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The United Kingdom's Troubled Recent History on Nobel Prizes

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There are more British accents at the Nobel Prize ceremonies than one would guess from the paperwork. In 2003, although no journalist noticed, we won Nobel Prizes in three separate fields. Unfortunately, there is a good reason why no-one noticed. Two of the three winners had worked for decades in the United States.

Here is a disturbing fact: the last time a researcher from our country's universities won a Nobel Prize in physics was 1979. Abba was at the top of the music charts singing Voulez Vous.

Yet the UK had managed five physics Nobel prizewinners in the decade of the 1970s. By the very highest standards, something is going wrong, and to the best of my knowledge not enough is being done about it.

I take the appropriate nationality criterion to be the country that a Nobel Prize winner works in at the time of receiving the prize. If we use place of birth, things are more complicated, but interesting. A former United Kingdom citizen won the Prize in physics in 2003. That person, Anthony Leggett, moved to the University of Illinois in the early 1980s. Nevertheless, whatever his passport may or may not now say, there is no point in describing him as other than an American scientist.

Leggett can write. A statement of his life may be found on the Nobel Prize website, which I went to in an attempt to work out why UK physics is off the boil. His piece is written with clarity and rhythm; as a tale it is instructive. First, Leggett studied classics and philosophy. Refreshingly, and counter to the modern spirit of specialization, he argues in his article that this helped in his thinking about the physical world. Second, as a young man he went in to physics because he

felt philosophy was too subjective and mathematics allowed for no interesting distinction between correct and being incorrect. He says he wanted the possibility of being wrong without being stupid - of being wrong for interesting and nontrivial reasons. Physics seemed to fill that bill. Third, Leggett explains that a key reason he ended up in physics is because of a rocket. In 1957 the Russians shot the Sputnik satellite into the skies. In this nation, a cry went up: why have we fallen behind? That led to a flurry of scholarships and funding. As one piece of the jigsaw, a young chap called Leggett was able to switch quietly from Greek literature to Greek squiggles. And years later, human beings' understanding of superconductors was radically altered.

What of other subjects? One of the Brits who flew to Stockholm in 2003 was Clive Granger. Like Anthony Leggett, he does not live in the United Kingdom; he has worked for a long time at the University of California at San Diego. Granger's prize, which officially is not part of the original Nobel Prizes descended from Alfred Nobel's will, was in the field of economics. My personal view is that the subject of economics is not quite ready for Nobel Prizes -- I think it is insufficiently empirical -- but that is not the fundamental point at issue here.

The third of the intellectual gladiators in Sweden that year was Peter Mansfield. He works at Nottingham University, and won the 2003 Nobel Prize in physiology and medicine. Like Leggett, Mansfield spent time at the University of Illinois, but he was persuaded back to Nottingham at an early point in his career, and has remained. Although we got no Prizes in this field in the 1990s, there have been three other winners – Hunt, Nurse, and Sulston – in the current decade.

Chemistry, the other of the great sciences, deserves mention. Compared to physics, we have done better here. Stockholm's walkway has seen John Walker (1997, Cambridge), Harry Kroto (1996, Sussex), Aaron Klug (1982, Cambridge), Fred Sanger (1980, Cambridge), and before that Mitchell, Cornforth and Wilkinson in the 1970s, and Barton, Porter, Hodgkin, Perutz and Kendrew in the 1960s.

Do we care? If so, what is to be done?

The problem seems to be a deep lack of career attractiveness. My undergraduates, all of whom have virtually perfect A-level scores, and could easily have done hard science, want to make money. Research scientists' salaries are awful.

A painstaking study has just been released by economist Richard B Freeman of Harvard University. He focuses on the dwindling supply of top-class bio-scientists in the USA, but the generic issues are identical to ours. Freeman shows that low pay and poor prospects are the problem. His new report sums it up:

“The leaders of the profession -- the prominent investigators, the leading science departments, and most importantly the funding agencies -- must act to reform a system that is in danger of losing a crucial element of its success, the nation's and the world's most promising young people.”