A filling dose of doubts

Dr Simon Wessely challenges the *Panorama* scare story on amalgam

Investigative journalism is a vital part of a free society. *Panorama* is rightly regarded as one of the best investigative programmes, and Tom Mangold has few equals as a reporter. He can rarely have made a better programme than last year's account of the links between HIV and dentistry, and also contributed an article on the subject to this page (July 22). Unfortunately, Monday's *Panorama* ("The Poison in Your Mouth") was as disappointing as his previous programme had been illuminating.

The programme concerned the possible health risk posed by dental amalgam, which has been used in dental fillings for more than 100 years. It contains mercury. A mass mercury poisoning disaster in Minamata Bay in Japan during the 1950s, when people ate contaminated fish after a chemical company dumped mercury into the sea, prompted concerns about the safe use of mercury products. Most mercury in the environment comes from discarded batteries — the US Environmental Protection Agency estimates that dental amalgam accounts for 0.5 per cent — but it is clearly proper for scientists to reconsider its safety in amalgam. Over the past 20 years a considerable literature has developed on the subject, and little evidence has emerged to suggest any dangers.

This doesn't make for an exciting programme. Instead, *Panorama* put together a programme that told us little about the real risk of amalgam, and rather more about the essential elements of good medical scare stories.

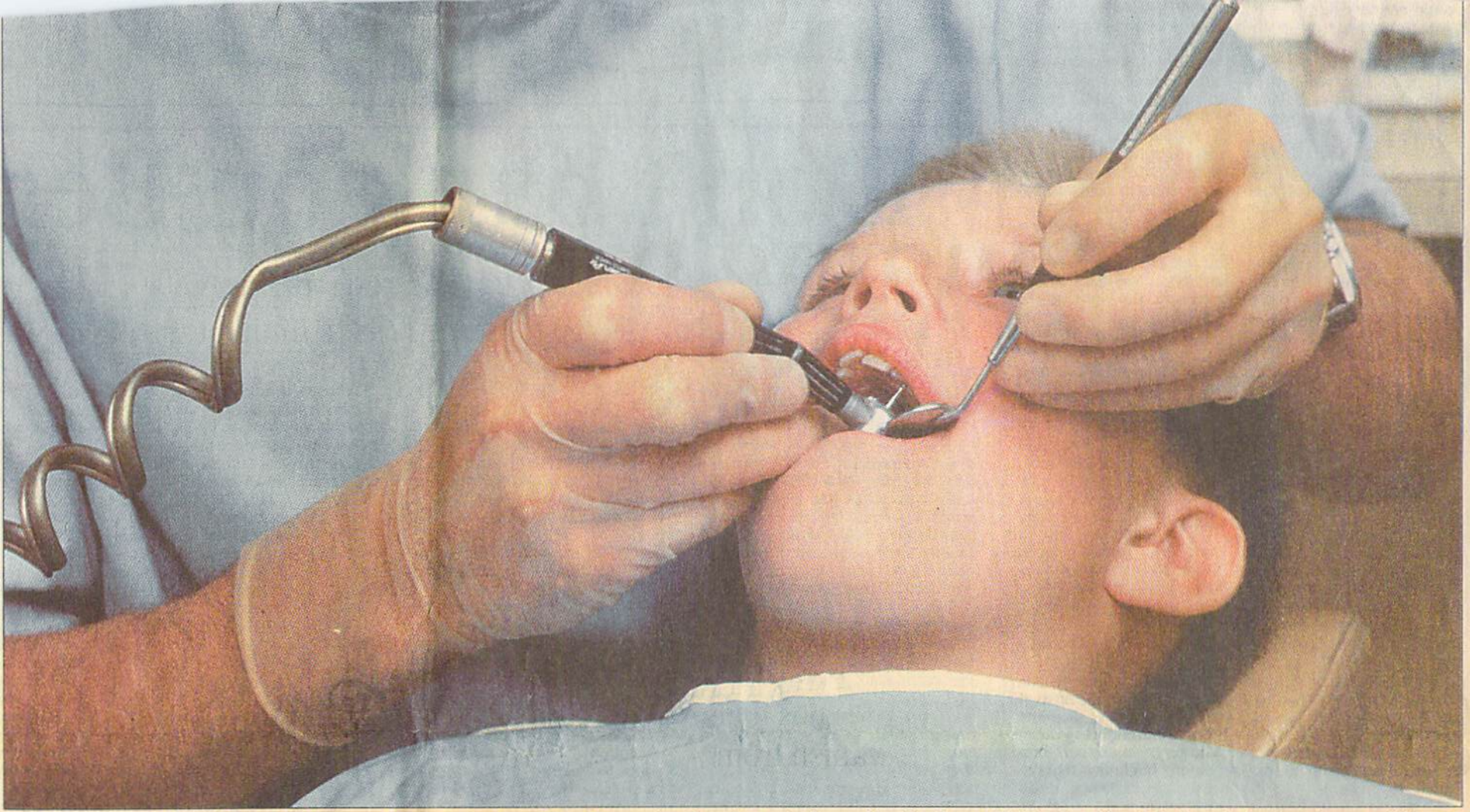
The first element is a plausible villain. Mercury, which every medical student knows made the Mad Hatter mad, and is clearly toxic in the wrong quantities and places, is perfect.

Second, your villain should have a link with something near home. Drawing attention to the ecological disaster around the Aral Sea, for example, is too distant for real concern. However, a danger from our own teeth could hardly be closer.

Third, the threat must cause symptoms hard to verify, hard to disprove, but also extremely common. The programme began by listing the symptoms of amalgam poisoning as fatigue, poor concentration, irritability, insomnia and mood change. The fact that a major population survey of the inhabitants of Gothenburg in Sweden had found no link between these symptoms and mercury fillings was not mentioned.

Fourth, frightening diseases of unknown aetiology should be part of the picture. An American researcher obligingly claimed that dental amalgam could cause Alzheimer's disease. The evidence was largely an unpublished neuropsychological study which, we were told, will report subtle changes in concentration and attention in dental technicians. The researcher was certain that "the mercury caused these definite central nervous system deficits". However, neuropsychological testing is extremely sensitive. Any abnormalities must be rigorously controlled and replicated, and can never prove cause and effect.

The fifth element is an absence of published research that does not support your case. For example, the commonest claim against dental amalgam is that leakage of mercury weakens the immune system leading to various disorders. Yet a Swedish study in the *Archives of Environmental Health* this year found a weak link between the number of



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amalgam fillings and plasma mercury, but these did not correlate with any immune abnormalities. Instead they were linked to such unglamorous factors as diet, hygiene and social class. The same group went on to show that there was no link between amalgam and a number of allergic or immunological diseases.

Sixth is the use of emotional language. Thus dental amalgam is a "time bomb" and "a growing threat", and new findings are always "dramatic breakthroughs". When evidence is doubtful there is a tendency to raise the stakes. Who could resist the pleas to "think what this might do to the brains of young children"? Who would not share the concern that mercury could be transmitted to the unborn child — although no mention was made of a survey of the pregnancies of 20,000 dental workers, which found no increase in spontaneous abortions or stillbirths?

A spokesperson for authority who can then be made to look complacent is element number seven. This role was played in Monday's programme by the chief executive and the scientific officer of the British Dental Association. They were confronted with new American research findings of unknown provenance and reliability. The credibility of the officials suffered merely because they had yet to consider this new work.

Eighth, when another authority figure, on this occasion the Department of Health, refuses to take part (presumably because they can spot a mugging in advance), you can call this "ignoring the evidence".

Ninth, cover yourself at the end. Many of my patients with ME (myalgic encephalomyelitis) have already heard of the amalgam controversy, and have had their own fillings removed at great expense and for little purpose. After 40 minutes of *Panorama* I was all set to follow them, particularly as we were told that several of the experts filmed in the programme had themselves had their own amalgam fillings removed. However, if dental amalgam turns out to be without hazard, then one can envisage patients with a legitimate complaint against *Panorama* for the expense, not to mention the pain, they have endured in consequence.

The programme ended with a reassuring British academic, Professor Steven Challacombe from Guy's Hospital, sensibly suggesting that more research is needed (who could ever disagree with that?) and advising people not to dash to the dentist. Such commonsense advice sat uneasily with the message of the programme, that dental amalgam was destroying the health of ourselves and our children.

What are we to make of the amalgam controversy? I suspect that mercury fillings have indeed had their day. In the new environmentally conscious world of the 1990s we simply no longer like the idea. Mercury will thus join lead as something we would rather not have so close to us. These are decisions societies take as opinions and attitudes change. This is perfectly proper, but it would be better to acknowledge the real source of our unease, rather than resort to the tired clichés of the medical scare story.

● *Dr Simon Wessely is Senior Lecturer in Psychological Medicine at the Maudsley Hospital.*