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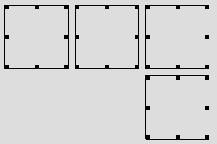

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Commentary on “The Pleasantness of False Beliefs”

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Confabulation: A Psychic Wonderland?

“Will you, won't you, will you, won't you, will you join the dance?”
Lewis Caroll, Alice's Adventures in Wonderland

The question

Brain damage may drive mental life either outward or inward, to join or not to join the Dance. In the latter case, it may unveil an underlying level of mental function that previously was covert. With that possibility in mind for the genesis of confabulations, Turnbull, Jenkins, and Rowley present an innovative study of the emotional valence of confabulations uttered by three patients with ventromesial frontal injury. They nest their empirical presentation in a more extensive discussion of method and theory.

Confabulation has been defined as “spontaneous narrative reports of events that never happened” (Schacter, Norman, & Koutstaal, 1998). This definition has to be qualified by the fact that the event may be in the present or future, as well as in the past (for a recent and comprehensive review, see Schnider, 2003). Whether the patients really believe what they are saying or are instead speaking metaphorically is hard to ascertain, and not part of the definition. However, the patients are not merely misinformed, and conscious attempts to deceive are also excluded from the construct.

Confabulation is associated with organic amnesia, prefrontal deficits, or both in conjunction (DeLuca, 2000). In some cases, it reflects flawed emergence of language at the level of which concepts are specified in that domain (Brown, 1988). In others, there is flawed emergence of meaning. Confabulatory speech has been attributed to failure of the brain to monitor the emerging proposition for accuracy (Johnson, 1997). These and others models of confabulation do not take into consideration the expected valence of confabulatory utterances. Turnbull and coauthors conceive the issue from a psychoanalytic perspective, as lapsed editing of primary-process contents by secondary processes, before they are expressed in words (Solms, 2000). They therefore bring the question of emotional valence into the discussion. If confabulation is a disinhibited expression of a covert underlying mental state—specifically, primary process—one would expect it to express or symbolize the emotional valence of that state as well as its ideational content. I have previously suggested that confabulation is fostered by “an inner-directed focus on an affectively laden issue, a focus that is so intense and narrow that it excludes peripheral information, or memories that might conflict with the favored interpretation of the situation” (Kinsbourne, 2000a, p. 159). Free association on the couch should be conducive to revealing such a state of mind in someone who

harbors it, which perhaps is why Kaplan-Solms and Solms (2000) were able to record a large-enough sample of confabulation for Turnbull and colleagues' subsequent statistical analysis from analytic sessions of as few as three subjects.

A patient who has suffered a severe brain injury might be expected to exhibit a negative mood. Yet to Solms (2000), many of the patients' confabulations “appear to serve positive, ‘wishful’ purposes” (p. 136). Focusing on this observation, Turnbull and colleagues confined their inquiry to whether the confabulations indeed predominantly exhibit a positively valenced emotional tone, as one would expect if Solms' wishfulfillment hypothesis were correct.

The study

Kaplan-Solms and Solms (2000) recorded during multiple sessions of psychoanalysis the confabulations of four patients with ventromesial frontal-cortex lesions. Turnbull and colleagues subjected to a quantitative test their impressions as to positive affect implicit in the confabulations. Studying the three patients whose transcripts yielded sufficient data, they did not, in fact, find any substantial overall bias toward positive valence. However, they did find that the confabulations reflected a more positive emotional bias as compared to the negative mood of the patients during the period while they were confabulating.

Clinical impressions are based on "positive instances," observations that stand out because they support a particular construct that is of interest to the clinician. Though useful as pilot data, they are an insufficient basis for a definitive conclusion, because they are subject to self-validating bias. Turnbull and colleagues find it necessary to study all confabulations on record and to determine whether all or most are indeed positive in emotional tone. The confabulations were recorded during psychoanalysis and later were rated under controlled conditions. However, the corresponding moods had been evaluated by the analyst during the analysis, and thus could not have been controlled for bias. The results reveal a discrepancy between "pleasantness" rating of the confabulations and ratings of contemporaneous mood. On average, confabulations were actually not particularly pleasant. Their mean pleasantness was close to the neutral average of 4 in a rating range of 1 to 7 (4.5, 4.3, and 3.7, respectively, for the three study patients). As a bias toward joyfulness, this is quite unimpressive, so it was just as well that the whole data set was included in the analysis. Nonetheless, since the concurrent mood ratings were clearly negative, the utterances did reflect a significantly more positive state of mind than the mood that was inferred by the analyst at the time.

Limitations

One can question the validity of the findings and especially their generalizability across situations, as well as across the bulk of cases of confabulation. The investigators appear to take for granted that the levels of rated mood and of pleasantness of utterances during analysis would have been expected to correspond. This is not self-evident and needs to be supported empirically. When other patients under analysis, who also probably are not in the greatest of moods, give voice to their albeit more reliable reflections, are these more congruent with their moods?

One can also question the generality of the findings. Can they be generalized beyond the analytic setting? The patients may have biased their expressions positively in reaction to the situation's demand characteristics and notably the presence, however unobtrusive, of the analyst. Can the results be generalized to confabulators as a group? Subtypes of confabulation probably exist. For instance, the variable of memory loss might moderate the nature of confabulations. Patients with frontal lesions, like those under study, may have little or no memory loss, whereas confabulation has been historically associated with the early stages of Korsakoff's psychosis, which is characterized by a dense amnesia. Recollection refers largely to external cues, and when it is attenuated, internal processes of evaluation and expectation may disproportionately influence the episode as remembered. Whether in the absence of concurrent frontal injury such a mechanism would be expected to contribute a positive gloss to the remembered event is unclear.

Confabulations are certainly not uniform in their characteristics. The boundaries of confabulation as a category are tantalizingly porous: most, but not all, apply to the past; most but not all, are provoked by questions; most, but not all, reflect scenarios that are possible. Some invoke events that happened but at a different time, whereas others claim impossibilities. There is a family resemblance among confabulations, but nothing more. Nonetheless, whether they can be generalized or not, the present findings appear to be an existence proof that confabulations following frontal lesions have a distinctive emotional tone, relative to rated mood.

These reservations do not reflect poorly on the study. No single experiment should be expected to

answer any worthwhile question with complete assurance. Studies converge on the truth in "bite-sized chunks," as Turnbull and colleagues remark, and very properly they did not bite off more than they could chew. Even so, they have succeeded in offering a serious challenge to the prevalent purely cognitive accounts of confabulation.

Interpretations

People unconsciously revise their recollections so as to make them consistent with their self-concepts and thus more positive. Perhaps it is the same process, amplified by the frontal lesion, that blossoms into frank, or even fantastic, confabulation. Usually confined within reasonable adaptive bounds, the brain lesion

releases this self-serving tendency from frontal control. How might the unedited material that consequently comes to light best be characterized?

As previously remarked, the results of Turnbull and colleagues did not directly bear out the observations of Kaplan-Solms and Solms (2000) as to the positive valence of the confabulations. Two of the patients were rated on average barely on the positive side of neutral, and the third was rated marginally on the negative side. Instead, Turnbull and colleagues offer a significant disparity of the valence of the utterances and observed indices of the patients' moods at that time. However, if the patients were revealing primary process and wish fulfillment, why did their mood remain negative? Perhaps the confabulations were a rather ineffective attempt at self-help, a sort of whistling to keep one's courage up.

Kaplan-Solms and Solms (2000) perceive the hallmarks of the System Unconscious (Ucs.) in confabulated content. They detect examples of "exemption from mutual contradiction, primary process (motility of cathexis), timelessness and substitution of psychic for external reality" (Freud, 1915, p. 187). If primary process reflects wish fulfillment, the confabulated material should be more benign than the external reality. Turnbull and colleagues endorse the attribution to Ucs., but strive to "recast" the Ucs. "in terms understandable by modern neuroscientists." This should not be too difficult. The mental state maps in part onto "egocentricity" (Piaget, 1957), a construct that refers to the stimulus control that the child's immediate and salient context exerts over what the child perceives and what it does. The child cannot decenter its attention from its immediate surroundings so as to adopt another person's perspective. Egocentricity can be seen in confabulators' insouciant assimilation of the facts to their own internal perspective (their "psychic" reality). They do not appreciate how outlandish and off-putting their statements might seem to others, and therefore they freely verbalizes their claims. The confabulatory utterance does not suddenly and inadvertently leak out of an otherwise repressed unconscious. Far from being taken aback at what they have just heard themselves say, the patients firmly reiterate it and disdain critical analysis. The sources of the verbalized experiences, however, differ for the young child and for adults who confabulate following brain damage. Whereas the young child's experience is under the control of prepotent external stimuli, a confabulating adult's experience is under the control of prepotent internal stimuli.

Are confabulations really false beliefs, as the title of Turnbull and colleagues' article indicates? A past U.S. Attorney General usefully cautioned: "Watch what we do, not what we say." Watching both, we observe that what confabulators do is rarely consistent with what they say. They are strikingly inconsequential about the implications of what they are saying, as one is in a fantasy or in a dream. Perhaps the patients both believe and do not believe what they are saying. Discussing schizophrenia, Sass (1994) introduced the term "double bookkeeping" for concurrently subscribing to a fantasized reality and nonetheless maintaining the capacity for realistic thought. To a lesser degree, double bookkeeping may be found in less severe psychopathology and even in normally functioning people.

Possible brain basis

Elsewhere, I have described the flow in the brain of massive, opposing, and clashing streams of neural impulses that ultimately equilibrate. One stream is centripetal, flowing from sensory-receptor surfaces inward, and the other stream is centrifugal, emanating from core limbic structures and flowing outward to meet the sensory input (Kinsbourne, 2000a, 2000b). The traffic of nerve impulses between cerebral processors is bidirectional. Although they arise at opposite poles and flow in opposite directions, the two streams of neurally coded information interdigitate within the same sequence of processors. They are flexibly balanced, and the experience of the moment reflects a reconciliation of the information about the outside world with the information about the individual's expectations and evaluations. When there are prepotent stimuli in the environment, attention is drawn outward; conversely, when the prepotent stimuli are internal, attention internalizes. If there are adaptive grounds for inhibiting actions arising from prepotent stimuli, then

the ventromesial frontal cortex assists in this effortful self-regulation (Levine, Freedman, Dawson, Black, & Stuss, 1999).

Intra-active states include reflection, reverie, and dreaming, which all occur when nothing salient is directing attention to the exterior. The ventromesial frontal lobes drive attention toward current external reality. In the confabulating patients, these structures are damaged, resulting in a bias toward internalized attention. Disinhibition following ventromesial frontal injury has been directly demonstrated (Shimamura, 2000), and patients with prefrontal injury "present an unrealistically favorable view of themselves" (Tranel,

2002, p. 344). So the relatively positive valence that Turnbull and colleagues report may be an instance of a far more widespread consequence of ventromesial frontal injury.

The ability to detach attention from one's own perspective, which is prepotent, to that of another person, can be impaired by frontal lesions, especially on the right (Sorman, Wasserstein, & Kinsbourne, in preparation). The disinhibition of the egocentric perspective does not merely release some fragmentary primitive responses, or elements of inner speech, laconic, loaded with predicates, and cryptic (Vygotsky, 1962). Rather, the verbally well-formed confabulations offer a hint of the inner reality or fantasy. The confidence with which confabulators contradict external realities suggests a deeply intra-active locus of attention.

Primary-process-like fantasy is a normally occurring state of mind and quite conscious. A sense of reality coexists. Written at a time when the concept of unconscious mental processes had already become familiar (Whyte, 1962), Lewis Carroll's psychic reality, as expressed in his Alice's Wonderland, entertainingly exemplifies the parameters of primary process. No wonder psychic reality can entertain irreconcilable propositions ("why, sometimes I believed as many as six impossible things before breakfast"), the breakfast having been taken Through the Looking Glass). Contradictory beliefs are disadvantageous only when an overt response is called for. But just as dreamers are not expected to act on their dreamed intentions, so confabulators do not typically press their psychic realities to the point of consequent action. Shifting cathexes also is harmless when they are shifted in a subjective wonderland ("The Queen—went stamping about and shouting "Off with his head" or "Off with her head'!"). Timelessness is equally unproblematic ("jam tomorrow and jam yesterday—but never jam today") at least when time is viewed Through the Looking Glass (Chapter 5). Since nothing needs to be done, nothing has to be timed. Similarly negation is redundant ("When I use a word, it means just what I choose it to mean—neither more nor less"), at least Through the Looking Glass (Chapter 6). A relatively positive affect is not on Freud's list of characteristics of primary process. However, it is easily explained as due to the relief from external stresses that is afforded by the constructed reality.

Summary

I have suggested a neuroscience account of "frontal" confabulations as primary process that invokes a deeply intra-active locus of attention. The frontal damage has released the internalizing tendency from inhibition. Had they been intact, the medial frontal lobes would have directed attention toward the outside world, and the patients' free associations would have been better attuned to the external reality. The internalizing focus leads to the construction of alternative realities that are exempt from internal constraints and are associated with positive affect. The external reality remains as a background presence in awareness.

References

Brown, J. W. (1988). The Life of the Mind. Hillsdale, NJ: Lawrence Erlbaum Associates.

DeLuca, J. (2000). A cognitive perspective on confabulation. *Neuro-Psychoanalysis*, 2: 119-132. [→]

Freud, S. (1915). The unconscious. Standard Edition, 14. [→]

Johnson, M. L. (1997). Source monitoring and memory distortion. *Philosophical Transactions of the Royal Society, B. Biological Sciences*, 352: 1733-1745.

Kaplan-Solms, K., & Solms, M. (2000). Clinical Studies in Neuro-Psychoanalysis: Introduction to a Depth Psychology. London: Karnac. [→]

Kinsbourne, M. (2000a). New models for old: Taking the neural network seriously. *Brain and Cognition*, 42: 13-16.

Kinsbourne, M. (2000b). The mechanism of confabulation. *Neuro-Psychoanalysis*, 2: 158-162. [→]

Levine, B., Freedman, M., Dawson, D., Black, S., & Stuss, D. T. (1999). Ventral frontal contribution to self-regulation: Consequence of episodic memory and inhibition. *Neurocase*, 5: 263-275.

Piaget, J. (1957). The Language and Thought of the Child, trans. M. Gabain. Cleveland, OH: Meridian.

Sass, L. (1994). The Paradoxes of Delusion: Wittgenstein, Schreber and the Schizophrenic Mind. Ithaca, NY: Cornell University Press.

Schacter, D. L., Norman, K. A., & Koutstaal, W. (1998). The cognitive neuroscience of constructive memory. *Annual Review of Psychology*, 49: 289-318.

Schnider, A. (2003). Spontaneous confabulation and the adaptation of thought to ongoing reality. *Nature Reviews: Neuroscience*, 4: 662-671.

Shimamura, A. (2000). The role of prefrontal cortex in dynamic filtering. *Psychobiology*, 28: 207-218.
Solms, M. (2000). A psychoanalytic perspective on confabulation. *Neuro-Psychoanalysis*, 2: 133-158. [→]
Sorman, P., Wasserstein, J., & Kinsbourne, M. (in preparation). Conservation status and mental state inference dissociate by laterality of frontal injury.
Tranel, D. (2002). Emotion, decision-making, and the ventromedial prefrontal cortex. In: Principles of Frontal Lobe Function, ed. D. T. Stuss & R. T. Knight. Oxford: Oxford University Press.
Vygotsky, L. S. (1962). Thought and Language, trans. E. Hanfmann & G. Vakar. Cambridge, MA: MIT Press.
Whyte, L. L. (1962). The Unconscious before Freud. New York: Anchor.

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