

Comment

Life sentences: Hunters and gatherers

Sydney Brenner

Address: The Salk Institute for Biological Studies, 10010 North Torrey Pines Road, La Jolla, CA 92037-1099, USA.

Published: 5 February 2002

Genome Biology 2002, **3**(2):comment1003.1–1003.2

The electronic version of this article is the complete one and can be found online at <http://genomebiology.com/2002/3/2/comment/1003>

© BioMed Central Ltd (Print ISSN 1465-6906; Online ISSN 1465-6914)

After a year's break as a columnist (erstwhile for *Current Biology*), I had decided to resume writing several months ago, but my natural tendency to procrastinate and the difficulty in choosing a title for the column have delayed me until now. The title had to reflect interests in reading, writing, and biology. An early choice, *The Fifth Column*, was rejected on the grounds that it had nothing to do with the purposes of the column and also, as somebody was quick to point out, it was only the third (after *Loose Ends* and *False Starts*) and not the fifth title I have employed.

So I resorted to word origins to help me with a title, and discovered that 'reading' was not about books but originally meant to discern or to advise; when used as in 'reading a riddle' or 'reading the future' it meant to explain and to discover deeper meanings. On the other hand, 'writing' was about scratching the surface, clearly a much more superficial activity than reading, and the word book came from the birch tree, on the bark of which old Nordic languages were written. I thought of *Broken Reads*, *Writes of Passage*, *Forward Bookings* and, more tenuously, *Slight Reservations*, but all were rejected. Finally, as 2001 was drawing to close, I successfully suggested *Life Sentences*, which my editor liked probably because of its tenure implications.

The reader, or should I say the scanner of this text message, will notice from the specific title of this column that I have become interested in the anthropology of everyday life. I have discovered that this is an important area for social research and that there are now learned treatises on such subjects as shopping, complete with graphs and, as you will soon discover, I have my own theories about the subject. Actually what has driven me into this area of human science is the long delayed start I have made on tidying up my papers, which has led me to some important considerations about collectors and collecting.

It is clear that a collection represents a balance between input and output, that is, between acquiring and disposing, and its size will depend on the relative rates of these two activities. Immediately one sees that there are basically two

kinds of collectors: acquirers and retainers. Acquirers are well understood; they have a clear idea about what they want to collect - mediaeval weapons, shrunken heads, old gramophone records - and they pursue their collecting by a directed process of acquisition. They like to have unique objects that no other collector has or, if that can't be arranged, then a unique ensemble of rare objects.

The second class of collector - the retainers - has not received as much attention as the first; I happen to be a founding member of this group. All things reach me by some undirected process and my collection, or better, accumulation, has grown and continues to grow because I cannot bear to throw anything away. I have a motley collection of letters, invitations, menus, photographs, roneoed preprints and lab notebooks, many valuable but mostly worthless. I have been sternly instructed to get my accumulation into some order, so that it can be made sense of by others, but every time I make a start on this, it occasions a sentimental journey wondering what happened to Dr X who requested a reprint from me in 1961.

The two classes of collector map fairly well onto the two types defined in the title. Clearly acquirers are hunters, while retainers are a kind of gatherer, even if normal gatherers are usually more directed than the retentionist collector, who is simply a sink for random collisions. I note in passing that the difference between chemotaxis and chemokinesis can also be subsumed under the same general principles and can be studied at cocktail parties. If the guests can detect the bar by the smell of alcohol and move up the gradient they will be found congregated at the bar by virtue of chemotactic behaviour. On the other hand, if the guests merely bumble around and collide with the bar, and if the drinks served are alcoholically potent or laced with chloral hydrate (Mickey Finns, for those who remember), the guests will also be found concentrated around the bar, retained by virtue of their drunkenness, perhaps to the point of paralysis.

Shopping, too, can be understood in terms of hunters and gatherers. In our global culture dominated by the T-shirt

economy, with one third of the world making T-shirts, one third selling them and one third buying and wearing them, there are those who go hunting for T-shirts with particularly clever or obscure inscriptions, and those who gather around the stalls offering twenty T-shirts for \$1.

But of course where we see the most clear-cut dichotomy between hunters and gatherers is in the practice of modern biological research. I was taught in the pre-genomic era to be a hunter. I learnt how to identify the wild beasts and how to go out, hunt them down and kill them. We are now, however, being urged to be gatherers, to collect everything lying about and put it into storehouses. Someday, it is assumed, someone will come and sort through the storehouses, discard all the junk and keep the rare finds. The only difficulty is how to recognize them.

A friend of mine recently told me that I was exerting a bad influence on younger scientists by my opposition to '-omic' science and that their progress in science would only be slowed if they took any notice of my preaching the virtues of hypothesis-driven research. I had to tell him that it is not hypothesis-driven research, itself, that I have ever favored but rather those hypotheses that can be tested by experiment. I am in favour of human intervention by thought and deed. I am a hunter, even though I have done some gathering in my time.

*This article is reprinted with permission from The Scientist **16(3):14**, February 18 2002. The original version can be viewed online at <http://www.the-scientist.com/>*