

PETER LAWRENCE

THE SECRET OF LIFE

AVOID BORING PEOPLE: AND OTHER
LESSONS FROM A LIFE IN SCIENCE

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By James D Watson

(Oxford University Press 368pp £14.99)

IMAGINE A RESEARCH scientist at the age of twenty-four, James (Jim) D Watson. At that age, most of his peers would be checking out which lab to begin their PhD studies in; Watson, however, had not only finished his PhD but had already shared the greatest discovery in biology of the twentieth century. In *Life Story*, the superb 1987 TV docudrama, the quest for the structure of DNA climaxes with a triumph, the revelation of the double helix of DNA. Afterwards, Watson is with his sister on a bridge over the river Cam. She asks him why he is so quiet. 'I'm 24 years old,' he says. 'Nothing'll ever come close again.' *Life Story* was right about that.

Jim Watson and Francis Crick had been working on and off for two years on the structure of DNA, taking advantage of the unpublished results of Rosalind Franklin and Maurice Wilkins, and building their understanding, piece by piece, through incisive thinking, vigorous debate and Heath Robinson-type model-building. Watson's best moment of discovery came on the morning of 28 February 1953 when, moving four cut-out cardboard shapes around on a table, he saw how the bases must fit together. This was surely the finest revelation in the history of science. No wonder they rushed to *The Eagle*, Crick telling anyone within earshot that they had found the secret of life. Everyone has heard of DNA now, but non-scientists may not appreciate how the structure shines a searchlight into the dark and concealed heart of biology, lighting up what we could not have known before and guiding us towards what we have yet to understand.

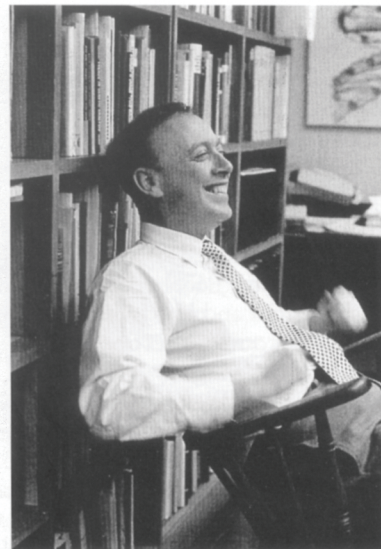
Watson is still active now, fifty-four years later, and his autobiography tells us what he did both before and after that moment of discovery. This new book differs in tone and manner from *The Double Helix*, Watson's 1968 account of their discovery (which was concerned with only two years); it is more scholarly and more detailed, but lacks the same immediacy and some of the earlier book's zest. As he wrote then: 'Suddenly I became aware that an adenine-thymine pair ... was identical in shape to a guanine-cytosine pair ... no fudging was required to make the two types of base pairs identical in shape.' He writes now: 'I found myself forming the A-T and G-C base pairs we now know to exist in DNA'. To be fair, the present description looks back over more than fifty

years, but I still get gooseflesh when I try to imagine what it must have been like, moving those shapes around, and looking, for the first time, into that secret. I would have enjoyed seeing some of the sparks that must still glow in Watson's memory.

But the new book covers much ground, and, for those wanting to understand historical and scientific events in American molecular biology as well as see

into the lively mind, motivations and limitations of the man himself, there is much to be learnt from it. The story is frank, personal, revealing and sometimes entertaining. But the whole is chained in by time too systematically – one sees the events rather as one might review a mix of washing on a line, leaving little structure apart from time's arrow. He describes his scientific journey and – perhaps most importantly – why he changed direction, and you see his growing interest in political structures, in ways of doing and organising science, and of course in teaching, until these matters engage him at least as much as research. Watson's contribution to building up Cold Spring Harbor, now well within the top ten of biomedical labs in the world, is immense. His textbooks, particularly *Molecular Biology of the Gene*, have been hugely successful and educative, and his interest in these writings comes across in a lively manner. In the best chapter in the book, Watson gives us a detailed account of how *The Double Helix* got written and published, Crick's death now perhaps giving him more licence to be frank. He also describes rather repetitively but discreetly his long and ultimately successful search for a wife, remembering the names, colour of hair and other characteristics of so many young women that it is clear he must have a phenomenal memory for detail – that is, if he did not keep his own type of Bridget Jones diary.

Watson has extracted lessons for us from his experiences, and delivers them in short and often witty homilies at the end of each chapter. These have clear relevance for today. The advice is welcome because Watson is a free thinker, unshackled by conventional wisdoms or courtesies. It is regrettable that some of his lessons are being thrown out of the window by the present generation of



Watson: free thinker

scientists. For example, Watson believes, as Crick did, that graduate students should be free: 'never let your students see themselves as research assistants' and (not unconnected) 'later I made it a point that my name never be included with theirs on research papers...'. It seems to me that the current generation of students is far less free than they were at the time of the DNA discovery, even nowadays in the MRC Laboratory of Molecular Biology where the discovery was originally made. Neither Bragg, nor Kendrew, nor Perutz even considered putting their names on the DNA papers (Bragg was head of the lab, Crick

was a student of Perutz at the time, Watson a postdoc with Kendrew).

Finally, it is interesting to compare Watson's and Crick's biographies; Crick's *What Mad Pursuit* is dominated by ideas and viewpoints, James Watson's book by events and facts. A comparison of these books, as well as the success of the two men's collaboration, supports Watson's belief that 'Two scientists acting together usually accomplish more than two loners each going their own way'.

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