

Self-deprecating humour in James Watson's *The Double Helix* (1968) memoir

Sachi Sri Kantha

*To felicitate the 50th anniversary of the Nobel Prize in Physiology or Medicine awarded to James Watson, Francis Crick and Maurice Wilkins, for the 1953 announcement of the DNA double helix model, I analyse here 13 humorous anecdotes described by James Watson in his *The Double Helix* (1968) memoir for self-deprecating humour. This memoir covered the time-span from October 1951 to April 1953. Using Feinberg's taxonomy of humour, I infer that only three categories (obvious aggression, unexpected truth and black humour) are represented in these 13 anecdotes.*

The 50th anniversary of the Nobel Prize in Physiology or Medicine, jointly awarded to James Watson (born 1928), Francis Crick (1916–2004) and Maurice Wilkins (1916–2004), for their elucidation of the DNA double helix model, offers an opportunity to focus on Watson's self-deprecating humour in his popular *The Double Helix* (1968) memoir¹, which covered the time-span from October 1951 to April 1953. The popularity and notoriety of this memoir owes much to its unusual portrayal of how scientific research was conducted at the ivory towers in Britain and USA in the early 1950s.

Lawrence Bragg, who mentored Watson at Cambridge University, graciously contributed a foreword to the book and noted, 'the story is a poignant example of a dilemma which may confront an investigator'. Forgiving the pithy portrayal of him by Watson, Bragg also reminded other scientists that, 'You've got to remember one or two things about that book. It was based on his letters to his parents when he was 25. It only appeared when Watson was 15 years or so older and because he could not possibly have remembered all that detail, and relied on notes made at the time, the whole book reflects ideas about what was happening in the laboratory recorded without inhibitions by a young man from central United States in his 25 years.² When it was published, the book did receive many appreciative and negative reviews from Watson's scientific peers^{3–5}.

Erwin Chargaff, representing the aggrieved party, wrote a dyspeptic review and concluded it with the sentence, 'To the extent, however, that Watson's book may contribute to the much-needed demythologization of modern science, it

is to be welcomed'⁶. As opposed to this, Salvador Luria (Watson's Ph D mentor at the Indiana University) observed in his autobiography, 'James Watson's *The Double Helix* is a wonderful book, because the discovery of the structure of DNA is a great story and it is told with style and verve. It is also a confessional book because, with a smile that is never a sneer, the author unburdens himself of a variety of transgressions: insensitivity in dealing with colleagues, arrogance inappropriate to his age at the time of the discovery.⁷ Crick, Watson's senior partner, was initially annoyed by Watson's attempts to publish the inside story of their collaborative effort^{5,8}. However, 20 years after the publication of the memoir, Crick sportingly paid a tribute to Watson's writing skill in his autobiography with the words, 'I now appreciate how skillful Jim was, not only in making the book read like a detective story (several people have told me they were unable to put it down) but also by managing to include a surprisingly large amount of science, although naturally the more mathematical parts had to be left out.⁹'

Scientists are notorious for churning out humourless prose. More than one reason can be attributed to this. First, technical descriptions of research in learned journals abhor humour. Secondly, not all the scientists who publish in English, the current lingua franca of science, possess the linguistic proficiency at the native level. Thirdly, even if scientists may be inclined to add a touch of humour in their writing, their attempts may be vetoed by the peer reviewers and editors, for reasons of unprofessionalism. This is especially true for unsolicited submissions. Editors may allow humour to a degree for solicited submissions by established, senior scientists.

In my opinion, a few such as Watson and Sydney Brenner can be identified as ranking humourists among scientists. Watson's senior contemporaries such as J. B. S. Haldane (1892–1964), Richard Feynman (1918–1988), Alexander Kohn (1919–1994), Isaac Asimov (1920–1992) and Daniel Koshland (1920–2007) deserve recognition in the scientist-humourists honour roll. Among these, Kohn served as the editor of *Journal of Irreproducible Results* (a one-of-its kind humour journal for scientists) for 33 years¹⁰. Previously Friedberg¹¹ had examined the scope of Watson's writing life, which included three genres (autobiography, advocacy and science textbooks). What had escaped Friedberg's analysis, was the self-deprecating humour in *The Double Helix* memoir. Thus, I venture to present my brief analysis on this particular theme, based on the humour type taxonomy proposed by Feinberg¹².

A selection of Watson's anecdotes

I have identified 13 anecdotes which I reproduce below in adequate detail, so that the context for understanding the humour is amply served. Table 1 presents specific three-number parameters (total number of sentences, total number of words and word/sentence ratio) relating to each of the 13 selected anecdotes. The parameter word/sentence ratio in 9 of the 13 chosen anecdotes was in the range 20–24, indicating distinct clarity and economy in sentence composition. It also attests the truth in the Shakespearean adage 'brevity is the soul of wit' [*Hamlet*, act 2, scene 2, line 90]. In Table 2, I present the identifiable humour type or situation and the implicated persons in

Table 1. Details regarding the self-deprecating anecdotes in *The Double Helix*

Anecdote	Chapter number	No. of sentences	No. of words	Word/sentence ratio
1	1	4	95	23.8
2	5	5	76	15.2
3	6	3	60	20.0
4	6	3	88	29.3
5	6	3	57	19.0
6	9	1	34	34.0
7	11	5	85	17.0
8	15	1	45	45.0
9	15	3	83	27.7
10	16	2	26	13.0
11	17	5	93	18.6
12	18	5	95	19.0
13	19	4	84	21.0

Table 2. Identifiable self-deprecating humour type/situation faced by the author in the selected anecdotes

Anecdote	Identifiable humour type or situation	Implicated persons
1	Academic deficiency	[Self only]
2	Exaggerated grandeur	Linus Pauling
3	Academic deficiency	Max Perutz, John Kendrew
4	Tackling bureaucratic edict, pitiable laboratory skill	Salvador Luria, Roy Markham
5	Rude tenant behaviour	Unidentified landlady
6	English cuisine	Francis and Odile Crick
7	Improper note-taking skill	Francis Crick, Rosalind Franklin
8	Horrendous shooting skill	Dick Mitchison
9	Lack of vocabulary skill	Mitchison women
10	Pitiable laboratory skill	Roy Markham
11	Lack of presentation skill	> 400 microbiologists
12	Lack of personal poise	Erwin Chargaff, John Kendrew
13	Lack of personal poise	Baroness Edmond de Rothschild, Andre Lwoff

each of the chosen anecdotes. In some anecdotes, Watson had used either the first name/nickname or the last name of the scientist or other persons with whom he had interacted. For clarity, within parenthesis, I have added either the first name or the last name of the scientist in each anecdote reproduced below.

Anecdote 1

... it was my hope that the gene might be solved without my learning any chemistry. This wish partially arose from laziness since, as an undergraduate at the University of Chicago, I was principally interested in birds and managed to avoid taking any chemistry or physics courses which looked of even medium difficulty. Briefly the Indiana biochemists encouraged me to learn organic chemistry, but after I used a Bunsen burner to warm up some benzene, I was relieved from further true chemistry. It was safer to turn

out an uneducated PhD than to risk another explosion.

Anecdote 2

A few days later the next issue of the journal arrived, this time containing seven more (Linus) Pauling articles. Again the language was dazzling and full of rhetorical tricks. One article started with the phrase, 'Collagen is a very interesting protein'. It inspired me to compose opening lines of the paper I would write about DNA, if I solved its structure. A sentence like 'Genes are interesting to geneticists' would distinguish my way of thought from Pauling's.

Anecdote 3

I explained that I was ignorant of how X-rays diffract, but Max (Perutz) immediately put me at ease. I was assured that

no high-powered mathematics would be required: both he and John (Kendrew) had studied chemistry as undergraduates. All I need do was read a crystallographic text: this would enable me to understand enough theory to begin to take X-ray photographs.

Anecdote 4

I was cheered up when a letter arrived from (Salvador) Luria that the situation might be smoothed over if we appeared to eat crow. I was to write Washington that a major inducement in my wanting to be in Cambridge was the presence of Roy Markham, an English biochemist who worked with plant viruses. Markham took the news quite casually when I walked into his office and told him that he might acquire a model student who would never bother him by cluttering up his lab with experimental apparatus.

Anecdote 5

She [i.e. landlady] threw me out after less than a month's residence. My main crime was not removing my shoes when I entered the house after 9:00 pm, the hour at which her husband went to sleep. Also I occasionally forgot the injunction not to flush the toilet at similar hours and, even worse, I went out after 10:00 pm.

Anecdote 6

Francis (Crick) was always eager to continue our conversations, while I joyously seized every opportunity to escape from the miserable English food that periodically led me to worry about whether I might have an ulcer.

Anecdote 7

Francis began asking questions about Rosy's (Rosalind Franklin) talk. My answers were frequently vague, and Francis was visibly annoyed by my habit of always trusting my memory and never writing anything on paper. If a subject interested me, I could usually recollect what I needed. This time, however, we were in trouble, because I did not know enough of the crystallographic jargon. Particularly unfortunate was my failure to be able to report exactly the water

HISTORICAL NOTES

content of the DNA samples upon which Rosy had done her measurements.

Anecdote 8

In the afternoon Dick (Mitchison) was always trying to get someone to shoot pigeons, but after one attempt, when I fired the gun after the pigeons were out of view, I took to lying on the drawing room floor as close as possible to the fire.

Anecdote 9

In the evenings there was no way to avoid intellectual games, which gave the greatest advantage to a large vocabulary. Every time my limpid contribution was read, I wanted to sink behind my chair rather than face the condescending stares of the Mitchison women. To my relief, the large number of house guests never permitted my turn to come often, and I made a point of sitting near the evening's box of chocolates, hoping no one would notice that I never passed it.

Anecdote 10

This time he [Roy Markham] was unexpectedly sympathetic and without hesitation volunteered some virus. The idea of Francis and me dirtying our hands with experiments brought unconcealed amusement.

Anecdote 11

Almost no one in the audience of over four hundred microbiologists seemed interested as I read long sections of (Alfred) Hersey's letter. Obvious exceptions were Andre Lwoff, Seymour Benzer and Gunther Stent, all briefly over from Paris. They knew that Hershey's experiments were not trivial and that from then on everyone was going to place more emphasis on DNA. To most of the spectators, however, Hershey's name carried no weight. Moreover, when it came out that I was an American, my uncut hair provided no assurance that my scientific judgment was not equally bizarre.

Anecdote 12

(Erwin) Chargaff, as one of the world's experts on DNA, was at first not amused by dark horses trying to win the race.

Only when John (Kendrew) reassured him by mentioning that I was not a typical American did he realize that he was about to listen to a nut. Seeing me quickly reinforced his intuition. Immediately he derided my hair and accent, for since I came from Chicago I had no right to act otherwise. Blandly telling him that I kept my hair long to avoid confusion with American Air Force personnel proved my mental instability.

Anecdote 13 [chapter 19]

The Baroness (Edmond de Rothschild) was telling several visitors how pleased she was to have such distinguished guests. She did regret, however, that the mad Englishman from Cambridge had decided not to come and enliven the mood. For an instant I was puzzled, until I realized that Lwoff had thought it prudent to warn the Baroness about an unclothed guest who might prove eccentric. The message of my first meeting with the aristocracy was clear. I would not be invited back if I acted like everyone else.

Commentary

These 13 anecdotes can be conveniently arranged according to humour type taxonomy proposed by Feinberg¹². The established seven types are: Type 1: Obvious aggression (six subcategories, including witty insult, invective, sadism, practical joke, fool and superiority). Type 2: Unexpected truth. Type 3: Sexual humour. Type 4: Scatological humour. Type 5: Black humour. Type 6: Nonsense humour. Type 7: Word play.

Among these, types 3, 4, 6 and 7 are missing in Watson's written text. It is remarkable that these types are comparatively more prevalent in oral humour, than in written text. Accordingly, Watson's text also lacks these four humour types. When the book was first published, quite a few feminists among scientists took offence against Watson, for his offensive treatment of rival crystallographer Rosalind (Rosy) Franklin. If a couple of tasteless sexist comments about Franklin were excluded, *The Double Helix* memoir is devoid of sexual humour. The 13 anecdotes which I have presented above can be categorized as follows:

Anecdote 1: obvious aggression (fool).
Anecdote 2: obvious aggression (superiority or witty insult).

Anecdotes 3–5: obvious aggression (fool).
Anecdote 6: unexpected truth.

Anecdotes 7–11: obvious aggression (fool).

Anecdote 12: obvious aggression (superiority).

Anecdote 13: black humour.

Eleven among the 13 anecdotes fall into the first category of obvious aggression. Other two being in the category of unexpected truth (anecdote 6) and black humour (anecdote 13). In nine among the 13 anecdotes, Watson portrayed himself as a fool and the aggression was self-directed. 'Fool' has to be interpreted in its dictionary definition, which is 'a person who acts unwisely or imprudently; a silly person'¹³ and nothing more. In the other two anecdotes (2 and 12) which fall under the category of obvious aggression, Watson had portrayed two of his 'rivals' in the so-called race to elucidate the DNA structure, namely Pauling and Chargaff, as brimming with superiority complex. That both these chemists were older to Watson by two decades deserves notice.

Forty-four years after its publication, the historical worth of *The Double Helix* memoir has been acknowledged, even by Watson's earlier detractors like Crick⁹. To the best of my knowledge, one additional merit of this book has gone unnoticed. Watson's memoir can serve as a useful primer for introduction to the practical aspects of competitive science for university undergraduates and graduates whose native tongues are not English. As a scientist and university educator in Japan (where the medium of instruction is strictly in Japanese language) for almost 25 years, I have noticed that more than 95% of students entering science-based disciplines (medicine, natural sciences, agriculture, veterinary science, engineering, etc.) graduate *without* reading even a single book related to the practical aspects of competitive science in English. Confounding this demerit is the reality that over 95% of the instructors who teach English to these students at the universities also are neither trained in science nor possess a degree in science.

To my dismay, I had checked that even quite many Japanese faculty member peers (if they had read Watson's memoir), had mostly read the Japanese translation and not the original. Thus, recently I have made an attempt to use Watson's memoir in teaching scientific

English for the benefit of these students. I have no doubt that my proposal of using Watson's memoir as a useful primer for introduction to the practical aspects of competitive science can be applied to other countries (including India), where majority of undergraduates who enroll in science-oriented courses have languages other than English as their native tongues.

Finally, I would like to mention that there are more humorous anecdotes in *The Double Helix* memoir, which I have omitted in this study for the single reason that I may be exceeding the 'fair use' limit if I quote these directly. Anecdotes need to be quoted verbatim. If they are merely paraphrased, the context, the language choice and the taste offered by the author will become blurred.

1. Watson, J. D., *The Double Helix – a Personal Account of the Discovery of the*

Structure of DNA, Atheneum, New York, 1968.

2. Bragg, L., Sir Lawrence Bragg, F. R. S., *Chem. Br.*, 1970, **6**, 147–153.
3. Stent, G. (ed.), *The Double Helix (Text, Commentary, Reviews, Original Papers)*, Norton & Co, New York, 1980.
4. Chargaff, E., Preface to a grammar of biology. Hundred years of nucleic acid research. *Science*, 1971, **172**, 637–642.
5. Olby, R., *Francis Crick – Hunter of Life's Secrets*, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York, 2009, pp. 9–12.
6. Chargaff, E., A quick climb up Mount Olympus. *Science*, 1968, **159**, 1448–1449.
7. Luria, S. E., *A Slot Machine, A Broken Test Tube – An Autobiography*, Harper & Row Publishers, New York, 1984, p. 7.
8. Lwoff, A., Truth, truth, what is truth (about how the structure of DNA was discovered)? *Science*, 1968, **219**, 133–138.

9. Crick, F., *What Mad Pursuit – A Personal View of Scientific Discovery*, Basic Books Inc., New York, 1988.
10. Szybalski, W., In memoriam Alexander (Leszek or Leshek) Kohn (1919–1994), a personal tribute. *Gene*, 1995, **160**, 3–5.
11. Friedberg, E. C., *The Writing Life of James D. Watson*, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York, 2005.
12. Feinberg, L., *Maledicta*, 1978, **2**, 87–110.
13. Jewell, E. J. and Abate, F., *The New Oxford American Dictionary*, Oxford University Press, New York, 2001, p. 659.

ACKNOWLEDGEMENT. I thank Dr James D. Watson for his permission to quote the 13 humorous anecdotes cited in this note.

Sachi Sri Kantha is in the Center for General Education, Gifu University, 1-1 Yanagido, Gifu City 501-1193, Japan. e-mail: srikanth@gifu-u.ac.jp

ONLINE SUBMISSION

Starting 1 December 2012, authors are requested to submit papers online at www.currentscience.ac.in/csojs. A link will also be provided from the *Current Science* web page.