Confabulations in schizophrenia
Mohammed K. Shakeel* and Nancy M. Docherty

Schizophrenia Research Lab, Department of Psychology, Kent State University, P.O. Box 5190, Kent, OH 44242-0001, USA

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Introduction. Current theories of confabulation are based primarily on the observation of neurological patients. The present paper evaluates these theories based on evidence from schizophrenia. Schizophrenia is unique in that it presents with a pathophysiology which differs from that of other neuropsychiatric conditions, and yet the candidate’s deficits that various theories of confabulation implicate are often simultaneously present in schizophrenia.

Methods. A selective review of literature on schizophrenic and neurological confabulations was undertaken.

Results. Schizophrenic confabulation differs from neurological confabulation in terms of its characteristic features and association with symptoms, cognition and linguistic functions. Current evidence also suggests that confabulation may be conceptualized as a special class of delusions pertaining to memory phenomena.

Conclusions. Schizophrenia presents with confabulations that cannot be fully accounted for by the existing theories. It also presents with confabulations with unique features, which have different cognitive correlates and relation to other symptoms of the condition.

Keywords: confabulation; schizophrenia; delusion

He not only recalls facts, but also things said in his presence, possibly even his dreams, and all of this is now part of his consciousness … If he remembers something, he cannot decide whether it happened in reality or whether he dreamed it: the trace left by a real incident is only little different from the one left by … an idea. Korsakoff (1889, p. 514)

Confabulation can be defined as “statements or actions that reflect unintentional but obvious distortions of memory” (Gilboa et al., 2006). Two features characterize confabulations (Berlyne, 1972; Burgess & McNeil, 1999; Moscovitch & Melo, 1997). (1) They are false memories – either false in content or false in the given context, and (2) the confabulator is unaware of the falsehood of these claims. Confabulation is a relatively rare form of memory disorder found in severe neuropsychiatric conditions like Korsakoff’s syndrome, traumatic brain injury, anterior communication artery aneurysm, Alzheimer’s disease, bipolar disorder, schizophrenia, and (in a milder form) among healthy people (La Corte, George, Pradat-Diehl, & Dalla Barba, 2011; Lorente-Rovira, McKenna, Berrios, Villagrá-Moreno, & Moro-Ipola, 2011; Salazar-Fraile et al., 2004; Zaragoza, Payment, Ackil, Drivdahl, & Beck, 2001; review). It is an intriguing phenomenon which has the potential to tell us more than we currently know about the mechanisms of memory, and how their

*Corresponding author. Email: mshakeel@kent.edu

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breakdown can result in memory errors. Most of what we know about confabulation comes from studies of neurological conditions, and it has not been examined whether the theories derived from these conditions can also account for confabulations in psychiatric conditions like schizophrenia.

Understanding confabulation as it occurs in schizophrenia is important because schizophrenia has a pathophysiology that differs from that of other neuropsychiatric conditions, and any theory that claims to account for confabulation should be able to account for it wherever it is found, and not just in organic psychosis. More importantly, schizophrenia provides a unique opportunity for evaluating competing theories because the candidate’s deficits implicated by various theories – temporal context confusions, executive functioning, memory and monitoring deficits – are all present in schizophrenia, often simultaneously (Lorente-Rovira, Pomarol-Clotet, McCarthy, Berrios, & McKenna, 2007; Lorente-Rovira, Santos-Gomez, Moro, Villagrán, & McKenna, 2010; Nathaniel-James, Foong, & Frith, 1996). There are several theories that try to account for confabulation. The aim of the present review is to evaluate these theories and examine them based on evidence from schizophrenia. We also describe the unique aspects of schizophrenic confabulation, and how it relates to cognitive function and positive symptoms.

Methods

Few studies have investigated the confabulations in schizophrenia. At the time of writing, a Pubmed search for “schizophrenia + confabulation” produced only 17 papers. A broader search for “confabulation” produced 295 papers (with 38 reviews). As the purpose of the current review was to compare what is known about confabulation in schizophrenia in terms of features, cognitive basis and relation to symptoms with findings from other neuropsychiatric conditions and predictions from current theories, more attention was paid to studies which provided information to help answer these questions. The review was not limited to any specific period, but most of the papers (especially the ones relevant to schizophrenia) were published on or after 1996. Two books on confabulation were also referred to in preparing this review (Hirstein, 2005; Schnider, 2008).

Results and discussion

Theories of confabulation

The oldest theory of confabulation states that confabulations serve to fill in gaps in one’s memory. Kraepelin (1919/1971) was an early proponent of this view which is still widely held (e.g., American Psychiatric Association [APA], 2000) despite the fact that there is little empirical evidence to support it (Schnider, von Däniken, & Gutbrod, 1996). The more recent theories include temporality, source-monitoring and retrieval accounts.

Temporality theory

The basic idea underlying temporality theory is that confabulations occur because true memories are misplaced in time and become irrelevant in the given context. They may correctly remember the content, but fail to recognise the chronological order of events (see Korsakoff, 1889). There are two versions of this account by Dalla Barba and by Schnider. According to Dalla Barba (1993) confabulations occur because patients confuse habitual, well-learned and generic information for specific events in time (habits confabulation; Gilboa & Verfaellie, 2010; La Corte et al., 2011). In a case study,
La Corte et al. (2011) showed that a patient with ruptured right internal carotid siphon aneurysm confabulated on questions related to autobiographical information (“What did you do yesterday?”, “I was at the Montpellier University to give a lecture”), orientation to time and place (“Where are we now?”, “We are in the French Oil Department”) and personal future (“What are you going to do tonight?”, “I will go back home and will have dinner with my wife”; p. 311). For every question, the patient recalled a memory from his past which was generally true, though not true with respect to the time period specified in the question. However, the patient did not confabulate when questioned about semantic memory, impersonal future, etc. Schnider (2008), on the other hand, suggests that confabulators are unable to suppress previously activated, but currently irrelevant memory traces, which results in past memories intruding into the present (temporal context confusion). Schnider (2008) implicates a failure of the (dopamine-mediated) reward system of the brain in the failure to suppress currently irrelevant information (see Gilboa & Verfaellie, 2010). Schnider’s account is similar to that of Dalla Barba’s in its emphasis on the irrelevance of retrieved memories with respect to the current context, but it differs from Dalla Barba in its emphasis on proactive interference as the primary source of confabulations.

Although studies have supported temporality theory (Gilboa et al., 2006; Schnider, 2003; Schnider & Ptak, 1999; but see), temporal accounts are limited by their inability to account for complex/bizarre confabulations in terms of a reliance on the stable elements of memory or temporal displacement of true memories. An anterior communicating artery aneurysm patient who claims to have met a woman with a bee’s head (Turner, Cipolotti, & Shallice, 2010) or a schizophrenia patient who claims to have committed murder (McKenna, 2007) cannot be said to be confusing their past memories with the present.

**Source monitoring theory**

Source monitoring (SM) theory states that memories are attributed to specific sources using heuristic and systematic decision-making processes, based on evaluation of cues such as contextual and sensory/perceptual information, cognitive operations and semantic detail (Johnson, Hashtroudi, & Lindsay, 1993). Cognitive impairments can affect the evaluative processes involved in making these judgements (Shakeel & Docherty, 2012), and disruption in the more extended reasoning processes can result in confabulation (e.g., Johnson et al., 1993). SM theory can account for the findings of the temporality theory in terms of a metacognitive deficit in discriminating the origins of various retrieved information (see e.g., Turner et al., 2010), and it can account for more. For example, when a patient claims to have died because of a gunshot wound (Stuss, Alexander, Lieberman, & Levine, 1978), it is hard to argue they are confusing their personal past with the present, but SM can account for this in terms of a failure to distinguish between imagination and perception (Johnson et al., 1993).

Despite being theoretically plausible, there is a lack of adequate empirical evidence supporting a specific association of SM deficits with confabulation (see e.g., Johnson, O’Connor, & Cantor, 1997). Studies have documented SM errors in non-confabulating patients (Johnson et al., 1997; Kopelman, Ng, & Brouke, 1997) and also have implicated different brain regions for the two phenomena (Gilboa & Moscovitch, 2002; Johnson & Raye, 2000). In summary, SM deficits are neither necessary nor sufficient for confabulation to occur, but may be one of several factors that contribute to it (e.g., Gilboa & Verfaellie, 2010; Johnson, Hayes, D’Esposito, & Raye, 2000; Schnider, 2008; Turner et al, 2010).
Retrieval accounts

Retrieval theories view confabulation primarily as the result of failure in retrieval/reconstructive processes of memory due to a dysfunction in coordinated activity of areas including the hippocampus, dorsolateral and ventromedial prefrontal cortex and the frontal pole. According to the strategic retrieval model, confabulations can result from a defective search component (resulting in failed search strategies and retrieval) interacting with monitoring deficits (resulting in an inability to reject/suppress inaccurate information); of these, the latter appear to be more important (Gilboa & Moscovitch, 2002; Moscovitch & Melo, 1997). The emphasis on retrieval errors in confabulation is partially supported by the observation that patients confabulate on remote memories as well as memories acquired after the onset of illness or trauma (Fotopoulou, 2010; Gilboa & Moscovitch, 2002).

Moscovitch and Melo (1997) compared confabulating amnesics with non-confabulating amnesics and healthy controls by asking them to describe personal experiences and historical events in response to specific cue words. First, confabulating amnesics produced fewer memories than the other groups, which suggests poor search strategies. Second, confabulating amnesics produced significantly more false details than non-confabulating amnesics. Finally, compared to non-confabulating amnesics and healthy controls, confabulating patients produced significantly more secondary confabulations when prompted to generate details, which indicates a failure of the monitoring processes in confabulation.

Retrieval accounts have made predictions which have been largely supported by empirical investigations. Remarkably, the model itself has evolved over time to acknowledge the importance of other factors like SM, perseveration, temporal context confusions and motivational factors (see Gilboa, 2010).

The strategic retrieval account suggests confabulations do not have a temporal gradient (i.e., they occur equally for remote as well as recent memories), which is not supported by current evidence (Box, Liang, & Kopelman, 1999; Dalla Barba, Mantovan, Cappelletti, & Denes, 1998; Schnider et al., 1996). It also suggests that confabulations can occur for semantic as well as episodic memories (see Moscovitch & Melo, 1997), but studies have observed confabulators who produce few, if any, semantic confabulations (Dalla Barba, 1993). The emphasis on executive functions may be misplaced as studies have shown patients can confabulate despite having intact executive functions (Dalla Barba, 1993; Nedjam, Dalla Barba, & Pillon, 2000). Finally, if confabulations are caused by specifiable lesions, the theory fails to account for why these lesions so infrequently cause permanent confabulation or even, at times, any confabulation at all (see Alexander, 2011).

Schizophrenic confabulations

Although current descriptions often focus on their occurrence in neurological conditions (e.g., Berlyne, 1972), even as early as 1919, Kraepelin (1919/1971) described paraphrenia confabulans in patients with schizophrenia who “bring forward with the most profound conviction an enormous number of extraordinary stories absolutely in the form of personal experiences” (p. 311). Confabulations in schizophrenia differ from those of other neuropsychiatric conditions in terms of their features and cognitive correlates and are unique in their association with symptoms like formal thought disorder (FTD) and delusions.

Features

Nathaniel-James and Frith (1996) asked schizophrenia patients and healthy controls to recall Aesop fables which were read out to them. One of the fables was the following:
A rich man took a valuable cargo on a voyage across dangerous seas. A storm soon blew up
and the ship went down throwing the passengers into the sea. They all began to swim for
their lives except the rich man who raised his arms to heaven and promised his God all kinds
of riches if he was saved. The other passengers shouted to the praying man, “Don’t leave it to
God to save you, swim for yourself”.

They found that every schizophrenia patient (but only one control participant) added
some information not present in the story during retrieval. For example, one patient’s
recollection was the following:

A rich man went on a swimming expedition and he stopped swimming in the middle of the
ocean. In the middle of the ocean he decided that he would pray to our Lord God … he
would pray to God, our Lord … Jesus who would … um … Jesus our Lord, who would
accept his prayer … answered prayer. But he carried on praying as was his word and he was
hailed by people on a passing boat who said, “God won’t help you, swim for yourself”.

Although schizophrenia patients do invent entirely new information, they differ from
neurological patients (e.g., Kopelman, 1987) in also having a tendency to reorganise and
restructure the original information (Kopelman, 1999; Lorente-Rovira et al, 2007, 2010;
Nathaniel-James & Frith, 1996). In the earlier fable, the idea of a swimming expedition
and passing boat in the patient’s recall probably comes from the reference to passengers
swimming and mention of the boat in the original story (Nathaniel-James & Frith, 1996).
A later study by a different group (Lorente-Rovira et al., 2007) replicated these findings
and found both reorganised and new material in the confabulations produced by
schizophrenia patients. However, the new information generated by the schizophrenia
patients differed from the gross inventions described in patients with amnesia and
dementia (e.g., Kopelman, 1987) in that they were generally constrained by the context of
the story. For example (from Lorente-Rovira et al., 2007), “A laborer was trying to chop a
tree down with his axe. He broke the axe” [Original story: “A laborer worked along a
stream. His axe fell (into the water)’”. In a neurological study, on the other hand, one
amnesia patient recalled the Wechsler memory story about a woman (“Anna Thompson”)
being robbed by stating that the woman worked in a pub to make the money and that her
husband had left her, neither of which are stated in, nor can be reconstructed from
elements in the original story (Kopelman, 1987).

Whereas this pattern of findings partially supports the temporality theory, this theory
cannot account for the fact that the patients do not only just displace the sequence of
events but also tend to restructure/reorganise it to mean something new. Furthermore,
temporality theory cannot account for the more bizarre kind of schizophrenic confabula-
tions which do not draw from one’s personal past or involve confusing the past for the
present (e.g., McKenna, 2007). Interestingly, the findings in schizophrenia cannot be
accounted for fully by the strategic retrieval account either because the patients are not
randomly retrieving erroneous information and failing to reject it. They are, instead,
reorganising and reconstructing the information and are often constrained by elements in
the original story. In addition, retrieval accounts primarily implicate retrieval deficits in
the formation of confabulations, but evidence from schizophrenia suggests the involve-
ment of encoding as well as retrieval deficits in schizophrenia. For instance, when
schizophrenia patients are presented with their own confabulated recall, they fail to
correct their stories and often claim their recollections are accurate (Nathaniel-James
et al., 1996). This suggests that the stories are represented abnormally at the encoding
phase and are disorganised even before they are retrieved. This deficit is further compounded by a faulty editing process at output (see Morais, Frith, & Dab, 2004). Schizophrenia patients’ tendency to confabulate even in the absence of a memory component further supports the role of faulty encoding processes. Kramer, Bryan, and Frith (1998) presented schizophrenia patients with a sequence of pictures they had to combine into a story in a narrative discourse task. Despite the fact that the pictures remained in front of the participants throughout the task, the patients produced stories which were very different from those of healthy participants. The authors attribute this to patients interpreting the stories differently (e.g., see Kramer et al., 1998). Nathaniel-James et al. (1996) suggest that this differs from retrieval theories which implicate strategic retrieval processes based primarily on observations of neurological patients with impaired free recall but preserved recognition. The evidence, therefore, suggests that prospective monitoring is not sufficient to avoid confabulations in schizophrenia (also see Lorente-Rovira et al., 2010; Morais et al., 2004). Monitoring may be crucial for neurological confabulations (see Gilboa et al., 2006), but schizophrenic confabulations also implicate encoding processes (Kramer et al., 1998; Lorente-Rovira et al., 2010). Current theories, therefore, fail to account for confabulations as they appear in schizophrenia.

Cognitive correlates

Despite some overlap, the cognitive correlates of schizophrenic confabulations differ from those seen in other conditions (e.g., Lorente-Rovira et al., 2007, 2010; Nathaniel-James et al., 1996). Studies have examined the role of executive functions, memory and verbal comprehension.

Executive function. Studies on the role of executive functions in schizophrenic confabulations have produced inconsistent results. Whereas some studies have found an association with executive function, response monitoring and response suppression, others have not (Lorente-Rovira et al., 2007, 2010; Nathaniel-James & Frith, 1996; Nathaniel-James et al., 1996). Studies have also failed to find an association of schizophrenic confabulations with planning or IQ (Lorente-Rovira et al., 2007; Nathaniel-James & Frith, 1996; Nathaniel-James et al., 1996; but see Morais et al., 2004; Salazar-Fraile et al., 2004). Taken together, these findings suggest that the association of executive functions with confabulations is not as well established in schizophrenia as in neurological conditions (e.g., Moscovitch & Melo, 1997). Even in non-psychotic populations, confabulators have been described who lack clear executive deficits (Dab, Claes, Morais, & Shallice, 1999). The findings from schizophrenia do not support the Retrieval Theory view that memory and executive deficits alone combine to cause confabulations (for review, see DeLuca, 2000). The retrieval account seems to apply better, though not invariably, to neurological conditions (Lorente-Rovira et al., 2007). On the other hand, schizophrenic confabulations are associated with semantic memory and verbal comprehension.

Memory. Though memory deficits have been observed often in neurological patients with confabulations, findings from several studies suggest that memory deficits are neither necessary nor sufficient for the occurrence of schizophrenic confabulations (Lorente-Rovira et al., 2007, 2010; Morais et al., 2004; Nathaniel-James & Frith, 1996; Nathaniel-James et al., 1996; Salazar-Fraile et al., 2004). However, some studies have suggested a more specific role for semantic memory deficits in schizophrenia. Lorente-Rovira et al. (2007; also see Lorente-Rovira et al., 2010) found a clear difference between
confabulators and non-confabulators on semantic memory tasks like the semantic verification test [which requires true/false responses to sentences, e.g., “Buses are driven”, “Geese have 4 legs” (Laws, Evans, Hodges, & McCarthy, 1995)], and the Camel and cactus test [which involves matching a target word (camel) to a related word from a set (tree, sunflower, cactus, rose) (Bozeat, Lambon Ralph, Patterson, Garrad, & Hodges, 2000)].

**Verbal comprehension.** Schizophrenia patients tend to produce more memory errors on stories than on word lists (see Nathaniel-James & Frith, 1996), unlike brain-damaged patients (Dab et al., 1999). More specifically, Morais et al. (2004) showed that confabulation in schizophrenia patients was higher for fables than stories, and higher for stories than word lists, but was unrelated to memory monitoring failure. Schizophrenic confabulations are also found to be associated with conceptual disorganization (Salazar-Fraile et al., 2004), and they exhibit difficulty in distinguishing plausible from implausible information in fables (Nathaniel-James et al., 1996). Taken together, these findings suggest that confabulations in schizophrenia may in part be the result of verbal comprehension deficits and organisational ability which may affect the encoding process and manifest as errors at retrieval.

**Symptom correlates**

Whereas confabulations in other neuropsychiatric conditions are often studied in isolation, schizophrenic confabulations have been studied in relation to other symptoms, especially formal thought disorder (FTD) and delusions. The evidence at present suggests that delusions and other positive symptoms are associated with (but do not cause) schizophrenic confabulation (Nathaniel-James & Frith, 1996; Salazar-Fraile et al., 2004; Simpson & Done, 2002).

**Formal thought disorder.** Nathaniel-James and Frith (1996) found that FTD was associated with the severity (though not presence) of confabulation in schizophrenia (also see Lorente-Rovira et al., 2007, 2010; Nathaniel-James et al., 1996). Schizophrenia patients with FTD sometimes generate idiosyncratic/bizarre statements that are indistinguishable from fantastic confabulations of neurological patients in terms of their content and in the fact that they are often unprovoked (e.g., Kopelman et al., 1997; Lorente-Rovira et al., 2007; Nathaniel-James & Frith, 1996). For instance, Chaika (1974) describes a patient (also see McKenna & Oh, 2005) who produced the following speech (extract):

> My mother’s name was Bill … and coo? St. Valentine’s Day is the official startin’ of the breedin’ season of the birds. All buzzards can coo. I like to see it pronounced buzzards rightly. They work hard. So do parakeets. (p. 260)

Lorente-Rovira et al. (2007) have argued that reorganising and reconstructing ideas within a story to produce new information may not be very different from derailment in FTD. Also, the tendency of confabulating schizophrenia patients to commit errors like referring to a voyage as a swimming expedition (Nathaniel-James & Frith, 1996) is similar to the use of word approximations seen in thought disorder (Lorente-Rovira et al., 2007). Given the fact that the evidence for a central role of executive deficits in schizophrenic confabulations is weak, they suggest that schizophrenic confabulations may, instead, involve a defective strategic retrieval system interacting with defective semantic memory (Lorente-Rovira et al., 2010). However, the importance of semantic memory in schizophrenia may only be relative. Semantic memory impairments also
contribute to neurological confabulations, though more to their characteristics (e.g., bizarreness) than their presence (Dalla Barba, 1993).

Thought disorder is primarily associated with the disorganisation (form) of speech and can be distinguished from confabulation, which pertains to the veracity of its content (e.g., Baddeley and Wilson, 1988; Kopelman, 1987). Abnormalities in word use, disorganised syntax and failure to integrate sentences – which characterise thought disorder – are not found in confabulations (for discussion, see Lorente-Rovira et al., 2007). That said, it can often be difficult to determine in clinical settings whether the patient is demonstrating a disorder of speech or content, or both.

Delusions. A delusion is a false belief firmly sustained despite evidence to the contrary, not culturally explicable, and usually preoccupying (APA, 1994; Kopelman, 2010). A confabulation, on the other hand, is a false memory where the person is not aware of its falsehood. Schizophrenic confabulations are closely related to the delusions. Simpson and Done (2002) found that delusional schizophrenia patients confabulate significantly more than non-delusional patients and non-psychiatric controls. Furthermore, they found that the occurrence of confabulations is affected by the presence of a relation between encoded information and the content of delusions, whereas delusion related schemas affect the way information is incorporated into memory (Simpson & Done, 2002).

There are remarkable similarities between confabulations and delusions. Like delusions, confabulations can be consistent over time (e.g., Burgess & McNeil, 1999), and when they are not, it is usually attributable to the presence of memory deficits (Turner & Coltheart, 2010). Confabulating patients have been shown to defend their claims, generate additional false memories to support them (e.g., McKenna, 2007; also see Turner & Coltheart, 2010) and act on their beliefs (Burgess & McNeil, 1999; Schnider, 2008). Like delusions, confabulations can also vary in content from the commonplace to the bizarre (Burgess & McNeil, 1999; Turner et al., 2010). However, it must be noted that there are also important differences between the two phenomena. While confabulations are consistently associated with lesions to the orbitofrontal cortex and medial prefrontal cortex (Gilboa et al., 2006; Schnider, 2003), there is no clear overlap with the regions implicated in delusions (Menon et al., 2011; Spence et al., 1997; Zwanzger, Ella, Keck, Rupprecht, & Padberg, 2002). Also, confabulation (at least in neurological patients) has often been associated with amnesia and almost invariably with executive dysfunction (see Kopelman, 2010) and is best viewed as primarily a disorder of retrieval (Gilboa & Verfaellie, 2010). On the other hand, the relation between delusion and cognitive deficits has been equivocal (e.g., Selva et al., 2007; see Kopelman, 2010). Whereas memory deficits, context confusion and monitoring deficits are associated with confabulations, they are not associated with delusions (Gilboa, 2010). When memory deficits are present in delusion, they are related to biased encoding of novel information (Gilboa, 2010). Finally, delusions are often more elaborate, systematic and pervasive than confabulations (Kopelman, 1999).

There have been different views on the relation between confabulations and delusions. Some theorists have suggested that they are both the result of a failure of the same underlying processes (Turner & Coltheart, 2010). Others have argued that delusions and confabulations are separate due to their differing characteristics (Hirstein, 2005) and have different etiologies (Kopelman, 1999). Some of the earliest thinkers such as Korsakoff conceptualised delusion sufficiently broadly to incorporate within it the idea of false memories (Korsakoff, 1891; see Berrios, 2000). Two arguments support this latter view. First, drawing from studies on the relation between normal beliefs and memories
Confabulations can be conceptualized as a special class of delusions in the same way memories can be considered as a special class of beliefs. Delusion can refer to any kind of false belief (persecutory, referential, grandiose, etc.) with false beliefs about past events (memories) being one of them. The second argument comes from the presence of two phenomena observed in schizophrenia in which the criteria for delusions and confabulations are met simultaneously – delusional memory and delusional confabulation. Delusional memory is commonly defined as a delusion that arises from a (usually episodic) memory (for alternate definitions, see Kopelman, 2010). These delusional interpretations may have their origin in a true, or a false, memory. A delusion resulting from a false memory is indistinguishable from a confabulation. For example, a patient may falsely remember undergoing an operation as a child and become convinced he has been implanted with a microchip which transmits/controls his thoughts. Delusional confabulations are a rare phenomenon in which fantastic delusions and delusional memories are made up on the spot and shift, change and become more elaborate as the patient is questioned about them (McKenna, 2007). One of our patients A.P., a 48-year-old African-American male with schizophrenia, showed evidence of delusional confabulation during a routine interview. In response to questioning, he generated secondary confabulations. At the time of interview, he did not meet criteria for delusions and showed poor memory and some confabulation on a semantic memory task [Wechsler Logical memory-IV (Wechsler, 1945)]. Due to significant thought disorder (tangentiality and loosening of association), the patient had to be asked specific questions to keep him on the topic. However, the following day, he repeated the confabulations with very little change (excerpts):

E: How many children do you have?
P: I may have over a 100 children.
E: How many children do you know by name?
P: My son, he is pretty big, he is 8 feet tall and 650 lbs and he killed a man called … [Name of a famous pro-wrestler]
E: How did he kill him?
P: He probably crushed his skull.
E: Why did he kill him?
P: Because [the wrestler] … tried to rape my mom.
E: What happened after … that?
P: Yeah, I don’t know what happened though. I don’t know if he did time for that. He probably had a hell of a lawyer.
E: Where did this happen?
P: I don’t know. Probably in Ohio somewhere.
E: How often do you meet (your son)?
P: I never met him. I have seen him on magazine … seen him on T.V. I’ve seen him on T.V. as the Predator.
E: You said you had a 150 children, how do you know.
They told me, when I had pneumonia I was taken to the hospital, before I got discharged they said we took your blood a 100 times. “A hundred times!” I said, “why?” I don’t know.

E: And what did they do with that blood?

P: I don’t know, I guess maybe they want to try to know how many kids I have got. And they tried to take more blood. But I won’t let them.

E: And why are they interested in taking your blood and finding out how many children you have?

P: (Because) my children want to know who their father is.

Conclusions and future directions

Schizophrenic confabulation differs from that in other neuropsychiatric conditions in three important aspects. First, schizophrenia patients tend to restructure/reorganise the original information and are constrained by the context of the original information. This pattern cannot be fully accounted for by the existing theories. Second, schizophrenic confabulations do not show a strong association with executive function deficit but are associated with semantic memory and verbal comprehension deficits. Finally, schizophrenic confabulations are associated with positive symptoms like formal thought disorder and delusions. Studies of confabulation support the idea that memory is largely a constructive process involving temporal, metacognitive and executive functions, and that breakdown in these cognitive functions can result in false memories. Studying confabulations in schizophrenia may tell us more about the role of language processes in confabulation and also whether confabulations can be better conceptualised as a special case of delusions.

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