CHRIS HELGREN REUTERS/POPPERFOTO

From our own (distressed) correspondent

War correspondents show evidence of mental disorder. **SARAH LEWIS**

A RECENT charity advert featured BBC war correspondent Jeremy Bowen requesting donations for ex-service personnel who had experienced psychological difficulties as a result of the conflicts they had seen. Bowen himself had witnessed his driver being killed violently when covering the war in the Lebanon.

We also often see on our screens that war journalists place themselves in real physical danger to bring us the news; a recent study has shown them to be psychologically vulnerable as well. Anthony Feinstein and colleagues at the University of Toronto found that war journalists had significantly more psychiatric problems than those who didn't report on war. There was a higher prevalence of post-traumatic stress disorder (PTSD), a greater occurrence of major depression and greater alcohol consumption. But worryingly this group was no more likely to receive treatment for their problems than other journalists.

The 28 war journalists who were interviewed had 15 years' experience of reporting on conflicts. During their careers all had been shot at, some had experienced a close workmate being killed or committing suicide, and others had been put through mock execution. But what motivates journalists to return to situations of danger?

Feinstein and colleagues argued that whilst the journalists were never forced to cover an assignment, they faced negative consequences with regard to their career if they refused. Another problem was that in an attempt to project the image of being made of the 'right stuff', psychological problems had seldom been discussed at work until recent times.

This sends an important message to news organisations – that serious sacrifices are being made by those who bring us the news.

Feinstein, A., Owen, J. & Blair, N. (2002). A hazardous profession: War, journalists, and psychopathology. *American Journal of Psychiatry, 159*, 1570–1575.

■ *Sarah Lewis is at Northumbria NHS Healthcare Trust.*

In your left or right mind?

The left frontal lobe is more important to social conduct than is the right.

NEIL MARTIN

EVER since Harlow's accounts of Phineas Gage the role of the frontal lobes in behaviour has been intriguing, if controversial. Research published in the past 10 years suggests that people with damage to the frontal cortex do not show the same physiological response to risky situations as normal people do, are unable to plan and make decisions effectively, and respond in emotionally and socially inappropriate ways.

One of the most prolific frontal lobe research groups, based at the University of Iowa, now reports that such symptoms may depend on which side of the frontal lobes is damaged. Daniel Tranel and his group tested patients with unilateral left or right frontal cortex damage on measures of social conduct, decision making, personality and emotional processing.

They found that patients with right-sided damage showed the most profound impairment in performance on these measures; those with left-sided damage showed little impairment on these tasks. These findings, the authors suggest, 'provide preliminary evidence that the right and left sectors play asymmetric roles, at least as far as domains such as social conduct, decision-making, and emotional processing are concerned'.

Tranel, D., Bechara, A. & Denburg, N.L. (2002). Asymmetric functional roles of right and left ventromedial prefrontal cortices in social conduct, decision-making and emotional processing. *Cortex, 38*, 589–612.

The fragrance of faces

Scents can impair your recognition of faces. **CHRISTIAN BERESFORD JARRETT**

SMELLS can be powerfully evocative. The scent of a perfume might trigger a thousand memories of a lost love. In fact, the psychological literature is full of examples of how smells can aid memory. If something is learnt in the presence of a smell, it is more likely to be remembered at a later date when that same smell is present.

But in a different context could irrelevant odours actually interfere with the processing of other stimuli? In an elegant study Peter Walla (University Clinic for Clinical Neurology, Vienna) and his colleagues used magnetoencephalography (MEG) to investigate this issue in relation to face processing. MEG is a brain-imaging technique that is ideal for accurately observing changes in brain activity over very short periods of time.

Twenty participants were shown 74 faces, some of which were paired with the smell of phenyl ethyl alcohol, apparently eliciting a rose flavour. The subjects had to express, by pressing a button, whether or not they liked each face in turn (the 'encoding phase'). This judgement was considered to induce a deep encoding of each face. In contrast, judging hair length would be an example of a decision requiring only superficial encoding. Next, the same subjects were shown 148 faces, half of which were new, half they had encountered in the first phase; none was paired with an odour. They simply had to judge whether each face was novel or familiar. This whole procedure was repeated four times, using a different series of faces each time.

Surprisingly perhaps, participants were poorer at identifying those faces they had already seen, if they had originally been paired with the smell of phenyl ethyl alcohol. But most striking is the way in which the imaging data correlated with these behavioural results. The MEG data showed that in the encoding phase, between 200 and 300ms after the presentation of each face, there was less brain activity induced by faces paired with the odour, than by faces without the odour. The authors suggest this probably reflects the disruption of the deep face encoding by the concomitant olfactory stimulus. This certainly tallies with a previous MEG study that found face-specific processing around 200ms after the appearance of a face (Halgren *et al.*, 2000). By contrast, between 600 and 900ms after the onset of each face in the encoding phase, brain activity was greater when the odour was present, than when it was absent. This probably reflects the later conscious processing of the olfactory stimulus.

This is the first time smells have been shown to interfere with the processing of faces, and it is consistent with other work showing how odours can interfere with processing verbal stimuli (Lorig *et al.*, 1998). Previous work has shown that the deep encoding of faces involves the amygdala – a deep-brain, almond-shaped structure involved in emotional processing. The olfactory pathway has strong connections with the amygdala too; so this is a likely site for the interference observed in this experiment.

CHRIS CHAPERON

Smell gets in the way of deep face encoding

Walla, P., Hufnagl, B., Lehrner, J., Mayer, D., Lindinger, G., Imhof, H. *et al.* (2003). Olfaction and face encoding in humans: A magnetoencephalographic study. *Cognitive Brain Research, 15*, 105–115.

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Halgren, E., Raij, T., Marinkovic, K., Jousmaki, V. & Hari, R. (2000). Cognitive response profile of the human fusiform face area as determined by MEG. *Cerebral Cortex, 10*, 69–81.

Lorig, T.S., Elmes, D.G. & Yoerg, V.L. (1998). Chemosensory alteration of information processing. *Annals of The New York Academy of Sciences, 855*, 591–597.

■ *Christian Beresford Jarrett is at the Department of Optometry and Neuroscience, UMIST.*

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