

PHYSICS

Morals and madness

Philip Ball finds little contemporary relevance in a play from the cold-war era that probes scientific responsibility.

When *The Physicists* by the Swiss playwright Friedrich Dürrenmatt was published in 1962, the Cuban missile crisis was warming up and it looked possible — even likely — that the world might be consumed by nuclear war. The play, a response to the invention of the atomic bomb, is very much a product of its time. Although this production, newly adapted by Jack Thorne, is spirited and full of excellent performances, it is hard to find much in it that speaks to the social quandaries of science today.

The play takes place in an asylum. Two of the three inmates apparently believe themselves to be Isaac Newton (in full wig and frock coat) and Albert Einstein (constantly playing the violin, badly). The third is Johann Wilhelm Möbius — a nod to the nineteenth-century German astronomer and mathematician known for his topological strip — who claims to be receiving theories of physics from the spectre of King Solomon.

The action begins as a police inspector investigates the murder of one of the nurses by 'Einstein', only days after 'Newton' has murdered another. Yet both men are still allowed to roam free by the institution's director, Dr Mathilde von Zahnd. She is played by Sophie Thompson with great gusto, as a cross between Richard O'Brien's vampish butler in *The Rocky Horror Picture Show* and Peter Sellers's Dr Strangelove from Stanley Kubrick's eponymous 1964 film — another tragicomic farce about nuclear weapons.

Möbius, who seems to alternate between desperate sanity and total lunacy, soon kills his nurse too, when she promises him freedom. Why? We learn that he is a genius who has solved all manner of problems in physics, and has got himself institutionalized so that he can work without fear that his discoveries — which could unleash "new incomprehensible energies" — will be abused by politicians and generals. He has burned his notes as an extra safeguard.

'Einstein' and 'Newton' are also real physicists, posing as madmen to kidnap Möbius for their respective governments. Möbius persuades them to abandon their allegiances and remain in the asylum to work on pure science. "I'm asking you to be loyal

not to a country but to physics," he entreats them. "We can stay in this madhouse or the world will become one."

They agree, only to discover that von Zahnd has long before read and memorized all of Möbius's work after drugging him, and has used it to establish a massive military-industrial organization. The play ends with the scientists realizing that they have been pawns manipulated for political



The Physicists examines scientists' influence on and responsibility for how their work is used.

power games. "We're not just finished," says a forlorn Möbius. "Everybody is."

Dürrenmatt was making a serious point, among all this absurdity, about the responsibilities of scientists. The play is a critique of science, but not antagonistic towards it. The scientists are sympathetic but politically naive in overestimating their ability to control how their knowledge is used. 'Newton' argues that such moral dilemmas are not theirs to grapple with — they should be concerned only with the science. 'Einstein', meanwhile, advocates political engagement. As he puts it in the original 1964 translation, "We are providing humanity with colossal sources of power. That gives us the right to impose conditions. If we are physicists, then we must also become power politicians." Möbius shows 'Einstein' how little influence he really has.

And that was what the Manhattan Project

scientists discovered. They — most notably Robert Oppenheimer — were expendable once the job was finished. The military had no interest in their views on how the bomb should be used. Niels Bohr's attempt to persuade Winston Churchill in 1944 that it would be safer for all if the Soviet Union was told about Allied work on the bomb was particularly poignant. "He scolded us like two schoolboys," Bohr said afterwards. "We did not speak the same language."

Dürrenmatt's understanding of the bomb's genesis was, however, based largely on Robert Jungk's 1956 account *Brighter Than a Thousand Suns*. This embellished the false claim by German physicist Carl von Weizsäcker that he and his colleagues were morally superior to their US counterparts at Los Alamos because they actively declined to make the bomb for Hitler. History shows that the Germans acted more like Dürrenmatt's 'Newton', avowing devotion to physics as a shield against having to confront moral choices in their work. This temptation remains.

The Physicists shows us a misleading vision of science shaped by the public perception of the Manhattan Project: it implies that advances arrive, with equations conveniently attached (in that case, $E=mc^2$), as eureka moments of pure, abstract theoretical thought that then filter down into (potentially dangerous) technologies. In actuality, the interaction between what we insist on calling pure and applied science is generally two-way, intimate to the point of merging and dependent on many actors. Yet the myth still distorts popular discourse, so we can scarcely be surprised that Dürrenmatt fell for it in its heyday.

It is for this reason that, as a comment on scientific responsibility today, the play seems very creaky. The material does not transcend its origins, whereas the portrayals of human and institutional lunacy in *Dr Strangelove* still retain their satirical bite. We need a more nuanced picture of the relationship between science and technology than *The Physicists* offers if we want to nurture socially responsible science. ■

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The Physicists

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