

THEATRE

Lab's labour's lost

Philip Ball appraises Nicole Kidman's stage turn as crystallographer Rosalind Franklin.

The 1953 discovery of DNA's structure by James Watson and Francis Crick is a triumphant narrative with an uneasy subtext. Rosalind Franklin's crystallographic work was a vital part of the evidence. Yet, although her results (and those of Maurice Wilkins) were published in the same issue of *Nature* as theirs, Franklin was denied adequate credit for years (see *Nature* 496, 270; 2013). Watson and Crick never fully acknowledged the debt while she lived, and when she died at 37 of ovarian cancer, she effectively spared the Nobel committee the impossible decision of which trio to reward with the 1962 prize in medicine or physiology.

The question you need to ask yourself before seeing *Photograph 51*, Anna Ziegler's play about Franklin and the race to pin down the double helix, is how you like your science-in-theatre. Do you insist on adherence to the historical record, or do you accept that the aim is to illuminate and interrogate themes? There is plenty here to upset the stickler — not least, the status of the titular X-ray diffraction pattern of DNA, obtained by Franklin and PhD student Raymond Gosling at King's College London and used as evidence for Watson and Crick's double-helical model. Many of Ziegler's liberties (such as bringing Franklin's illness forward, and implying that Wilkins was infatuated with her) serve the narrative without compromising the core issues. But casting photograph 51 as a eureka moment is awkward.

Franklin did not fully interpret the image, for one thing. Nor did she take it (Gosling did), although that would not have been possible without her expertise. As Matthew Cobb writes in his excellent *Life's Greatest Secret* (Profile, 2015), the image's significance has often been overstated, largely because Watson chose to play it up ("The instant I saw the picture my mouth fell open") in his 1968 *The Double Helix* (Athenaeum).

In Watson's book there was also a hint, made much of in later accounts, of something underhand in how Wilkins — Gosling's supervisor — showed Watson the photo in early 1953. That was not true, although certainly Wilkins had clashed terribly with Franklin. Should Ziegler have used Watson's first-hand but unreliable narrative at face value to inform the plot? One might argue that if Watson could decorate the truth for the sake of a good story, why shouldn't she?

By adopting a dismissive tone towards Franklin, Watson's book inadvertently played



Nicole Kidman as Rosalind Franklin in *Photograph 51*.

a big part in launching her as a feminist icon. And Ziegler's play (which premiered in Los Angeles, California, in 2009) offers a more nuanced view of the myth.

Ziegler's players carry the story well. Watson (Will Attenborough) and Crick (Edward Bennett), naturally; the diffident Wilkins (Stephen Campbell Moore); Gosling (Joshua Silver) doing the PhD student's job of filling in gaps and making the tea, figuratively and literally. US structural biologist Donald Caspar (Patrick Kennedy) almost draws the work-obsessed Franklin into her first — and only — relationship. Linus Pauling, Max Perutz and Lawrence Bragg stay offstage. So does a fair bit of the science: we never see the double helix, and the audience is left to make what it will of phosphates being on the inside or the outside of the structure. That is no fault in itself — we are spared blackboard primers. But the metaphors about base-pairing (as Caspar takes Franklin's hand) or sexualized nestling of the twin strands are clunky.

The play belongs to Franklin. But she is written as so buttoned-up, prickly and focused that it is easier to warm to the urbane Crick or even the impetuous Watson. And casting a big star brings its own complications. Nicole Kidman's performance is restrained, but the glamour that attends her is the opposite of what the part demands. More surface ordinariness would have left room for a glimpse of depths.

Misogyny has loomed large in Franklin's

Photograph 51

ANNA ZIEGLER

Until 21 November 2015.

Noël Coward Theatre,
London.

tale ever since the feminist reading of Anne Sayre's *Rosalind Franklin and DNA* (Norton, 1975) — an interpretation that Franklin would have disavowed, her sister has said. Had Franklin been less excluded and patronized by her male peers, might she have had the feedback and confidence to solve the structure first? In her authoritative *The Dark Lady of DNA* (HarperCollins, 2002), Brenda Maddox challenges that idea, suggesting that Franklin's class and religion (she came from a wealthy Jewish family) had an equal role in her isolation at King's. Ziegler finds a good accommodation: without any of the male characters becoming chauvinistic caricatures, we are left in no doubt that science was not welcoming to women in the 1950s.

More contentious in both history and the play is how to think about Franklin's science. Her experimental acumen is made clear; Kidman spends a lot of time at the lab bench. But what might have held Franklin back was that she did not trust model-building, believing that the structure must be revealed through mathematical analysis. Along with photograph 51, Watson and Crick assimilated other data, notably biochemist Erwin Chargaff's observation that in DNA, the amounts of adenine and thymine bases, and of cytosine and guanine, are equal. Perhaps more importantly, Watson, Crick and Pauling felt confident enough to foul up. All three committed howlers in trying to get the prize — Pauling's triple helix, published in early 1953, contained elementary errors. Ziegler's Franklin would have been mortified by such blunders.

That, perhaps, is the most valid message of *Photograph 51*. For science to thrive, there must be the freedom to fail. In Franklin's time, it is not surprising that a female scientist would think that she could ill afford that luxury. I am not at all sure that even a young Watson and Crick today could so freely take the risks they did. And shamefully, with evidence of gender imbalances in peer review and tenure, harassment and discrimination in the laboratory, and casual gender stereotyping still deemed acceptable by some leading scientists, the stakes remain still higher for a latter-day Franklin. ■

Philip Ball is a writer based in London.
e-mail: p.ball@btinternet.com

JOHAN PERSSON