



John Heffernan (foreground) takes the leading role in *Oppenheimer*.

THEATRE

Atomic tragedian

Philip Ball sees something of Macbeth in a play about J. Robert Oppenheimer, leader of the Manhattan Project.

He rose to prominence as head of the epochal Manhattan Project, and fell as a suspected communist sympathizer during the McCarthyite 1950s: the trajectory of J. Robert Oppenheimer's life resembled that of a Shakespearean tragic hero. That was playwright Tom Morton-Smith's pitch to the Royal Shakespeare Company three years ago. Morton-Smith's new play, *Oppenheimer*, fulfils that promise: its protagonist has more than a touch of Macbeth about him.

Oppenheimer emerges as a man driven by boundless ambition — and sometimes encouraged by his wife — to compromise his integrity. He ends haunted with guilt, both for betraying friends, colleagues and lovers, and for masterminding the most destructive weapons ever made. Macbeth's "I am in blood/Stepp'd in so far" is almost too apt. And yet like Macbeth, he is not really a villain, but a character who remains sympathetic even as his flaws are exposed. For its complex portrayal of the dilemmas and ambiguities faced by the early nuclear scientists, *Oppenheimer* deserves much praise.

The play covers just the period from the discovery of nuclear fission in 1938 to the bombings of Hiroshima and Nagasaki in 1945. The 1954 hearings at which Oppenheimer's security clearance was withdrawn — largely because of a youthful flirtation with

leftist politics — can only be foreshadowed. The contrast with Heinar Kipphardt's 1964 play *In the Matter of J. Robert Oppenheimer* is interesting. Written when public concerns about atomic scientists' morality were at their peak, that work echoed Friedrich Dürrenmatt's 1961 play *The Physicists* in implying that these researchers might have been "traitors to the spirit of science". *Oppenheimer* presents a more nuanced view, giving a sense both of the diverse attitudes of Manhattan Project scientists and of the tensions between the researchers and their military leaders. Some wrestle with their consciences; others focus only on the science.

To get across the basics of nuclear fission and fusion, Morton-Smith has to resort to some highly theatrical blackboard lectures. It is neatly done, but demands that the stage scientists speak in ways that real ones never do: they become an orchestrated chorus of excited pedagogical voices. This is a common problem for science plays, and is perhaps best solved by weaving the concepts into the narrative in the 'show, don't tell' style used by Michael Frayn to demonstrate quantum

Oppenheimer
TOM MORTON-SMITH
The Swan Theatre,
Stratford-upon-Avon,
UK
Until 7 March.

NATURE.COM
For more on science
in culture, see:
[nature.com/
booksandarts](http://nature.com/booksandarts)

uncertainty in *Copenhagen* (1998), or by Tom Stoppard to convey chaos theory in *Arcadia* (1993). In my view, a nuclear-physics primer is not essential here anyway — we need to know only that the researchers at Los Alamos in New Mexico are making a bomb of awesome destructive potential, and that it is hard.

The scientists themselves are captured more satisfyingly: the decent, gently witty Hans Bethe (Tom McCall), the principled Robert Wilson (Jack Holden). Morton-Smith writes Edward Teller (Ben Allen) as an almost comically monstrous egotist who considers the messy engineering of the Little Boy and Fat Man fission bombs beneath him and is determined to press ahead with the cleverer science of a thermonuclear hydrogen bomb. Walk-on parts for the more famous or infamous names — Albert Einstein, Richard Feynman, Klaus Fuchs — are a little gratuitous, but that is a quibble.

As Oppenheimer himself, John Heffernan captures the man's charisma and icy solipsism in a subtle and compelling performance. Creating a character who has iron in his soul, yet who inspires great devotion, is no mean feat.

Oppenheimer's brilliance was never in doubt — Bethe said that he "did more than any other man to make American theoretical physics great". Yet genius does not always ensure good life choices. Even by his own admission, Oppenheimer's bungling subterfuge in a 1943 incident in which a colleague at the University of California, Berkeley, floated the idea of getting technical information to the Soviets — a key element in the 1954 trial — was "idiotic". Oppenheimer thought deeply about the role of science in society, yet his response was to retreat into grand generalities about science's amorality: "In most scientific study, questions of good and evil, or right and wrong, play at most a minor and secondary part ... The true responsibility of a scientist ... is to the integrity and vigor of his science."

It is precisely these contradictions that make Oppenheimer ripe for theatrical exploration. His is the type that so often rises to the top in times of conflict. In his strengths and failings there are parallels with a very different man: Winston Churchill (see R. Rhodes *Nature* **501**, 488–490; 2013). "Los Alamos might have succeeded without him," Bethe wrote, "but certainly only with much greater strain, less enthusiasm, and less speed ... He brought out the best in all of us." Perhaps only someone with the charm and intellect, sense of superiority and assurance, and armour-plated flaws could have done what Oppenheimer did. He really did change the world, but it is for the rest of us to work out what to do about it. ■

Philip Ball is a writer based in London, and author of *Serving the Reich*.
e-mail: p.ball@btinternet.com