A Remembrance of Norton Zinder

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Thanks to Michael and Stephen and the rest of the Zinder family for this opportunity to recall Norton. Many people in this room knew Norton longer than I, but, when I came to The Rockefeller University in 1984, Vice President Rodney Nichols told me the first person I needed to come to know was Norton Zinder. I visited Norton in his office in Smith Hall, and a wonderful friendship began.

Norton of course was famous for the discovery of transduction of genetic material between cells, and my immediate and lasting impression was that Norton was a transducer. He did not do the more obvious thing, conjugation. He transduced. A meme that was in one place suddenly and unexpectedly popped up in another. Rarely have a discovery and a person matched one another so well.

The challenge with transduction is to connect the dots. It does not always make sense that a meme from one place abruptly pops up in another. Thus, Norton’s sentences or phrases might juxtapose or even integrate, say, the New York Mets and chemical warfare. Sometimes it seemed random, and maybe it was. But it was very Darwinian. Norton tried bigger and more exotic mutations than others. And then allowed selection, or his lunch partner, to discard or just be perplexed by the result.

Norton made many contributions because he kept experimenting, his mind could not stop. Everything had an almost frightening immediacy to him, the countless lectures and thesis presentations he loyally attended at Rockefeller, articles in the New York Times, a casual remark in a committee meeting, an experiment in his lab, a missed opportunity by the Mets or Knicks, a family trip to Italy or Israel. It was as if everything that had ever happened to him in his life had happened that day. He would talk with me about an event from 1970s, such as the Rockefeller University faculty trip to China or the firing of the University’s philosophers, or a conversation in 1951 with Leo Szilard, as if it had just occurred.

Norton did not embrace Renaissance perspective, with carefully graded foreground and background. Things were in the foreground or not at all.

The foreground always included his wife Marilyn, children, daughters-in-law, and grand-children and laboratory. For several years it also included Dolly the Cloned Sheep. Disappointed by the quality of the paper published in *Nature* magazine by Ian Wilmut to establish mammalian cloning, Norton evoked the first Summit of the Cloners as a conference at the Banbury Center of Cold Spring Harbor Laboratory. Along with Rockefeller, Cold Spring Harbor was almost always in the foreground. Norton’s institutional loyalty was ferocious, and few things pleased him as much as the cottage and room in the Cold Spring Harbor library named in honor of his family.

Because of the frequent transductions, Norton was an unconventional reporter. If you asked him for a description of a meeting or a University of Wisconsin football game, it did not follow an orderly narrative. More like an overexcited detective, Norton seized pieces of evidence and scrutinized and presented them. Sometimes it was hard to make out the overall case, but he could not tell a lie. Norton sometimes shocked and even hurt people with his honesty. But his honesty, his inability to dissemble, made him unusually valuable for many institutions and programs. Not many committee chairs would submit a report on the cancer virus program of the National Institutes of Health, as Norton did in 1974, in which he characterized the program as overblown, overambitious, and too diffuse.

A quote: “The whole program is in large part primarily an NCI in-house operation, and those who run it are also often the recipient of large amounts of money they dispense. They tend to come from a narrow section of the scientific community and certainly were not originally selected for NCI employment on the basis of their ability to run large contract programs. When the Segment Chairman decide that a particular scientific problem should be studied, usually this study is delegated to a friendly colleague…”

Overall Norton had a spectacular life in science, and it included weird adventures. I still try to imagine his arrival on Johnston Atoll, a 1-square mile island in the Pacific 750 miles west of Hawaii, where the US Army stored and disposed of its chemical weapons. Only transduction can explain it. Norton was there to advise on whether to freeze or burn the chemical weapons stockpile.

Norton’s many close friends, including Peter Model and Marjorie Russel, Gunter Blobel, Torsten Wiesel, Jim Darnell, Jim Watson, Rod Nichols, Alex Keynan, Rich Roberts, Jan Witkowski, Mila Pollock, Mike Young, Jeff Ravetch, Josh Lederberg, and many others here, and some now gone, came to appreciate that, yes, Norton was abrupt and discontinuous, but he was also loyal and true, facets of the great transducer.