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Ten years ago today **Walter Patterson** was in Hanover caught up in the controversy surrounding West German plans to build a nuclear reprocessing facility in Lower Saxony. But events that morning at the Three Mile Island nuclear plant in Pennsylvania were to have a dramatic effect.

Grim legacy of meltdown

THREE MILE ISLAND took me completely by surprise. To be sure, it took others the same way - Metropolitan Edison, the US Department of Energy and the Nuclear Regulatory Commission, to name but three.

Unlike them, however, I and my colleagues at Friends of the Earth had been outspoken since the early 1970s about the possibility of a core-melt accident in a pressurized-water reactor. By the late 1970s, nevertheless, my attention had shifted away from the hazards of civil nuclear technology to its putative benefits. The harder I looked, the less evident the benefits.

One nuclear technology in particular - civil reprocessing of spent fuel - appeared to offer no discernible benefits whatever. After the protracted battle over the proposed Thermal Oxide Reprocessing Plant (Thorp) at Windscale, I found myself caught up in a similar controversy in Federal Germany.

German nuclear authorities proposed to build a so-called *Entsorgungszentrum*, including the largest civil reprocessing plant in the world, near the Lower Saxony village of Gorleben. To defuse fierce local opposition, Minister President Ernst Albrecht of Lower Saxony commissioned a panel of 20 foreign nuclear specialists and experts - including Karl Morgan, Frank Barnaby and the much-missed Paul Sieghart - to analyse the Gorleben project.

This Gorleben International Review drafted a 2,200-page report, to be presented and defended in six days of hearings before Albrecht, a handpicked audience of 200 politicians and dignitaries, and television cameras.

On the appointed morning the bus carried us with our photo passes through the ranks of wire fences past the soldiers in combat fatigues cradling their *Maschinpistolen* to the venue for the hearings. It felt like a top-security military installation; but it was the main hall of the Hanover Trade Fair. Precisely at 9am European Time 28 March 1979, chairman Carl von Weizsacker, the whitehaired elder statesman of German physicists, declared the hearings open.

Neither he nor anyone else in the hall was to know until the following day that the opening of the hearings coincided to the minute - 4am Eastern Standard Time, five time-zones to the west - with the failure of a feedwater pump at unit 2 of the nuclear

power station on Three Mile Island.

During the opening session I summarised the Review's findings. I noted that "My colleagues on the accident assessment subcommittee have identified accident sequences that might entail immediate evacuation out to a distance of 1,000 km from the site, and long-term evacuation of up to 400,000 square kilometres." Albrecht and the rest sat in polite silence, but they might as well have been twiddling their thumbs: "Yes, yes, we've heard it all before; we'll listen, but you don't really expect us to take it seriously, do you?"

Having long experience of such gatherings I did not; indeed I'm by no means certain how seriously I took it myself. My own overriding concern was the pointlessness of the entire reprocessing exercise, and the impact of "civil" plutonium on nuclear weapons proliferation - not nuclear safety.

The following morning I heard the 7am news on the American Forces Network: something about a leak of radioactivity in the eastern US. When I got to the hearings, I rang a colleague in the London office of Reuters. He was not available, but the desk man told me that it just appeared to be a nuclear spill of some sort, nothing very exciting. Jan Beyea from Princeton, an expert on emergency evacuation plans, joined me by the coffee machine in the Review office. He concurred in my lamentation: "I wish the media wouldn't keep crying wolf, making so much of trivial nuclear mishaps. One of these days the big one is going to happen and no one will pay any attention."

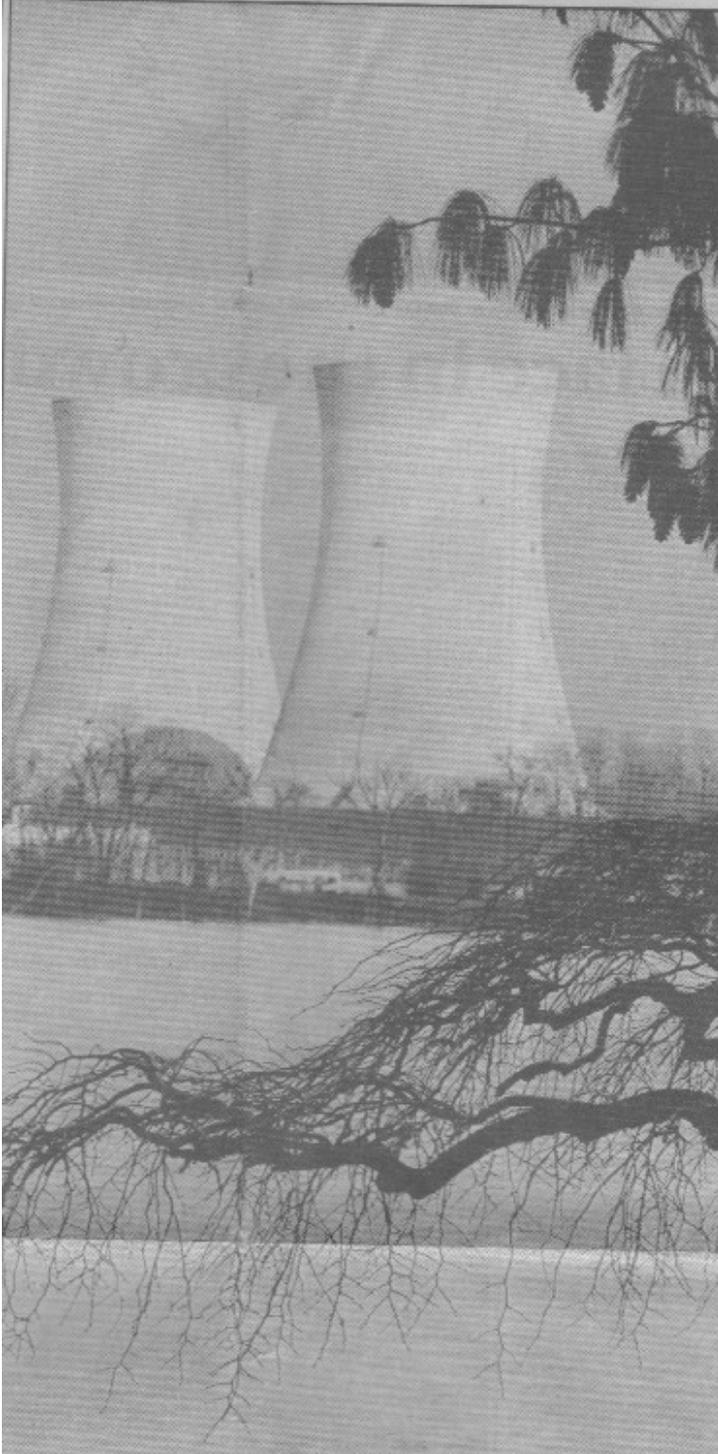
Three hours later Gene Rochlin, another American Review member, tore into the closed-circuit TV room where we were watching the hearings: "Jesus Christ you guys! It's happened!" We spent the rest of the day taking turns on the transatlantic phone, trying to raise any of our colleagues in the US who could tell us what was really going on. No one could.

By Friday evening, two days into the accident, the national news on German television had a graphic of the eastern seaboard of the US, with enormous yellow letters across the top: *Evakuierung*. In grim disbelief I recalled the words from my presentation two days earlier, and how outlandish they had sounded - then.

As a group, the Review panel had as clear an understanding of the potential import of the accident as could be found in one room anywhere. We huddled around the telephone, still trying desperately to pin down the truth about events in Pennsylvania. Jan Beyea, who had already drawn up an evacuation plan for Princeton and New Jersey, wrestled with the mind-numbing thought that he ought really to fly back to assist with evacuation plans for neighbouring states, including New York City.

Two weeks earlier, a "trek" had set out from Gorleben to march the 200 km to Hanover, to show Albrecht how determined the locals were to oppose the *Entsorgungszentrum*. On Saturday 31 March the trek, swollen to the scale of an invasion, arrived in Hanover for the largest protest rally ever to take place in Federal Germany. Some 140,000 people, chanting "Harrisburg ist iberall!" registered their dismay and defiance of the nuclear

authorities. Then, with impressive discipline, they dispersed, with not a single violent incident.



Turning point.....The 3 Mile Island Nuclear Plant.

After six days of tension, under the shadow of the run-away reactor 8,000 km away, the hearings concluded. Six weeks later, on national television, Albrecht announced that he was rejecting the *Entsorgungszentrum*. Ten years later, Federal German nuclear waste-disposal plans are still in chaos.

In the wake of the devastation at Chernobyl, the image of Three Mile Island has faded. But those who were in Hanover in the last week of March 1979 will never forget the empty helplessness that engulfed us, as we wondered if the hydrogen bubble would shatter the reactor and blanket countless communities with lethal fallout. Not for many months did investigation reveal just how close TMI-2 came to a catastrophe even worse than Chernobyl.

A decade and more than \$1billion later, the clean-up of the ruined reactor continues. The March 1989 issue of *Nuclear Engineering International* has a business-like status report to mark the tenth anniversary of the accident.

"As it turned out, even the most pessimistic early assessments significantly underestimated the severity of the damage. Latest information indicates that about 53 per cent of the core melted "

In the words of Edwin Kinter of General Public Utilities, owners of the plant, "Before TMI-2 nuclear engineers and scientists made safety calculations and talked about emergencies, but in their subconscious they did not believe a serious accident could happen. After TMI -2, it had to be accepted that one could."

As Britain presses on with its cosy "small family" of PWRs, politicians and investors would do well to remember TMI-2. Such things can happen even in the best families.

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