

**Chemistry, Society and Environment:
A New History of the British Chemical Industry**

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A New History of the British Chemical Industry

Edited by

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Preface

The authors hope that this book will be of value to all those concerned with the social and environmental impacts of the British Chemical Industry. Whether academic chemists, industrialists, or politicians, many people today need an accurate assessment of what that industry has done to Britain. Such an assessment cannot be complete without at least some understanding of how we got to the present position. And that is the story we are trying to tell.

There have been several distinguished attempts to write the history of Britain's chemical industry as a whole, and a much greater number concentrating on individual companies. Some are chiefly concerned with technical detail, and others with the issues of economics facing the big firms. Most offer more than a nodding acquaintance with the people who figure prominently in the unfolding events. Yet, so far as we can discover, few have attempted to analyse the effects of the industry on society as a whole. These range from the varying conditions of employment of chemical workers in Victorian times to the transformation of civilised life in the 20th century. To be sure many chemical authors have written books purporting to show their science as entirely benevolent, and that the chemical industry deserved public support and encouragement. However, many of these works of mild propaganda originated at a time when science, chemistry and the chemical industry were undergoing nothing like the public resentment or suspicion that marks the end of the present century. Moreover, few of them attempted any serious historical analysis but were largely content to dwell on the delights conferred by the industry in the modern period. It therefore seemed to us that one of the primary emphases of any new history ought to be the direct effects the chemical industry has had, and is having, on British society.

That was one reason for writing this book. A second, much more powerful, reason lay in another shortcoming that we perceived in our predecessors. None of them has offered any serious analysis of the industry's impact on the environment. This is surprising in that much of the blame for current environmental troubles has been placed firmly at the door of the chemical industry and its products. Was that fair? Or did the beleaguered industry protest too much? Granted that no one much before 1960 talked about 'the environment' this did not mean that the issues conveyed by that word were never being considered. Recent research has shown the opposite to have been the case. So it appeared to be fairly important that someone should take a close look at the environmental history of the chemical industry in the UK.

We must, however, make one matter crystal clear. Although we are all concerned with some fairly sensitive issues, this is not a book of apologetics for the chemical industry. On occasions we have felt it right to be highly critical. What we have tried to do is to give as objective and fair an assessment of the

whole history of the industry as we possibly can. At no point have we been constrained by the Royal Society of Chemistry or any other chemical interest group, and we thank our publishers for the freedom we have been accorded. It may be a matter of some interest that, with our attempts to depict things as they really were, 'warts and all', the industry emerges with a far better image than it popularly 'enjoys' today. Also, history suggests that everyone still has some important lessons to learn.

Because we envisage that most of our readership will have some chemical knowledge we have not hesitated to use chemical terminology or give chemical reactions where appropriate. We believe they actually help in understanding the issues being discussed. The notion that the history of any science can be evacuated of most of its technical content seems to us one of the more absurd ideas still occasionally encountered today. Equally, however, we must point out to non-chemists that, though helpful, such technicalities are not essential to the overall argument. We simply ask that our conclusions be assessed by the normal canons of historical judgement.

Although I have had the final editorial responsibilities, the book has been produced by four authors acting as a team, being in frequent correspondence with each other, with a few lengthy meetings interspersed. Each of us has seen, and commented on, everything our colleagues have written. Because we recognise that some people will have a selective interest in the material, and may not wish to read systematically through the whole book (though that is by far the best way!), we have intentionally allowed a small amount of overlap between some chapters, so that each is complete in itself.

All the authors have been members of the History of Chemistry Research Group of the Open University and we must thank that University for facilities ranging from continuous use of the Library to a Leverhulme Research Fellowship (for SW). Three of us also have associations with other universities, at Newcastle (WAC) and Cambridge (SW, CAR), and we owe much to them also. We would all wish to acknowledge the help received from the Royal Society of Chemistry not only for undertaking the publication of this book but also for the splendid facilities we all enjoy at Burlington House.

Above all I am grateful for the pleasure of working so closely with such congenial colleagues, whose time and expertise have been given unstintingly to the project. They deserve much more than formal editorial thanks.

As we go to press it is with deep sadness that I have to record the recent death of one of my fellow-authors, Dr. W. A. Campbell. His obituary has appeared in the national press and also in the *Newsletter* of the Historical Group of the Royal Society of Chemistry. The community of history of chemistry is greatly impoverished by his loss, and we shall long remember his meticulous scholarship, his impeccable experimental skills and his infectious sense of humour. It is some consolation to record that he had completed all work on his chapters up to, but just missing, the final stage of page proofs. The rest of us hope that the book may to some degree constitute a memorial to this much valued colleague.

Colin A. Russell

In memory of

Archie Clow,

valued friend, colleague and pioneer historian
of the revolution in British chemical industry

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Finally, we must thank the library staff of the Royal Society of Chemistry for location and provision of many portraits; and our special thanks are due to Mr Alan Cubitt of the RSC who has shown untiring patience and courtesy in seeing through the press a book that, by any standards, called for devotion and skill of a high order.

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Chapter 1 *Records of the British Chemical Industry*

C.A. RUSSELL

When Henry Ford announced that 'history is bunk' he was telling us more about his own ill-informed prejudices than about any serious study of the past. If, however, he had proclaimed that 'history is *junk*' he might have been rather nearer the mark. For our knowledge of previous ages depends very much on our use of documents and objects that, in their own day, became of little value to the owners and were often thrown away. But to us they can be invaluable sources of information. This holds good for almost any kind of history: military, social, ecclesiastical or whatever. Yesterday's rubbish may turn out to be today's records. So modern students of history are encouraged to rummage among old letters, bills, receipts, prescriptions, memoranda, photographs, legal agreements, deeds, wills, diaries and the like. Amongst such material may emerge evidence of immense value in reconstructing aspects of a past age. Nor is such evidence limited to the written or printed page (or to computer discs if the date is very recent). One may well have recourse to small articles like buttons, bottles, bullets and bracelets, to furniture and machinery or (on the grand scale) to a cathedral or a factory. They may be in mint condition or in a ruinous state; to the trained observer they can be invaluable. Their study is the preoccupation of the museum curator and the industrial archaeologist. We return to them at the end of the chapter.

1 Written Sources

The most obvious kind of object to tell us about the past is, of course, the hand-written or printed page. All such objects, contemporary with the period of interest, are termed in the jargon 'primary sources', in contrast to 'secondary sources' like textbooks that may have been written decades or even centuries after the events they purport to describe. Preoccupation with primary sources is nowadays a mark of historical maturity. It is also a relatively new feature of student training. Gone are the old days of 'mugging it up from a text-book'; instead exposure to contemporary material is more informative and exciting. Textbooks still have their place but, as in science, they need revision as new data accumulate, in this case from new primary sources that are still being discovered.

If that is true of historical training and research in general, it applies with even