

Conference Report

DIAMOND JUBILEE OF THE NEWCOMEN SOCIETY: THE SCIENCE MUSEUM, LONDON, NOVEMBER 29, 1980

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The theme of this well-attended one-day meeting was the history of engineering and technology during the sixty-year existence of the Newcomen Society for the Study of the History of Engineering and Technology. Under the chairmanship of the president, David H. Tew, seven papers were presented, as follows: Rex Wailes, "Early Days and Members of the Newcomen Society"; D. Gordon Tucker, "Interpretations of the History of Technology and Newcomen Society Tradition"; Norman A. F. Smith, "The Study of the History of Engineering"; A. Rupert Hall, "The History of Technology in Relation to the History of Science"; John R. Harris, "Economic History and the History of Technology"; R. Angus Buchanan, "Industrial Archaeology in Relation to the History of Technology"; and Ian McNeil, "The Publication of Works on the History of Engineering and Technology."

The meeting was not very introspective, though some effort was made to view the Newcomen Society in its intellectual context. The discussion was lively, with some thirty participants, but there was a curious lack of response to the challenge posed by several of the speakers that the society ought to broaden its approach to the history of technology after sustaining an unchanging tradition for sixty years.

Rex Wailes, as a past president, an honorary member, and the member of longest standing in the society, appropriately gave his reminiscences of the personalities that established the society all those years ago. An interesting aspect of this topic was brought out in discussion by James Harrison: the large proportion of those early leaders

DR. TUCKER, senior fellow in the history of technology and honorary professor at the University of Birmingham, organized the Jubilee Conference of the Newcomen Society. The proceedings are to be included in volume 51 of the *Transactions of the Newcomen Society* (1982), and separate booklets containing just these proceedings will be obtainable from: Secretary of the Newcomen Society, Science Museum, London SW7 2DD, U.K. Price £1.50, including postage by surface mail.

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who were members of staff at the Patent Office. Indeed, the first meeting of the society in November 1920 was held in the Court Room of the Patent Office. Most of the other leading personalities were practicing engineers. The exception was the great H. W. Dickinson, who brought in the influence of the Science Museum and "was the mainstay of the Society from 1919 until his death in 1952." Gordon Tucker's paper was a close and analytical study of the divergences in interpretation of what was meant by the history of technology and, in particular, of the contrast between the Society for the History of Technology and the Newcomen Society; the former has taken a broad social view of the subject, the latter a narrowly technical view. A numerical analysis of the contents of *Technology and Culture* over its twenty years of publication showed that (1) only a little over half of the articles have been devoted to the history of technology as such, (2) over three-quarters of the authors have been academics of some sort and the proportion is increasing, (3) the proportion of authors who are engineers has fallen from less than one-quarter to only one-seventh, and the proportion of papers written by them has fallen even more dramatically, and (4) the proportion of pages written by academic historians has risen to one-half. In contrast, the *Transactions of the Newcomen Society* over all sixty years of publication have shown a consistent majority authorship of professional engineers, with only a few percent of its papers not strictly history of technology, and with a negligible concern for technological developments of the 20th century. Tucker mildly suggested that the Newcomen Society might broaden its outlook to include some context.

Norman Smith ranged widely in his ideas on the study of the history of engineering. Naturally, he had to face up to the challenge of his title and define the distinction between engineering and technology; he thought, in effect, that technology is knowledge, while engineering is making things—a distinction very close to Rupert Hall's view presented in discussion later on. Smith said: "Engineering then is something specific and and substantial within the broader subject of technology. It is the making of working components . . . which perform some prescribed function efficiently and safely. . . ." On the study of engineering, he summarized one part of his thesis with the suggestion "that although the biographical approach and the study of hardware have assembled a good deal of information . . . there remains the challenging and important task of using this information as a means to a larger end, namely *understanding* engineering." As another means to this end, he suggested the study of what stimulates a break with orthodoxy in engineering. This point led Alan Darling to inquire whether it might be possible to formulate a dislocation or discontinuity theory of the history of technology.

Rupert Hall was concerned to some extent with the differences in philosophy of science and technology and the effects on their historical study; but he was very practical in talking about "*numbers and words* (which have to be, in general though not universally, the final authority for the historian of science) as distinct from *things* or *artifacts* which must be the final authority for the historian of technology." In specific relation to the Newcomen Society he asked whether it would wish to see the study of the history of technology become a strong academic subject, following the lead of the history of science:

Our colleagues in the United States are, I think, already moving in that direction—it is obvious that over there, during the last twenty years, interest in the subject has been very broadly based, appealing to others besides engineers and economic historians. A great deal of this interest comes from university teachers. Here, by contrast, if we set aside some members of economic history departments, most support has come from engineers themselves and nonacademics. . . . Personally, I believe that the history of engineering has an important role in the universal history of civilization . . . and that therefore it must be much more than a very respectable brand of antiquarianism. . . . Historians of science believed their subject ought to be academically significant in a scientific society and struggled hard to get it established on the academic scene. Some historians of technology share a similar belief.

Discussion at the meeting showed, however, that the members of the Newcomen Society had very mixed feelings on this subject.

John Harris's main theme was that economic historians have been very much concerned with technology and have made a very large contribution to the history of technology—probably larger than that of historians of technology themselves. He was critical of the Newcomen Society, whose *Transactions* "are singularly lacking in papers endeavouring to relate technology to wider issues either of science or general culture." He concluded that "we are perhaps moving into a time when neither writing broad in theme and period, nor stimulating and comprehensive teaching, can be achieved without the cooperation of both kinds of scholar"—the two kinds being economic historians and applied scientists. By the latter term he probably meant engineers; and in the discussion, replying to a comment that the reason for the larger contribution by economic historians was that there were so few academic historians of technology, he made the point that it is so often the practicing engineer and not the academic engineer who makes the technical contributions to the history of technology. In addition he engaged in discussion on the problem of jargon in techni-

cal matters and pointed out that there was also occasionally the same problem in economic history itself, as witness some papers in *Economic History Review*. He received support for the closer alliance of economic and technological historians.

Angus Buchanan gave a closely reasoned analysis of what industrial archaeology (IA) is and how it is related to history. At the risk of oversimplifying a complex matter, one could say that he argued that IA was one particular methodology within the subject of history, and that history has suffered badly from the making of methodologies into disciplines. While the history of technology was properly a theme, IA remained a method, and, moreover, one with a strong conservationist dimension. The history of technology was "concerned with the way in which man has made and done things." It was still somewhat undeveloped, but was fortunately a down-to-earth subject; it was "happily difficult to get lost in abstruse conceptualization about technological history." Buchanan feared that the Newcomen Society had regarded IA with some apprehension in the 1960s, but it now accepted that there was everything to be gained from a close and friendly cooperation. The discussion centered largely on the strong amateur interest in IA—was this because it could not be made an academic discipline?—and on the consequent danger of digging and drawing without research into the historical and technological context. But Raymond Earl stressed the importance of IA as a means of interesting people in history and serving as the kindergarten for historians of technology; and Buchanan said "Amen to that!"

Ian McNeil examined the record of publication (mainly of books and mainly in Britain) in the field of the history of technology over the last sixty years. For the first twenty years, there was little publication, and that little was sponsored by large firms and published by university presses. The 1940s saw the emergence of L. T. C. Rolt as a significant author, and the 1950s saw some other authors, and particularly that great five-volume work (now seven volumes) the *Oxford History of Technology*, subsidized by Imperial Chemical Industries. The 1960s saw a great gathering of momentum—in America the emergence of *Technology and Culture* as a stimulus to the study of the history of technology, the appearance of the high-quality picture books in this field, and the establishment of Industrial Archaeology. The 1970s were the paperback era—cutting costs against rising inflation. The future looked bleak except for popular works. In the discussion John Rogers said that films and TV had become an important form of publication. McNeil agreed, but feared that sort of publication was beyond the financial scope of the Newcomen Society.

In the discussion in general, members seemed to have little doubt

that the Newcomen tradition of having a large proportion of its papers by authors who were trained as engineers was on the whole beneficial. There was no enthusiasm for any change. As William Allen said: "The historian who thought one of his objectives should be to try to get into the mind of an engineer who lived 200 years ago is really pursuing an impossibility unless he has practical experience of solving engineering problems." There was a general feeling that the history of technology should not be allowed to become a purely academic subject, as this would diminish the very strong tradition within the engineering professions of interest in their own history. But there was nevertheless a great deal of adverse comment on the small extent to which the history of technology was taught in universities and polytechnics in Britain. It would seem that this was the one direction in which change seemed desirable.