Charles Swithinbank

Oral History of British Science interviewee Dr Charles Swithinbank (1926–) (right) ice core drilling, as part of the Norwegian-British-Swedish Antarctic expedition, 1949–52.

Introducing An Oral History of British Science

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How many living British scientists can you name? Most people will have heard of the theoretical physicist Sir Stephen Hawking, the evolutionary biologist Professor Richard Dawkins and human fertility expert and broadcaster Professor Robert Winston. Fewer people will have heard of Sir Tim Berners-Lee who co-developed the World Wide Web, or the discoverer of pulsars, Dame Susan Jocelyn Bell Burnell. And perhaps even fewer people would be able to name Sir John Sulston, a major influence on the Human Genome Project or the creator of the first practical stored programme computer, Sir Maurice Wilkes.

Now contrast this to your knowledge of living British artists. From Tracey Emin and Damien Hirst to Antony Gormley, Bridget Riley and David Hockney, many people are familiar with the voices and personalities of these household names. So why does Britain have such a limited cultural memory for science and technology when its contribution to culture, economic competitiveness and social well-being has never been more important?

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Laboratory technician Ruth Reid examines a brain, 1957.

This division between the 'two cultures' of modern society – the sciences, and the arts and humanities – was most notably put forward in 1959 by the scientist and successful novelist, C P Snow. Since then there have been many debates about whether such a cultural divide really exists, or whether there has been a reintegration of the values of literary, artistic and scientific thinking. In the era of the internet, when much of our thinking and debate happens through computing technology, this discussion is as valid today.

But the lack of popular understanding of science, and the shockingly low figures on the uptake of scientific and technological subjects at school and university, makes it clear that as a nation we continue to have an issue with the public engagement with science. Science is commonly perceived to be conducted by a group of people that have little relevance to mainstream culture, and our scientific and technological heritage is rarely celebrated in the way its deserves.

Starting in November 2009, **An Oral History of British Science** aims to address this, by capturing the voices, memories and experiences of 200 British scientists who have led the world in scientific innovation and advance. From building the world's first computers and jet engines, to exploring climate change and the Human Genome, the programme will record audio and video interviews to document the role of Britain's scientists in understanding and influencing our world. The programme is also developed in association with the Science Museum, in a desire to share expertise, collections and resources.

Through 200 interviews, organised around four themes, **An Oral History of British Science** will reflect the character and emerging issues of science in the twentieth century. Work on the first two of these four themes is generously supported by the Arcadia Fund. Further financial support for the remaining two is still being sought:

- Made in Britain – examines important discoveries in science and technology that have led to new industrial applications, covering computing, applied sciences (such as condensed matter physics) as well as engineering fields (chemical, electrical, civil and structural).

- A Changing Planet – explores the advancement of the earth system sciences in the light of recent concerns associated with environmental and climate change. Interviewees will include climatologists, meteorologists, geologists, geophysicists, geochemists, ecologists, glaciologists and oceanographers.

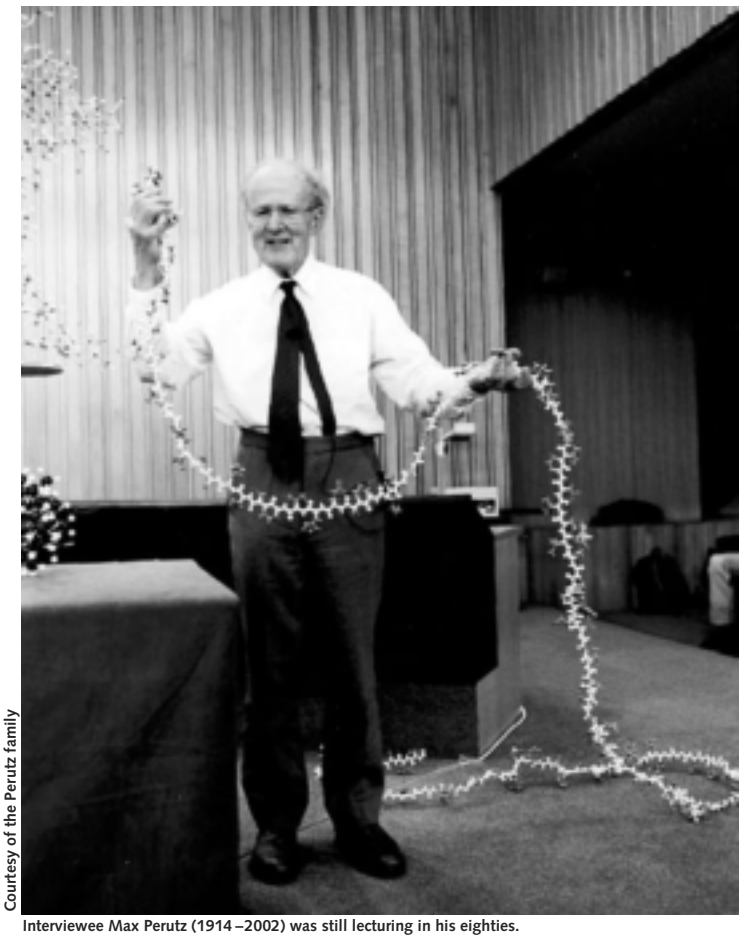
- The Factory of Life – investigates the transformations that have typified biomedicine, and how new technologies have changed medical practices. Advances in genetic engineering will be central, especially in relation to the rise of 'big Pharma'.

- Cosmologies – considers new systems of thought that have emerged in correspondence with the development of a number of theoretical fields: mathematics, mathematical physics, cosmology, astronomy, statistics, high-energy physics.

The early scoping study for the programme showed how important this work is. It found that there was a marked absence of significant recordings of scientists. With the exception of work being carried out by Sir Harry Kroto's Vega Science Trust, by the Peoples Archive (now Web Of Stories) and some Wellcome funding for the oral history of medicine, no significant attempts were being made to record or document British scientists in their own words; and no national co-ordinated programme existed. Shockingly, the study showed that in the last ten years thirty leading British scientists including nine Nobel winners have died leaving little or no archive of their work.

The interviews that do exist have tended to be shorter, focusing on significant discoveries and inventions, rather than a wider understanding of the narrative of a life. Conventional sources, such as newspaper profiles, books or television programmes, have invited great men (and most of the interviews are with men) to talk about amazing events or eureka moments. In contrast, oral history's strength is in its description of life, routines and human emotion: What was it like to be there? How did it feel to see your ideas come to fruition? How did research life then compare to now? Were there rivalries between colleagues or did developments come from collaborative research?

In many cases the scientists we are interviewing have witnessed incredible discoveries or created remarkable inventions, but the significance of their actions has only become realised over time. As engineer Geoff Tootill describes, the team that built the world's first stored program computer in Manchester had little idea of the future importance of their work:



Courtesy of the Perutz family

Interviewee Max Perutz (1914 –2002) was still lecturing in his eighties.

"We thought that there would be scope for another one or perhaps two big computers in the UK, and three or four in Europe, and probably half a dozen in the US because they always have big ideas in the US."

In another interview, with the glaciologist Charles Swithinbank who has spent sixty years conducting research in the Antarctic, we hear about the central role our parents can play in defining our life journeys at an early stage:

"My mother was good at reading stories of adventure and exploration to her children and that definitely had an effect on my life because her message was don't get stuck in an office like your father... I took the point and wanted something that involved travel and not a routine job with a step-ladder promotion through life."

An Oral History of British Science will also examine the methods of science. Scientists regularly give an account of their laboratory practice through the publication of scientific papers. This reflects the so-called 'normal' operation of science, framed according to agreed standardised conventions and peer-reviewed by the scientific community. But scientific papers do not reflect the culture, routine and beliefs of scientists and they do not illustrate the many factors that influence the production of scientific research in the laboratory. Using the life story approach the programme aims to illuminate the process of science, the intrinsic attitudes of scientists and their relationship with important pieces of apparatus or instrumentation.

The life story approach also gives us the opportunity to look at science from the bottom up and capture the stories of the 'unsung heroes' who would never be heard, if it were not for oral history. The programme will uncover the lives of scientists who have traditionally been hidden from history: the laboratory technicians, the women who supported teams and operated technical machinery, the engineers who developed great skill but were never trained in academia.

Photo courtesy of the Computer Conservation Society

The original Manchester 'Baby' computer, c. 1949.

We hope that this programme will provide an important archive for understanding British science and technology in the twentieth and twenty-first centuries; a resource which can then be compared with other archives, letters and scientific publications to build a rounded picture of science and technology. It may also feed into broader narratives of science and technology, such as Britain's role as a global scientific player, recurring concerns over a 'brain drain' and how to create working environments that stimulate innovation. At the programme launch in February 2010, attended by leading historians of science and technology, as well as some eminent scientists and the press, there was a real buzz of enthusiasm for the project.

Ultimately we believe that the personal testimonies of Britain's scientists will help present and future generations to engage with science, its ideas and principles. A project such as this can play an important role in helping to place our scientific and technological heritage back at the heart of British culture.

An Oral History of British Science Advisory Committee
Dr Jon Agar, Dr Fay Bound Alberti, Georgina Ferry, Professor Sir Harry Kroto, John Lynch, Professor Chris Rapley CBE, Dr Simone Turchetti.

Photo courtesy of Charles Swithinbank

Oral History of British Science interviewee Dr Charles Swithinbank using a theodolite during an Antarctic expedition, 1949 –52.