

(reprinted with permission from The Guardian, 4 August 1979)

It's not just a story any more

The phrase 'China syndrome' describes what happens if a nuclear plant backfires. Walt Patterson casts a professional eye over the film of that name and finds it alarmingly accurate.

At the end of *The China Syndrome*, if the house lights don't come up too soon, you may notice an inconspicuous line far down the credits. After Best Boy Grip and Paint Foreman comes Technical Advisers [Nuclear] ... MHB Technical Associates.

Nowhere else in the publicity pack from Columbia Pictures is there any further reference to the specific technical content of the film, or to the technical advisers responsible. The coyness is curious, but understandable. In *The China Syndrome* the technical content is of a very different order to that, say, in *Moonraker*. In *Moonraker* the technical content is there essentially to astonish; its genuine credibility is irrelevant. In *The China Syndrome*, on the contrary, the technical content is central to the plot – and is moreover acutely controversial.

It is not now, mark you, as controversial as it was before March 28 this year. *The China Syndrome*, of course, is about – among other things – the threat of an accident at a nuclear power station. The accident at the Three Mile Island nuclear power station near Harrisburg, which occurred about a month after the release of the film, was a classical if unnerving example of life imitating art. When the film was released the nuclear industry was still talking about hypothetical accidents at nuclear stations. Since 28 March at Harrisburg, however, the word hypothetical has vanished from the industry's vocabulary.

The film-makers could scarcely have anticipated such a denouement. They would have known that the nuclear industry, long since virtually paranoid about public criticism, would scrutinise the film minutely for technical flaws – more closely than they seem to have scrutinised their reactors. The film-makers would therefore have sought the best available technical consultants.

They chose well. I have for years been used to looking as though through industry eyes at critical material. My antennae are keenly tuned for clangers, technical howlers that the industry can pounce on to discredit criticism. Throughout *The China Syndrome* my clanger alarm, though set to maximum sensitivity, remained silent.

That may be because MHB Technical Associates are similarly sensitive, indeed more so. The initials stand for Minor, Hubbard and Bridenbaugh. Cognoscenti will recall that Gregory Minor, Richard Hubbard and Dale Bridenbaugh are the three senior nuclear engineers who resigned in a group in early 1976 from US General Electric, because all three had become convinced that nuclear technology could not be made adequately safe. (In the film the nuclear engineer who explains the safety problem is called Greg, and a bit player in the credits is identified as Greg Minor.)

I met Greg Minor about eight months after his resignation – a friendly, straightforward and obviously worried man, still surprised to find himself in the spotlight, but grateful for the opportunity to explain himself. I'd like to know what he thinks of *The China Syndrome*. It must provoke a singularly personal resonance in him, especially in the character of the nuclear engineer who finds a flaw in the plant.

The film echoes from end to end with allusion to the folklore of the nuclear power controversy; public hearings, public demonstrations, the vulnerability of emergency cooling systems, falsified X-rays, a stuck needle on a pen recorder, reactor operators acting contrary to their operating instructions, even an episode reminiscent of the mysterious car accident in 1974 which killed nuclear plant employee Karen Silkwood en route to meet a *New York Times* reporter. Oddly enough, the most jarring note is the title itself, and the way it is used in the film.

In the mid-sixties reactor designers realised that they had stumbled into a dangerous problem. In the American type of reactor, the so-called light-water reactor, uranium fuel stands in a steel barrel filled with ordinary water under pressure. The water removes the heat generated in the fuel, and carries the heat to the boilers. Some of this heat comes not from the chain reaction directly, but from the radioactivity of the waste products accumulating inside the fuel. The chain reaction can be shut down, but not the radioactivity of the waste. Even after the reactor has been shut down the fuel must be continually cooled, literally for months.

If for any reason the water level inside the steel barrel is allowed to fall far enough to uncover the hot fuel, the fuel's temperature will rise rapidly. If the temperature rises far enough the fuel may begin to melt. Should that happen all bets are off.

The sixties designers recognised that the outcome could be a molten mass of fiercely radioactive material, generating its own heat and impossible to cool, searing through the bottom of the reactor and sinking into the earth, 'headed for China'. The design engineers called this postulated sequence of events 'the China syndrome', an ironic flippancy which served to conceal their real apprehension. In the film this expression is intoned with a heavy portentousness which misses the point, the complex psychology and perhaps even the self-deception of the nuclear technologists.

In other respects the film effectively portrays the issue's complexity. I recognised essentially all the nuclear people in the film, and could have named their real-life UK equivalents; indeed I could have done the same for the opponents.

One particularly poignant moment stood out. When the shift supervisor (Jack Lemmon) is telling the television team that weld test records have been falsified he chokes and blurts out 'I love that plant'. The British think that nuclear people are not emotionally involved with their technology. So they should be.

I just wish that the nuclear people would stop using 'emotional' as a pejorative. The next time you hear a nuclear engineer accuse a critic of being 'emotional', ask the engineer if he loves his plant – and if not why not.

The real alarmists, it seems to me, are the electronuclear promoters – also on view in the film – who assert smugly that their nuclear plans will get the go-ahead 'Once the lights start going out!'. Such scare tactics are a more irresponsible appeal to the emotions than the most far-fetched anti-nuclear propaganda – because the electronuclear promoters are misrepresenting the options for their own ends, and because they know better.

In one respect *The China Syndrome* shows telling percipience. The protestations of the nuclear people in the film that 'There was no accident', the body-count approach to consequences, the insistence that the technology functioned as intended, that no one was ever worried and that everything had been under control throughout – the whole song-and-dance was a word-perfect rehearsal for the industry's apologies after Three Mile Island. The obsessive faction who still want

to build a light-water reactor in Britain should study the script for pointers. Doubters, on the other hand, should have a word with MHB.

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