it recovers in the chronic phase leaves a *non*-confabulatory amnesia… (DeLuca, 2000).
Another cognitive account: Executive impairment

Logical/intellectual/problem-solving impairment

Evidence:
- Consistent with frontal lesion site
- Most confabulators are dysexecutive
- Recovery of executive function correlates with recovery of confabulation
Problems with the *executive* account

a. Always additional disorders especially amnesia

b. Most patients with dysexecutive disorders do *not* confabulate…

c. Selective nature of the disorder
   lucid and coherent on a wide range of other topics. Burgess & McNeil (1999, p.164)

‘too much of an explanation’
An additional problem: Motivation


Focus on:

“personal matters that are emotionally significant to them”

“the integrity of their body... their prospects of recovering, and for reassuming their prior lifestyle and employment” (Kinsbourne, 2000, p.158).
A wish fulfilment’ quality?

65 year-old meterologist
Bilateral frontal lesions (R>L)
(Kaplan-Solms & Solms, 2000)

Believed the ward was a barge or on a cruise
Believed he had 3 children (aged 29, 31 & 33), but actually his only son had died, as a child
Regularly thought it was 5pm (visiting time)
Re-casting ‘wish fulfilment’

Language understood by neuroscience
Simplification
Quantification, control, reliability…

Focus on:
The ‘pleasantness’ of confabulations
An unselected series

- ES, aged 56, medial frontal meningioma
  Dense anterograde amnesia
  Florid confabulation: at work, sports appointments, replacement of eyes…
- 155 unselected confabulations, from 6 sessions

Irrational ideas, coupled with actions

Claimed that he had a Porsche and a Maserati; that he was a racing-car driver; that he was working with the police; that his wife and daughter (in reality a 4-year old) were “working as spies”

Refused to leave the clinic with his wife, insisting he was not married to her (Capgras delusion)

Interrupt session asking the Examiner questions such as: “Where is my beer?”, and would look for a beer on the desk.

Replication, with a larger sample

Confabulating patient 2:
Confabulation 19. Suddenly the patient says:
“Oh, I am sorry, pet. I have to go now. My wife is upstairs you see. We are having steak today. It should be ready by now”.
[Upstairs? Your wife?]
“Oh, yes, you did not know, I rent the flat upstairs. Well, my wife liked the view. I thought why not. It’s nice here, it’s quiet. Oh, yes, I must go. I am having my steak, my favourite meal. I am sorry, pet”.

[In fact, the hospital ward was on the ground floor and there was no other floor above it. His wife lived in the flat they owned, which was approximately 20 miles away. According to his wife, the patient often had steak before his hospitalisation].
Rating: (a) mean rating – 7 (positive).

Confabulating patient 4:
Confabulation 12. The discussion continues.
{So, you said you were married?}
“Yeah, I’ve got a wife called Mary”.

[The patient was a widower but re-married recently. His wife’s name is Pauline. His former wife was called Carol].
Rating: (b) impossible to judge.

Replication, with a larger sample

Fig. 1 – Percentages of positive and non-positive confabulatory self-representations across groups. Note: * Indicates significant differences between the percentages of positive and non-positive confabulations ($p < .001$).

A survey of the reduplication literature

- Baseline ‘pleasantness’ often unknown: Capgras delusion
- Reduplicative paramnesia for place
- Survey the world literature, from 1980-2000
- 16 cases
- Rated ‘pleasantness’ of actual and confabulated locations (blind to category)

Actual location:
Hospital or clinic

Confabulated location
old secondary school
at work (x4)
at my doctor’s home
in my old university
in a hotel or motel (x2)
in my mother’s home town
on a ferry in the Caribbean
on holiday on a barge
in a bistro
at home (x3)

Greater specificity

Are all experiences positive?
Self versus other?
Positive versus negative?

Controls.

Example 1: Normal control: N7
Male: age 57 years; Plot 1

Immediate recall 2: “I’m a dedicated employee, I’m sitting on a Sunday morning, looking forward to a day-trip to the seaside. My friend calls, to tell me they’re feeling ill and lonely... I explain, no actually I don’t explain how tired I am, I make up an excuse that I have to see my sister. And then four days later, my friend’s health has deteriorated due to inappropriate treatment and I feel guilty and I can’t remember what else it is”.

Example 2: Amnesic control: A2
Male: age 63 years; Plot 1

Immediate recall 2: “He made an excuse that he was on holiday and his friend died. Oh, yes, and I felt ashamed”.

Confabulators

Example 3: Confabulating patient: L.H
Male: age 60 years; Plot 1

Immediate recall 2: “You are going to see your sister at the coast, you
felt you needed a rehab visit to get yourself totted up again, a friend
rings, he feels ill, getting worse, he needs a bit of help, would you go and
talk to him, to cheer him up, pulling straight whatever. You go down you
do that, that is on a Monday or something like that, by the Friday the
medical people realise that they have been giving him wrong treatment
and his condition has deteriorated considerably, but you feel happy that
you’ve been down to help on time”.

Confabulating patients: distorted negative stories about *themselves* offer a more *positive* image
Not present for negative stories for others or for other groups (amnesics or normal controls)

What does this mean?

Does emotion explain everything about confabulation?
   No, patients tend to be *amnesic* and *dysexecutive*

Emotion regulation as *one* factor
   a. amnesic
      forget, but don’t confabulate
   b. dysexecutive
      disorganised, but don’t confabulate
   c. emotion-related impairment (with a or b)
      bias their errors, to protect themselves
An alternative account

Lesion to emotion regulation systems
medial frontal

Difficulty tolerating the emotional consequences of ideas

Tolerate false belief states where needed
‘self-negative’ condition

Classic defence mechanisms (rationalisation, repression…)

Exacerbated by limited cognitive resources?
Treatment implications?

Emotional consequences of ideas...

Directly challenging the delusional belief?
  Strengthens defences
  Undercuts relationship...

Challenge with tolerable emotional consequences?
  in a supportive therapeutic environment
  allow normal mourning...
Self-awareness after brain injury

Challenging awareness of deficit (‘Direct’ intervention)
‘Reality-orientation’ treatment
Psychoeducation

No direct challenge (‘Indirect’ intervention)
Interpretative, more psychologically-supportive.
Mindfulness - well-established administration protocol

N=28, out-patient community neuro-rehabilitation service
moderate to severe acquired brain injury, >2 years
reduced self-awareness

Implications for psychiatry?

Are psychiatric confabulations similar?
- Interpreted delusional states this way?
- Emotional consequences may be negative?
- Delusional beliefs more grandiose?
- Locate the patient more ‘prominently’?
Conclusions

A remarkable disorder

*Recognised by neuroscience and psychiatry but poorly understood*

A reinterpretation

confronting inconvenient facts

offering an alternative account

with treatment implications…