

COMMENTARY

Retiring retirement

The United States and Australia have done away with this archaic practice. **Peter Lawrence** says it is time to end mandatory retirement worldwide.

The evening's the best part of the day.

— *The Remains of the Day*, Kazuo Ishiguro

One of the winners of last year's Nobel prize for medicine or physiology is Oliver Smithies, an 82-year-old Englishman who emigrated to North America in 1953. Had he stayed in Europe, Smithies would have been forced to retire some 17 years ago. Instead, in the Chapel Hill School of Medicine at the University of North Carolina, he works alongside younger scientists, holds grants and exudes youthful enthusiasm. Francis Crick also emigrated to the United States at 60 and worked there into his eighties; like Barbara McClintock, Max Perutz and many others he worked right up to his last days. And these aren't simply hangers-on. While at the Salk Institute in La Jolla, California, Crick, best known for his work in molecular biology, started a "second career as a neuroscientist, publishing more than two dozen highly influential and highly cited theoretical papers pursuing the neuronal basis of dreams, memory, dendritic spines, cortical neuroanatomy and, of course, visual consciousness," according to collaborator Christof Koch at the Salk. Sydney Brenner was recently hired at the age of 80 to work at Janelia Farm Research Campus, Howard Hughes Medical Institute's new venture in Ashburn, Virginia.

These are just a few examples of the men and women who continue to make valuable contributions in their later years. In the United States, older people do all kinds of jobs, some because they enjoy working, others because they need the money. The fundamental reason, however, is that unlike in Europe, all have the right by law to be considered for work, independent of

age. Measures against age discrimination also operate in Australia and Canada. But in Europe and Japan, mandatory retirement policies condone and institutionalize discrimination.

The contributions of scientists well beyond their sixth decades falsifies the case for these prejudicial policies. Indeed, German President Horst Köhler recently spoke out against mandatory retirement and described the major gains in life expectancy of the past century as "a great gift to us all". What a waste it is to shove older citizens away into retirement, he said. "We could achieve much more if we allowed the curiosity and impulsiveness of youth to be tempered by the wisdom and inner calm of the old."¹

Defunct ideas

For twenty-five years he's been lecturing and writing about things that any intelligent person already knows, and no stupid person cares to know... which means that for twenty-five years he's been keeping somebody else out of a job.

— *Uncle Vanya*, Anton Chekhov

Prejudice is natural to the human mind: we assess people as groups and we stereotype individuals. For example, many tend to focus on the real (but small) differences between the abilities of men and women while ignoring the real (and large) differences between individuals, independent of their gender². In recent years we have become more sensitive to discrimination in some of its forms, and we now accept that, even though most women are not as strong as the average man, it would be unjust to turn down all female applicants for jobs as baggage handlers. Nevertheless, in



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"What suddenly happens to people at 65? I understand that most people will eventually decline in their work, but this will happen at different ages — an age-related system isn't appropriate."

— Julie Ahringer (46),
Gurdon Institute, University of
Cambridge, UK

many countries, it still seems natural to deny people older than 65 the right to be considered for a post.

Many say that scientists lose their enthusiasm with age. This is certainly not always true. David Anderson, at the Howard Hughes Medical Institute, and Brenner marvel in a coda to the wonderfully original career of Seymour Benzer, at how the departed fly geneticist went on "sipping hot tea, munching Fig Newtons and asking rare but razor-sharp questions well into his mid-eighties"³. Eric Davidson, now 71, and a professor at the California Institute of Technology in Pasadena, recalls with fondness the vigour of his predecessor Edmund Wilson: "He wrote his wonderful third edition in his late sixties and it was published when he was 69 (1925). He continued to be active into the late 1930s. History shows that Columbia University, even in that benighted period, had a better policy of valuing their scientific

"There are few middle-aged and almost no older scientists who actually work in the lab. At 80, I am one of those few. For me there has never been anything unusual about wanting to experiment at the bench. I thank my lucky stars that I was not forced to retire."

— Joseph Gall (80), Carnegie Institution of Washington Department of Embryology, Baltimore, Maryland



treasures than does modern Europe.”

So, how did the United States achieve its open-minded and liberal attitude towards older people and how well has it worked?

The American experience

Mandatory retirement is an extravagant waste of people pie... economically, socially and spiritually, it's wrong.

— Claude Pepper, *Time Magazine*⁴

The liberal US senator Claude ‘Red’ Pepper (Democrat, Florida) (1900–1989), was known as a champion of the elderly, but famously fought against all discrimination. His 1945 bill determined equal pay for men and women. And in 1978, another of his bills abolished mandatory retirement for federal government workers and raised, from 65 to 70, the age at which non-federal employees could be forced to retire. The passing of that law was a famous occasion in the senate: to celebrate, Pepper filled Congress’ great hall with feisty septuagenarians. This was just a stepping stone; Pepper’s next bill in 1986 made all age discrimination illegal, and although academic institutions were able to delay implementation, even they complied by 1994.

Biologist John Bonner (88) remembers “The agony Princeton University and all other institutions went through when it was first announced: It will be unfair to the younger generation; there will be a bunch of doddering idiots standing in the way of progress, and so forth. Well, none of that happened.” Instead, Pepper’s initiative and others like it in Australia resulted in a scientific exodus from Europe and Japan. One example is Chris Nordin, who left a director’s post at a Medical Research Council unit in the United Kingdom in 1981; at 61 years old he was only 4 years away from mandatory retirement. Twenty-seven years later he is still working in Adelaide.

In the United States, older scientists make various contributions. Some are great role models and mentors, some augment the international reputation of their institutes,



“Unless you have seen the development of a field, all ‘facts’ can appear equally established. And with techniques: many young researchers nowadays choose a cloning method to approach their problem, letting fashion dominate the way they think. Older technologies — such as those using radioisotopes — may not occur to them. Experience is vital in making the right choice.”

— Mark Bretscher (68), MRC Laboratory of Molecular Biology, Cambridge, UK

some teach or administrate, freeing younger scientists. More importantly, they can provide a deeper perspective on scientific strategy — many young scientists have not grasped the importance of seeking out unsolved and unregarded problems.

In the same ways that academic society has been rewarded by reducing discrimination against women, increasing the presence of the elderly has also made its mark. And both practices ensure dignity and justice within the enterprise of science. As Brenner puts it: “I don’t want to retire to play golf. Science is one’s hobby and one’s work and one’s pleasure.”

Meanwhile the bad effects of compulsory retirement are multiple and insidious. Years before retirement, it turns able academics into lame ducks: they cannot take on commitments such as graduate students, and they lose their negotiating power because they cannot seek new posts. It also drives gender disparity: in 2006 in the United Kingdom, 85% of men reaching retirement age qualified for a full pension (having worked for 40 years); only 35% of women did so⁵. Although reforms set for 2010 should improve that situation for women in the UK, qualifying for a full pension remains difficult in science; training is long and many people move from country to

country. Thus, places that employ mandatory retirement have been forcing many people, particularly women, into unemployment on an inadequate income.

Managing the abolition

I know many 35-year-old scientists who should be retired and some 70-year-olds who are the best postdocs you will ever find.

— Sydney Brenner

Age may bring wisdom, but not every ageing scientist earns their keep. This fact raises two important arguments for mandatory retirement, both with complex consequences. Firstly there is the difficulty of evaluating scientists and making them leave when their performance no longer justifies their space or costs. The contribution of people should be judged in an open-minded and tolerant way, not just by counting papers⁶ or by undergraduate ratings on teaching, but by evaluating the entire contribution to the institution. If following this assessment, old (or young) are fairly judged to be incompetent, inactive, disruptive or wasteful, they should leave, or have their lab and office space reduced to an appropriate level — to do otherwise is to damage the institution and deny others opportunities. Research grants won or lost can serve as arbiter; however, this is an external and subjective judgement that does not take into account teaching, mentoring, administration or other contributions. The problem of selection has to be faced: the traditional alternative, to throw everyone out at a certain age, regardless of their wishes or their usefulness, simply because it avoids difficulties of management, is indefensible.

The second difficulty is financial. It is said that older scientists can be so expensive that insufficient funds remain to hire new personnel. Biochemist Peter Hartmann (67), at the University of Western Australia in Perth is at

“I had four papers last year and have more in the pipeline. I am now Chairman of the South Australian Working Party on Osteoporosis and Fracture Prevention. Every year, my accreditation to the Hospital has been renewed but I hope I will give up before I am asked to do so. There is still a lot left to do.”

— Chris Nordin (88), Royal Adelaide Hospital, Australia



least one counter example: “The direct cash contribution that I make to the university from my research grant is about 50% greater than my salary. In addition I pay 80% of a lecturer’s salary to cover my teaching and administration obligations. Thus if I were to retire there would be a negative financial benefit to the University.”

The solution

To address the general situation, we must be radical and flexible. If scientists take on fewer duties, it makes sense to reduce their rewards. Furthermore, many scientists have built up pensions; in my opinion these pensions should be started on time and the salary reduced partially or completely. If the scientist is of particular use to an institute, it may wish to reward his or her contributions by some supplement to the pension. This will vary depending on how useful the person is.

Remember, we are not discussing simply the right of an employee to go on working, rather the right of every individual to be considered for work on merit and negotiate for remuneration. A portion of anyone’s salary is an investment in the future, to retain valued teachers and researchers, and therefore the justification for that portion will wane in older scientists until, sometimes, it may reach the point when the main beneficiaries of the opportunity to work may be the scientists themselves. The logical result of these arguments is to restructure salaries so that they can fall as well as rise.

Let’s look at a real case: the University of Cambridge is currently tussling with these problems because, thanks to pressure from the European Union, the law is inching towards a change in the United Kingdom. As of now the normal retirement age for teaching staff is 67

or 68 and, when an extension is requested, the university may currently offer up to three more years. More than 50% of staff are applying for an extension, presumably, among other things, reflecting a high level of job satisfaction.

The university is considering each case individually and awarding variable contracts, depending on the duties agreed. In this way it is exploring its options, rather as universities in the United States have done. In all cases the primary determinant is the opinion of the relevant department; if the head of that institute wants to keep the person, the university tries to support them — if it can find the money. This makes good sense as a centralized department of human resources could not make these individual judgements.

This process has only been running for 18 months, so the extended contracts have not yet come to an end. But when they do, in a year and a half, the university has indicated that people will be able to apply to have them extended further. Experience in the United States suggests that fewer will want to go on much beyond their mid-seventies⁷.

One way to take more account of individual variation is to free up the whole process further by weakening academic tenure, which up to now has been sacrosanct. We have to be realistic and admit that offering secure tenure with a salary for 30–40 years regardless of whether there is any useful contribution to the employing institute is wasteful and unfair. Indefinite tenure has already been abandoned by many government research institutions.

John Bonner speaks for many when he insists that every institution ought to “evaluate each elderly person and provide them with the means of continuing their work if they remain productive and are driven in that direction”.



“What is the point of starting something new and exciting in your last few years, if you know you won’t be able to continue the work? One would spend one’s last few years dotting the ‘i’s and crossing the ‘t’s.”

— Cynthia Kenyon (54),
University of California, San Francisco

It is high time to do elsewhere as the Americans have already done: to allow the pursuit of happiness to those proficient older citizens who wish to seek or hold employment. ■

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In the course of researching this article, the author communicated with more than forty scientists, compiling their thoughts and musings. For more communications and to respond with your own, visit <http://tinyurl.com/4mkdvu>.

“When I was young, say in my thirties, research grants for young scientists were very poor in Japan and we complained. Then our government decided to support younger scientists, for which I was very pleased. But I was almost immediately categorized to be ‘too old’ for new grants. So I jumped from being too young to being too old, and was never the right age. It is an injustice and a waste if active scientists are thrown out of work simply and only because they reach a certain birthday. Some are sharp at over 90, some are dull even when physically young.”

— Motonori Hoshi (67), The Open University of Japan, Chiba City

