

Obstacles of nomenclature

Most disciplines know how to handle the naming of newly discovered objects. Not so the molecular biologists, whose profligate and undisciplined labelling is hampering communication.

There is nothing that impedes comprehension as much as unfamiliar words, but when things are discovered they need to be named. Time was when discoverers were rewarded by the incorporation of their own names into the language of science: the ampere, the dalton, Le Chatelier's principle, and so on. Usefully, eponymous labels can carry additional resonance by their association with the meaning of what was discovered, as with bosons, which display statistical characteristics formulated by Bose and Einstein. But such encapsulated history can be oversimplified — the particle physicists' 'Higgs' should be the Schwinger–Anderson–Englert–Brout–Higgs–Guralnik–Hagen–Kibble–Weinberg–Salam.

Perhaps that inability to identify one discoverer characterizes contemporary science. At the same time, the lack of a common classical education explains today's avoidance of the archaic but otherwise constructive habit of giving new things names that have a Latin or Greek etymology. The consequence has been a descent into whimsy. Murray Gell-Mann started it all with his quark, and that label's successors — strangeness, charm, colour, top and bottom — also do nothing for comprehension.

Last week saw progress in nomenclature by two disciplines. Anatomists banned from professional discourse such homely terms as 'Adam's apple' in favour of internationally recognizable names, while the International Union of Pure and Applied Chemistry at last — after years of controversy — agreed the names of elements 101–109 (see page 10). Both sets of decisions were thoroughly traditionalist in their dependence on classical languages (anatomy) and names of key people and laboratories (elements).

Regrettably, molecular biologists have followed the particle physicists' whimsy with obscurantist enthusiasm. For example, even a knowledge of Shakespeare is no help at all in associating the genes *miranda* and *prospero* with asymmetric cell division — nor, to make

matters worse, is the whimsicality consistent: *The Tempest* has not supplied the equally unassociative names of other genes involved: *numb*, *inscrutable*...

But whimsy is not the only way in which molecular biologists hamper comprehension. Protein labels are nothing less than promiscuous in their ability to switch allegiance without notice or conscience. Witness the shift of 'p21' from p21^{ras} to p21^{waf1}. As the former, p21 was a macromolecule associated with a cascade of signals from receptors at cell surfaces to the nucleus, stimulating cell division. Now (whenever "now" began), p21 refers to a different protein that inhibits the cell cycle. What is worse, it is also referred to as WAF1, CIP1, SDI1 and CAP20. Such problems are pervasive — see also the regulatory protein somehow involved in cell death, known variously as FLIP, Casper, FLAME, CASH and I-FLICE.

The chemists and anatomists are like virtually every other discipline in the methodical way in which their committees treat nomenclature. Such bodies earnestly apply strict criteria: according to the International Astronomical Union, one can name valleys on Mercury only after radio observatories, while planetary features cannot be named after politicians, military or religious figures or contemporary philosophers. In the Earth sciences, minerals can be given names only if they have been discovered in the wild.

Molecular biologists have a long way to go. Some progress is evident — for example, with receptors of cell-signalling molecules known as chemokines, three individuals have become accepted as the joint clearinghouse of nomenclature. Less productively, one hears often of biologists at conferences arguing fruitlessly through the night over which of their protein names should be accepted. One committee cannot clean up molecular biological terminology. But access to and communication within that discipline will be greatly hindered unless more systematic and comprehensible systems of nomenclature are developed. □

Escape from UNEP?

Parties to the United Nations biodiversity convention have been given a rare opportunity.

The executive secretary of the United Nations Convention on Biological Diversity is a man not to be envied. He is employed in Montreal, Canada, to carry out the wishes of no fewer than 169 countries who are parties to the convention. But he may not communicate with any directly. That privilege goes to his employer, the United Nations Environment Programme (UNEP) in Nairobi, Kenya.

Ever since the convention entered into force in 1994, this unhappy arrangement has led to administrative chaos, and contributed to the premature departure of one previous executive secretary. Last week, the current executive secretary, too, was on the brink of seeking alternative employment. A last-minute intervention from member countries (see page 5) has staved off almost-certain crisis.

Many countries are appropriately outraged, not least as terms for his new contract had been offered without consulting the convention's nine-country governing body in violation of an earlier arrangement to do so. The process will now be repeated. Some are calling for a comprehensive review, spelling out the respective

roles of Nairobi and Montreal within the convention.

There is a strong case for freeing the convention from UNEP's unnecessary and bureaucratic involvement, particularly since the convention now has its own secretariat in Montreal. The Geneva-based secretariat of the climate convention reports directly to the United Nations secretary general, and does not need hand-holding by UNEP. There is no reason to treat biodiversity differently.

The protracted conflict between UNEP and the biodiversity convention must not be allowed to continue. The convention has a major programme of work ahead, including negotiations leading up to the drafting of an international protocol on the safety of genetically modified organisms. Tense talks will not be helped by internal disarray.

And the United States government has yet to ratify the convention. The Clinton administration needs the support of conservative Republicans not yet convinced of the case for further international environmental legislation. Images of a biodiversity convention racked by infighting will only add to their reasons to stay out. □