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MOVERS

Bob Watson, chief scientific adviser, UK Department for Environment, Food and Rural Affairs

2005–07: Director, International Assessment of Agricultural Science and Technology for Development, Washington DC
2001–07: Chief scientist and senior adviser for sustainable development, World Bank, Washington DC
1996–2001: Scientific adviser, then director, environment department, World Bank

Trained as a chemist at Queen Mary College, London, Bob Watson had no intention of entering the public-policy arena. He researched how halogen atoms, such as chlorine, interact with ozone to form chlorine monoxide radicals.

During a postdoc at the University of California, Berkeley, Watson saw that chemistry had social relevance as he watched mentor Harold Johnston debate with the Nixon administration over the impact of supersonic transport on stratospheric ozone depletion. When chlorofluorocarbons were found to trigger that depletion, Watson's expertise was suddenly in high demand. "Careers are made as much on luck as judgement," he says.

Joining NASA as a scientist in the Jet Propulsion Lab in Pasadena, Watson left as director of the science division. During his time there, he was asked to direct a national assessment of ozone depletion. Watson cited seven other recent assessments and sought not to duplicate efforts, but build international consensus. "Policy-makers need a single scientific assessment by the world's best scientists," he says.

His next move was to the White House, into the president's Office of Science and Technology Policy. He continued to lead assessments, co-chairing a working group of the Intergovernmental Panel on Climate Change (IPCC) and the Global Biodiversity Assessment. In 1996, he began a decade at the World Bank, directing its environment department, and then becoming the bank's chief scientist, while also serving as chair of the third IPCC report.

Former World Bank colleague Ian Johnson, now chairman of IdeaCarbon, a UK-based carbon market analysis firm, says Watson was one of the rare scientists who saw science not as outside of public policy, but as integral to it — especially as a driver of development change. "Scientists don't often like to see consensus and compromise, but Bob understands the sometimes painstakingly slow need to listen and share information to reach consensus," says Johnson.

In his latest move, Watson has accepted three positions: as the chief scientific adviser of the UK Department of Environment, Food and Rural Affairs; as a professor at the University of East Anglia; and as director for strategic development of a unique collaboration of UK academics at the university's Tyndall Centre for Climate Change. Although he has no plans to participate in yet another international assessment, he doesn't dismiss the idea. "My entire career has been a random walk, so one never knows," he says. ■

Virginia Gewin

NETWORKS & SUPPORT

A question of balance

In a meta-analysis of peer-review procedures during grant applications, Lutz Bornmann at the Swiss Federal Institute of Technology in Zurich, Switzerland, and his colleagues discovered a bias against women (see *Nature* **445,** 566; 2007).

Our team at the Swedish Research Council has now studied all 17,000 grant applications received by the council during 2003–05. We found that in Sweden there is little evidence of gender bias: success rates for men and women were, in most cases, roughly the same (see www.vr.se).

But closer inspection showed that there were some discrepancies: women had less success with fellowships to be postdocs abroad, as well as in long-term grants for prominent research environments and in nearly all types of grant in the field of medicine.

Why should this be? The cause doesn't seem to be fewer women applying nor because there were fewer women in the peer-review groups or in high-ranking positions. The most likely explanation is 'career age' — the number of years that have passed since applicants earned their PhDs. Overall, success rates for both sexes were higher for increasing career age. But on average, women applying for project grants had a lower career age than men, which skewed the balance. This explained the grant discrepancies but it accounted for only half the difference in the medical applications. (Career age is irrelevant to postdoctoral fellowships.)

Another factor that deserves attention is the relative quality of the applications. Bibliometric methods offer an indicator of quality and can compare the scientific output of a large group of men with that of a large group of women. We studied 225 applications for postdoctoral fellowships, but found no bibliometric differences between the sexes.

Our data cannot explain the remaining discrepancies in medicine. But other studies point to similar problems. The US RAND Corporation uncovered obstacles for women in medicine (S. D. Hosek *et al. Gender differences in major federal external grant programs*; RAND, 2005). And women had less success than men in a recent European Research Council call for life-science grants (see http://tinyurl.com/326jxj). This suggests that it would be worthwhile to carry out an international comparative study.

For its part, the Swedish Research Council now plans to monitor closely the decision-making process to look for explanations for any discrepancies. ■

Gunnel Gustafsson, Carl Jacobsson and Carolyn Glynn are at the Swedish Research Council.

POSTDOC JOURNAL

Simulating life

It never ceases to amaze me how one can be a biomedical scientist without ever getting under a fume hood or pipetting into a test tube. During my doctoral research, I wrote computer programs that simulated the electrical activity of the heart, providing insights into heart function that experiments would be hard pressed to supply. Now, for my postdoctoral research, I'm still sitting at a computer. This time I'm constructing mathematical models that simulate the metabolic processes regulating the composition of the human body, particularly in infants. All without dissecting a heart or cradling a newborn in my arms.

Although it may seem otherwise, models aren't simply figments of an overactive imagination. The best are based on real data and reproduce phenomena that have already been observed, while predicting other phenomena that have not. In another sense, however, models are imaginary. They are born as sketches on a piece of paper, mature into a bundle of ones and zeros inside a computer, and retire as text in a journal article or book. No one has ever seen a model under a microscope or felt a model's heart beat.

My research is possible only because others poke and prod living organisms. But given the choice, I'd rather be on the simulation end. I may not be dealing with the 'real' thing, but it's astounding what can still be discovered. ■

Peter Jordan is a visiting fellow at the National Institute of Diabetes and Digestive and Kidney Diseases in Bethesda, Maryland.