

**Conference Report on
'Perspectives on 20th-century
Pharmaceuticals'**

**An international and multi-disciplinary
conference held at St Anne's,
Oxford, 14-16 July 2005¹.**

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The development of pharmaceuticals and the growth of the pharmaceutical industry are a major aspect of the history of the twentieth century. The economic importance of the industry, the contributions it has made to health and welfare, and the stimulus it has provided for research in the biomedical sciences and related technologies, have been considerable. However, because of the difficulty of access to pharmaceutical archives in many countries, the history of pharmaceuticals in general, and of the pharmaceutical industry in particular, is still relatively under-developed.

For these reasons, this conference had the two following broadly-defined aims:

1. to bring together scientists, industrialists, clinicians, and historians, who share a common interest in the development of pharmaceuticals in the 20th century;
2. to contribute to a greater understanding of the history of the pharmaceutical industry in the 20th century through a multi-disciplinary approach, taking into account the different perspectives provided by health economists, sociologists, anthropologists, and historians of business, science, technology, and medicine.

The first aim was more than met by the participants attending the conference, who included not only Sir Iain Chalmers, a former consultant paediatrician who gave the keynote speech, but also a professor of pharmacy, a scientist working in the industry, a historian at the US Food and Drug Administration, a scientist-entrepreneur involved in biotech start-ups, and scholars whose institutional affiliations ranged from schools of management to centres for the history of medicine.

The second aim of the conference was also fulfilled in the programme, which had both a thematic and chronological structure, and within almost every themed session succeeded in

combining different disciplinary and national perspectives. The conference began with a talk by Sir Iain, currently editor of *The James Lind Library*, a public website explaining and documenting the evolution of fair tests of treatments in health care (www.jameslindlibrary.org), and co-convenor of the James Lind Alliance, a coalition of organisations representing patients and clinicians collaborating to confront important, shared uncertainties about the effects of treatments in health care. Sir Iain spoke about 'The scandalous failure of scientists to cumulate scientifically', attributing the current disillusion with medicine and crisis in public confidence towards the medical profession and the drug industry in part to the failure of researchers to adopt rigorous and/or unbiased methods in their treatment of the evidence provided by drug trials.

This was followed by the first session of the conference, which presented projects approached from three different perspectives, the first history of science, the second innovation studies, and the third psycho-sociology, broadly representing the three main groups of scholars participating in the conference. Walter Sneader, Head of the School of Pharmacy at the University of Strathclyde in Glasgow, presented what could be described as a personal project, to study the history of drug discovery as well as carry out research and teaching in pharmacy. The other two papers gave us the outline and preliminary results of collaborative projects. The first, carried out at the Science Policy Research Unit at the University of Sussex and entitled 'Surfing the technological waves: big pharma's accumulation of technological competencies in drug discovery', was presented by Michael Hopkins. The second, carried out at the University of Quebec at Montreal on 'Chain of medication: actors and systems of social representation', was given by Anne-Laure Saives on behalf of the project leader Catherine Garnier. Together, the keynote speech and first session raised some of the key issues that were to recur throughout the conference: the

dearth of new drugs and crisis in public confidence which the pharmaceutical industry has experienced in the last quarter of the twentieth century, precipitating change associated with the rise of the new biotechnology industry, and leading to questioning of the kind explored in 'Chain of medication'.

The rest of the conference consisted in a series of themed sessions, organised in rough chronological order, starting with the history of the early development of the pharmaceutical industry, and ending with biotech and questions about the future.

In the call for papers, speakers had been urged to reflect upon a number of different areas that have shaped, and been influenced by, the pharmaceutical industry in the twentieth century:

- Universities
- Hospital clinical departments and/or medical schools
- Government agencies (research councils, health departments, regulatory authorities)
- Consumers (involving marketing departments and consumer organisations)
- Other industrial sectors (food, agriculture, veterinary, chemical, cosmetics, scientific instruments)
- Biotechnology
- Companies, scientists, clinicians, and government agencies from different national contexts

Among these different areas, the role of regulatory agencies was a major recurring theme, and was the subject of a session, chaired by Keith Williams, Global Products Director, Anti-Infectives, of AstraZeneca, and comprising papers by Arthur Daemrich, of the Chemical Heritage Foundation, John Swann, of the History Office of the FDA, Heather Munro Prescott, of the Department of History, Central Connecticut State University, and Nicholas Eschenbruch, of the Institute of the History of Medicine at Freiburg University. Other areas were also well covered by the conference, such as the role of clinical trials as a

privileged site for the validation of scientific and medical knowledge.

However, for the purpose of this report I will summarise the sessions on the subject of biotechnology on which the conference ended. Many of the papers on biotechnology dealt with the continuities and changes that have affected the pharmaceutical industry in the last quarter of the twentieth century. In that period, the relevant scientific base shifted from chemistry to biology, and business activity moved away from the discovery and production of chemicals towards the development and marketing of more effective medical products. On the whole the industry adapted to these changes, either by dismantling earlier chemical/pharmaceutical linkages, or by building new alliances with drug firms based in consumer and medical products, and with biotech companies. Michael Hopkins (SPRU, University of Sussex) argued that some of the world's top pharmaceutical firms have been able to integrate new biotechnologically-related knowledge and know-how (such as bioinformatics, genomics and proteomics) by a process of creative accumulation, achieved through a combination of internal efforts as well as external linkages.

The former (internal efforts) was the subject of a presentation by Anne-Laure Saives (University of Quebec, Montreal, Canada), which explored the question: 'How have pharmaceutical business models evolved as a result of the introduction of the new biotechnology firms?' The latter (external linkages) was the subject of a paper by Lara Marks (Cambridge University) on 'Alliances and the financing of the biotechnology industry in the late twentieth century', and another by Saives, presented with Mehran Ebrahimi. This time, Saives' talk was entitled 'Cooperation structures and knowledge sharing in the biopharmaceutical value creating system', and asked: 'Why and how do pharmaceutical firms create and share

knowledge within the new and emerging biopharmaceutical system?’ In both papers, Saives and her collaborators attempted to answer the questions they had posed by examining the bio-industry cluster in Quebec, where today, interestingly, a majority of the biotechnology and biopharmaceutical activities of Canada are located.

All in all, this was a most stimulating conference, the outcome of which will be double: an edited volume with the academic publishers Peter Lang containing a selection of papers representing the international and multi-disciplinary nature of the conference, and a special issue of *History and Technology* on the subject of the transition from pharma to biotech.