The fickle food of fame

Tim Hunt

How to Win the Nobel Prize—An Unexpected Life in Science

J. Michael Bishop

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I first met J. Michael Bishop at a Gordon Conference in the late 1970s, just after Ray Erikson had discovered that Src was a protein kinase, and before Tony Hunter had realized that it transferred phos-

phate to tyrosine residues. It was an unnerving experience, because although I had had some experience of protein phosphorylation and protein kinases, whereas Mike had little or none, he had read far, wide and deep, and hadn't missed a trick. I felt myself to be in the presence of a superior being. I had a similar experience years later with Bishop's colleague Harold Varmus, this time in connection with protein synthesis. Together, Mike and Harold made a formidable team, as was confirmed in 1989 when they were jointly awarded the Nobel Prize for their discovery of the cellular origin of retroviral oncogenes. Years after our first meeting, I found myself serving under Mike on the Scientific Advisory Board of the Research Institute of Molecular Pathology in Vienna. Once, while we were chatting in a room in the Opera House, he recalled his first inkling of his Nobel Prize, which had come in that very room. "Where are you going to be in the second week of October?" Lennart Philipson had asked during an interval, which had set Michael wondering. The phone call on 9 October 1989 came through at 3 a.m. in San Francisco, and it was his teenage son Dylan who was awake to pick up the phone: "Don't worry, Dad, it's good news." On 8 October 2001 at 10.10 a.m., I was asked by Hans Jörnvall, Secretary of the Nobel Assembly of the Karolinska Institutet if by any chance I knew Lee Hartwell's home phone number, which I didn't, but it was the one piece of verisimilitude that slightly mitigated the overwhelming feeling that his message was a hoax.

How to Win the Nobel Prize is the edited text of the Jerusalem–Harvard Lectures that were delivered in January 2000 by our egregious (literally, 'outside the flock') friend. It is divided into five chapters, each with a very different theme. The first, 'The phone call', describes the Nobel celebrations, something of Nobel the man, and something of the attendant trappings, including the funny story of how Bishop and Varmus did *not* get to throw out the first pitch at a game in the 1989 World Series, partly because of an earthquake and partly because the San Francisco Giants were so pathetic. They lost to Oakland in four games, with Mike and Harold due to open the fifth.

The second chapter begins charmingly autobiographically. J. Michael Bishop was the son of a Lutheran minister in a tiny town in rural Pennsylvania, where he was nurtured on the Bible and liturgical music—not a bad beginning—and went to schools that did nothing to extinguish his spirit or intellect; quite the reverse, in fact. From a liberal arts college he went to Harvard Medical School, which taught him that scientific research, rather than treating patients, was for him. Within 15 pages, he accepts Harold Varmus as a postdoc at the University of California, San Francisco (UCSF), and the rest is history. Their relationship was based on a shared love of words and books and a helpful complementarity of scientific approach. I was sorry not to read more of a trope on this theme, for although solitary geniuses are not unknown, biology often seems to find its Watson and Cricks, its Brown and Goldsteins and its Bishop and Varmuses, when unexpected and important new ground is to be broken. Actually, I would have welcomed more about Bishop growing up as a pastor's son in the countryside; even the name of the town is suppressed. But there's little time to reflect, and before long we hear about 'Why science succeeds'—through honesty, equality, community, ambition, courage and beauty. The chapter ends with some illuminating thoughts on aspects of the scientist as political animal. We scientists have too much faith in common sense and reason, according to a congressman quoted by Bishop, and that's not what drives most political figures. The ex-UCSF quartet, comprising Bruce Alberts, Mike Bishop, Marc Kirschner and Harold Varmus, has been spectacularly successful in its relations with Congress, thanks partly to the qualities listed above and partly to the canny tactics described here: lobbyists, caucuses and education. The chapter ends with

Bishop becoming Chancellor of UCSF and a hymn to education.

The next two chapters reflect Bishop's particular interests. He cut his scientific teeth on poliovirus and then moved on to cancer, so Chapter 3 is entitled 'People and pestilence'—a lightning tour along the lines of William McNeill's book *Plagues and People*—in which I thought I could detect occasional whiffs of political correctness. Florence Nightingale is portrayed as a heroine of community medicine and epidemiology, for example, whereas John Snow was lucky to take up pump-handle vandalism in Soho when cholera was on the decline anyway. Bishop then turns his attention to the team that was assembled by Howard Florey in Oxford to produce a safe and effective antibiotic from the penicillin mould. Lady Florey and Margaret Jennings (the second Lady Florey) have a larger role in Bishop's version of the penicillin story than usual, in which there are one or two mistakes, as I learned from having to open an extension to the laboratory in Oxford where penicillin was developed.

'Opening the black box of cancer' in Chapter 4 is a similar condensed guide to the history of understanding oncogenes and carcinogens, including the moment when Dominique Stehelin, alone in the lab one Saturday night, discovered *c-src*. Only footnote 27 refers to the disappointment, not to say anger, felt by Stehelin at his omission from the Nobel lineup, and Bishop, perhaps understandably, discusses the matter only obliquely. We will not know the committee's evidence or thoughts for another 38 years, when the 50-year period of confidentiality expires.

In the last 47 pages or so, Bishop muses on the question of why, despite science's great success at demystification and clarification, the banishment of hunger and disease and the adoption of the atomic and quantum theories of matter, people and politicians are more suspicious than ever about the men in white coats. He draws on personal experience—the fight with UCSF's neighbours in San Francisco, the Baltimore Affair, stem cell research and so on—explaining that he wrote the book at least in part to help fight the cause. It is a noble cause, and the book is both enjoyable and illuminating to read.

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