

Bats amongst birds

Suspicious amongst thoughts are like bats amongst birds – they ever fly by twilight. Certainly they are to be repressed, or, at the least, well guarded. For they cloud the mind, they lose friends, and they check with business, whereby business cannot go on currently and constantly. They dispose kings to tyranny, husbands to jealousy, wise men to irresolution and melancholy. – Francis Bacon (1612)

DO you ever have suspicions about the intentions towards you of strangers, acquaintances, work colleagues, neighbours, employers, or even friends and family? Does the thought ever pass through your mind that they may deliberately try to upset, irritate, or harm you? The suspicions may almost be dismissed as unfounded or excessive at one and the same time. But such thoughts may be nearly as common as anxious or depressed thoughts, though much less discussed in our personal, social and cultural lives. In this article we suggest that paranoid thoughts are indeed part

THE CONTENT OF PERSECUTORY THOUGHTS

There are two central elements:

1. The individual thinks that harm is occurring, or is going to occur, to him or her.
2. The individual thinks that the persecutor has the intention to cause harm. (Note: It is this perception that differentiates the experience from anxiety.)

Examples:

- 'People are trying to upset me.'
- 'I sometimes think that someone has it in for me.'
- 'People are deliberately spreading nasty gossip about me.'
- 'I might be physically harmed.'
- 'They are being hostile towards me.'
- 'He's trying to bring me down.'
- 'People are watching me and saying bad things behind my back.'
- 'They're trying to irritate me.'



DANIEL FREEMAN and PHILIPPA A. GARETY take a look at the psychology of paranoia.

and parcel of our mental life, and we introduce a new experimental means of studying the phenomenon.

Of course, most suspicious thoughts are fleeting and do not cause preoccupation, distress, or significant interference in social activities. But for some they can be a problem, and in the strongest form these thoughts may be related to persecutory delusions. We will argue that unfounded paranoia across the range of severity is understandable and treatable from a psychological perspective. In the last 10 years UK clinical psychologists have had a prominent role in developing this emerging research area.

A study with virtual reality

Questionnaire studies indicate that perhaps 10–25 per cent of the population at any one time have persecutory thoughts. In a New Zealand general population cohort, 12.6 per cent of the group at age 26 reported having a problem with paranoid thoughts (Poulton *et al.*, 2000); 5 per cent of a US epidemiological survey had the belief that others were trying to hurt them (Eaton *et al.*, 1991); 25 per cent of a group of consecutive French GP attenders reported ideas of being persecuted (Verdoux *et al.*, 1998); and in the UK half of a student group had had feelings that people were deliberately trying to harm or upset them (Ellett *et al.*, 2003). However, a clear methodological weakness is that questionnaire studies cannot differentiate between accurate or unfounded persecutory ideation. Questionnaire studies may include an unknown proportion of persecutory ideation that is realistic and therefore appropriate. It is the presence of unrealistic persecutory ideation that is of particular interest for psychologists.

The ideal situation in which to study 'suspiciousness' is to have people experience a social event in which the researchers are certain that there was no hostility intended towards the participants. Those with unfounded suspicions could then be identified and the psychological factors that led to such thoughts determined. But how can psychologists have such a controlled situation? Virtual reality – computer generated environments – may provide the solution. If people have suspicious thoughts about neutral virtual reality people ('avatars') then a new method of studying paranoia is apparent. Our psychosis research team have therefore collaborated with computer scientists led by Professor Mel Slater (University College London) to investigate whether virtual reality can be used to learn about persecutory ideation (see tinyurl.com/5a9ss).

In the pilot study 24 non-clinical volunteers, mainly students, each entered a virtual reality library scene populated by five avatars (Freeman *et al.*, 2003). The avatars were programmed to be neutral but showed potentially ambiguous behaviour such as smiling or looking (see screen shots in this article). The volunteers wore glasses that provided a three-dimensional experience of the environment and they could walk about the library. In essence, the participants were walking around a library that was fully controlled by the experimenters.

After five minutes the participants left the virtual library and were asked about their impressions of the computer people. Here are some of the comments:

*Friendly people just being friendly and offering a smile.
People were nicer than real people!*

*Part of a game (flirting but being shy).
It was nice when they smiled, made me
feel welcome.*

*They looked friendly – that was my
overall impression.*

But here are comments from other participants who experienced the same library scene:

*They were very ignorant and unfriendly.
Sometimes appeared hostile, sometimes
rude.*

*It was their space: you're the stranger.
They were telling me to go away.*

*One person was very shy and another
hated me.*

Clearly, the volunteers differed markedly in their impressions of the library characters. When persecutory ideation was assessed by questionnaire there was appreciable endorsement of such items. For example, for the item 'Someone in the room had it in for me' the majority of participants did not agree ($N = 15$), while some people agreed a little ($N = 5$), agreed moderately ($N = 3$) or agreed totally ($N = 1$). About a third of the research participants therefore had unfounded persecutory thoughts about the computer characters. This is experimental evidence that 'non-clinical paranoia' is common.

We can make an analogy here with anxiety. Anxiety can serve an adaptive function (i.e. it can keep us safe from real danger). But many people can become overly wary of potential dangers and the

anxiety gets excessive. The same is true of suspicion: it can be a useful strategy (other people can be a threat and their intentions need to be considered) but one that can be overused.

What predicted persecutory ideation?

It was found that people who had higher levels of anxiety and interpersonal sensitivity (assessed before entering the environment) were more likely to be suspicious of the computer characters.

In other words, anticipation of danger and concerns about inadequacy, inferiority or rejection from others (feelings of vulnerability) may contribute to the occurrence of persecutory ideation.

In a replication study we surveyed a large student population ($N = 327$) and selected scorers across the range of high and low paranoia to take part in the virtual reality procedure (Freeman *et al.*, in press). Again, anxiety and interpersonal sensitivity were associated with suspiciousness. Furthermore, higher levels of paranoia in day-to-day life were associated with being suspicious in the virtual reality setting. This confirms that studying suspicion in virtual reality has the potential to inform our understanding in everyday situations, be it a library or in buses, trains or other social situations. Such research is also likely to help us understand the severest form of paranoia: persecutory delusions.

The psychology of persecutory delusions

Persecutory delusions are explicable in terms of normal psychological processes.

However, there is an important caveat: no single factor is likely to account for paranoia. Partly this is because the experience is complex, with many different elements to be explained. Oltmanns (1988) lists a number of relevant characteristics to consider when deciding whether a belief is delusional:

- The balance of evidence for and against the belief is such that other people consider it completely incredible.
- The belief is not shared by others.
- The belief is held with firm conviction. The person's statements or behaviours are unresponsive to the presentation of evidence contrary to the belief.
- The person is preoccupied with (emotionally committed to) the belief and finds it difficult to avoid thinking or talking about it.
- The belief involves personal reference, rather than unconventional religious, scientific or political conviction.
- The belief is a source of subjective distress or interferes with the person's occupational or social functioning.
- The person does not report subjective efforts to resist the belief (in contrast to patients with obsessional ideas).

The more a belief fits these criteria then the more likely it is to be a delusion. It is likely that different factors are involved in causing each dimension, and given this multidimensional nature, the question 'What causes a persecutory delusion?' is simplistic. A number of questions need to be asked: What causes the threat content? What causes the perception of intent? What leads to high levels of conviction in the thoughts? What are the reasons that some people become preoccupied and distressed by suspicious thoughts? And why for some people do these beliefs become rigidly held? We have recently detailed a multifactorial account of the formation and maintenance of persecutory delusions in which these questions are addressed (Freeman & Garety, 2004; Freeman *et al.*, 2002; Garety *et al.*, 2001), and we turn to these issues now.

Delusions can be conceptualised as individuals' attempts to explain their experiences – to make sense of events (Maher, 1988). Our clinical experience indicates that ambiguous social information is often important. This includes both non-verbal (e.g. facial expressions, people's eyes, hand gestures, laughter/smiling) and verbal information (e.g. snatches of



conversation, shouting). Coincidences and negative or irritating events also feature in persecutory ideation.

Internal feelings are particularly important, with unusual or anomalous experiences often leading to delusional ideation. These include being in a heightened state/aroused; having feelings of significance; perceptual anomalies (e.g. things may seem vivid or bright or piercing, sounds may feel very intrusive); having feelings as if not really there (depersonalisation); and illusions and hallucinations (e.g. hearing voices). These sorts of experience can be caused by use of illicit drugs.

Typically, individuals are trying to make sense of unusual internal experiences (e.g. hallucinations, perceptual anomalies, arousal), often by drawing in negative, discrepant or ambiguous external information (e.g. others' facial expressions). For example, a person may go outside feeling in an unusual state and rather than label this experience as such ('I'm feeling a little odd and anxious today, probably because I've not been sleeping well') the feelings are instead used as a source of evidence, together with the facial expressions of strangers in the street, that there is a threat ('People don't like me and may harm me'). But why a persecutory interpretation? We interpret internal and external events in line with our previous experiences, knowledge, emotional state, memories, personality and decision-making processes, therefore the origin of persecutory explanations lies in such psychological processes.

Suspicious thoughts often occur in the context of emotional distress. They are often preceded by stressful events, such as difficult interpersonal relationships, bullying or isolation. Further, the stresses may happen against a background of previous experiences that have led the person to have beliefs about the self (e.g. as vulnerable), others (e.g. as potentially dangerous) and the world (e.g. as bad) that make suspicious thoughts more likely to occur. As Trower and Chadwick (1995) have suggested, in some instances



the person may be depressed and feeling guilty and believe that they deserve to be harmed.

We have proposed that anxiety may be especially important in the generation of persecutory ideation: both have the same cognitive theme of the anticipation of danger. In the model it is hypothesised that anxiety is central in the interpretation of the internal and external events and provides the threat theme of paranoia. Hence we argue that emotion has a direct role in delusion formation (see review by Freeman & Garety, 2003); that is, delusions build upon and are a development of emotional concerns (the emotion-consistent account of delusions). This is in contrast to a popular view that delusions conceal emotional distress or low self-esteem (e.g. Bentall *et al.*, 1994; Colby, 1975), which we have previously labelled the 'delusion-as-defence' account. In our virtual reality experiments, the most anxious people experienced persecutory ideation, supporting the idea that a person labels their unusual experiences in line with their emotional state: when a person is anxious then it is more likely that the interpretation is of threat.

The anxious thoughts are truly persecutory when they contain the idea that harm is actually intended by the perpetrator. The cause of this idea of intent is underresearched. We think that most often the ideas of threat contain an implicit attribution of intent. Also, in other cases, irritation, resentment or anger – often not expressed because of fears of others' reactions ('timidity') – may perhaps contribute to this idea of hostile intent,

since judgements of blame and attributions of intent are central to anger. A lack of trust in others, an unwillingness to discuss emotions, or social isolation will mean that individuals' ideas about threat and intent are not shared with others but ruminated upon alone, preventing disconfirmation of the persecutory ideas; this is a further example of how social-cognitive factors may influence paranoia (Barrowclough *et al.*, 2003; Garety *et al.*, 2001).

The final piece of the puzzle is reasoning. It needs to be remembered that persecutory delusions are inherently a judgement, therefore reasoning processes are also of central importance. Persecutory ideas are more likely to become of a delusional intensity when there are accompanying biases in reasoning, such as reduced data gathering ('jumping to conclusions') (Garety & Hemsley, 1994), externalising attributional biases (Bentall *et al.*, 1994) and theory of mind difficulties (Frith, 1992) (see review by Garety & Freeman, 1999). There is also evidence that (non-delusional) alternative explanations of experiences are not considered (Freeman *et al.*, 2004). When reasoning biases are present, the suspicions become near certainties; the ideas of threat become held with a conviction unwarranted by the evidence and may then be considered delusional.

In the model there are further hypotheses concerning the maintenance and emotional reaction associated with persecutory delusions. For example, since the explanations are threat beliefs, they will be maintained by processes that maintain anxiety disorders, such as self-focus and

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safety behaviours like avoiding social interaction (see Clark, 1999; Morrison, 1998). Furthermore, individuals' relationships to the persecutors may be important in determining emotional reactions; beliefs that the persecutor is powerful have been found to be associated with higher levels of depression (Birchwood *et al.*, 2000; Freeman *et al.*, 2001).

Thus, we conceptualise paranoia as people's attempts to understand their experiences, particularly unusual internal states. These explanations are influenced by emotional states (such as anxiety) and reasoning biases (such as jumping to conclusions). Careful assessment is needed to determine the relevant factors in each individual case.

The treatment of paranoia

If suspicious thoughts can be understood psychologically, then it is likely they can be treated psychologically. Drawing upon the theoretical understanding of paranoia, in therapy we consider how it comes to pass that a person has suspicious thoughts, why the suspicions persist, and why the

thoughts are distressing ('the psychological formulation'). In therapy, suspicious thoughts are made understandable. Further, if persecutory ideation is an attempt by people to explain events, to make sense of their experiences, then these explanations can be explored and evaluated and alternative explanations considered. The ideal is to develop a less threatening, more controllable, non-self-blaming account of experiences. The aim is not to stop the occurrence of suspicious thoughts – after all, these can be adaptive in the correct situation – but to understand them and to prevent them causing preoccupation, interference and distress.

These ideas have been central to the development of cognitive behaviour therapy (CBT) for psychosis. Manuals have been developed in the UK (e.g. Chadwick *et al.*, 1996; Fowler *et al.*, 1995) and the approach empirically tested in randomised controlled treatment trials with people with severe paranoia in psychosis (e.g. Kuipers *et al.*, 1998; Tarrrier *et al.*, 1998). Because of the encouraging outcome findings CBT is now a recommended treatment in the NHS

for people with schizophrenia (National Institute for Clinical Excellence, 2002).

This reflects a sea change in the understanding and treatment of psychosis. It is more common today for the experiences of people with severe paranoia to be listened to by clinicians and discussed collaboratively. We believe that there also needs to be greater awareness of the everyday paranoia that is upsetting to a significant percentage of the general population. The development of the psychological understanding of paranoia – using novel procedures such as virtual reality – can lead to a second generation of efficacious cognitive treatments.

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References

- Barrowclough, C., Tarrrier, N., Humphreys, L., Ward, J., Gregg, L. & Andrews, B. (2003). Self-esteem in schizophrenia: Relationships between self-evaluation, family attitudes, and symptomatology. *Journal of Abnormal Psychology, 112*, 92–99.
- Bentall, R.P., Kinderman, P. & Kaney, S. (1994). The self, attributional processes and abnormal beliefs: Towards a model of persecutory delusions. *Behaviour Research and Therapy, 32*, 331–341.
- Birchwood, M., Meaden, A., Trower, P., Gilbert, P. & Plaistow, J. (2000). The power and omnipotence of voices: Subordination and entrapment by voices and significant others. *Psychological Medicine, 30*, 337–344.
- Chadwick, P.D.J., Birchwood, M.J. & Trower, P. (1996). *Cognitive therapy for delusions, voices and paranoia*. Chichester: Wiley.
- Clark, D.M. (1999). Anxiety disorders: Why they persist and how to treat them. *Behaviour Research and Therapy, 37*, S5–S27.
- Colby, K.M. (1975). *Artificial paranoia: A computer simulation of paranoid processes*. Toronto: Pergamon Press.
- Eaton, W.V., Romanoski, A., Anthony, J.C. & Nestadt, G. (1991). Screening for psychosis in the general population with a self-report interview. *Journal of Nervous and Mental Disease, 179*, 689–693.
- Ellett, L., Lopes, B. & Chadwick, P. (2003). Paranoia in a non-clinical population of college students. *Journal of Nervous and Mental Disease, 191*, 425–430.
- Fowler, D., Garety, P.A. & Kuipers, L. (1995). *Cognitive behaviour therapy for psychosis: Theory and practice*. Chichester: Wiley.
- Freeman, D. & Garety, P.A. (2003). Connecting neurosis and psychosis: The direct influence of emotion on delusions and hallucinations. *Behaviour Research and Therapy, 41*, 923–947.
- Freeman, D. & Garety, P.A. (2004). *Paranoia: The psychology of persecutory delusions*. Hove: Psychology Press.
- Freeman, D., Garety, P.A. & Kuipers, E. (2001). Persecutory delusions: Developing the understanding of belief maintenance and emotional distress. *Psychological Medicine, 31*, 1293–1306.
- Freeman, D., Garety, P.A., Bebbington, P., Slater, M., Kuipers, E., Fowler, D. *et al.* (in press). The psychology of persecutory ideation II: A virtual reality experimental study. *Journal of Nervous and Mental Disease*.
- Freeman, D., Garety, P.A., Fowler, D., Kuipers, E., Bebbington, P., Dunn, G. (2004). Why do people with delusions fail to choose more realistic explanations for their experiences? An empirical investigation. *Journal of Consulting and Clinical Psychology, 72*, 671–680.
- Freeman, D., Garety, P.A., Kuipers, E., Fowler, D. & Bebbington, P.E. (2002). A cognitive model of persecutory delusions. *British Journal of Clinical Psychology, 41*, 331–347.
- Freeman, D., Slater, M., Bebbington, P.E., Garety, P.A., Kuipers, E., Fowler, D. *et al.* (2003). Can virtual reality be used to investigate persecutory ideation? *Journal of Nervous and Mental Disease, 191*, 509–514.
- Frith, C.D. (1992). *The cognitive neuropsychology of schizophrenia*. Hove: Lawrence Erlbaum.
- Garety, P.A. & Freeman, D. (1999). Cognitive approaches to delusions: A critical review of theories and evidence. *British Journal of Clinical Psychology, 38*, 113–154.
- Garety, P.A. & Hemsley, D.R. (1994). *Delusions: Investigations into the psychology of delusional reasoning*. Oxford: Oxford University Press.
- Garety, P.A., Kuipers, E., Fowler, D., Freeman, D. & Bebbington, P.E. (2001). A cognitive model of the positive symptoms of psychosis. *Psychological Medicine, 31*, 189–195.
- Kuipers, E., Fowler, D., Garety, P.A., Chisholm, D., Freeman, D., Dunn, G. *et al.* (1998). The London-East Anglia randomised controlled trial of cognitive behaviour therapy for psychosis III: Follow-up and economic evaluation at 18 months. *British Journal of Psychiatry, 173*, 61–68.
- Maher, B.A. (1988). Anomalous experience and delusional thinking: The logic of explanations. In T.F. Oltmanns & B.A. Maher (Eds.), *Delusional beliefs* (pp. 15–33). New York: Wiley.
- Morrison, A.P. (1998). Cognitive behaviour therapy for psychotic symptoms in schizophrenia. In N. Tarrrier, A. Wells & G. Haddock (Eds.), *Treating complex cases: The cognitive behavioural therapy approach* (pp. 195–216). Chichester: Wiley.
- National Institute for Clinical Excellence (2002). *Schizophrenia: Core interventions in the treatment and management of schizophrenia in primary and secondary care*. London: Author.
- Oltmanns, T.F. (1988). Approaches to the definition and study of delusions. In T.F. Oltmanns & B.A. Maher (Eds.), *Delusional beliefs* (pp. 3–12). New York: Wiley.
- Poulton, R., Caspi, A., Moffitt, T.E., Cannon, M., Murray, R. & Harrington, H. (2000). Children's self-reported psychotic symptoms and adult schizophreniform disorder. *Archives of General Psychiatry, 57*, 1053–1058.
- Tarrrier, N., Yusupoff, L., Kinney, C., McCarthy, E., Gledhill, A., Haddock, G. *et al.* (1998). Randomised controlled trial of intensive cognitive behavioural therapy for patients with chronic schizophrenia. *British Medical Journal, 317*, 303–307.
- Trower, P. & Chadwick, P. (1995). Pathways to defense of the self: A theory of two types of paranoia. *Clinical Psychology: Science and Practice, 2*, 263–278.
- Verdoux, H., Maurice-Tison, S., Gay, B., van Os, J., Salamon, R. & Bourgeois, M.L. (1998). A survey of delusional ideation in primary-care patients. *Psychological Medicine, 28*, 127–134.