The British Association in Retrospect

Gentlemen of Science. Early Years of the British Association for the Advancement of Science. JACK MORRELL and ARNOLD THACKRAY. Clarendon (Oxford University Press), New York, 1981. xxiv, 592 pp., illus. $49.95.

The Parliament of Science. The British Association for the Advancement of Science, 1831–1981. ROY MACLEOD and PETER COLLINS, Eds. Science Reviews, Northwood, Middlesex, England, 1981. viii, 308 pp., illus. Paper, $25.

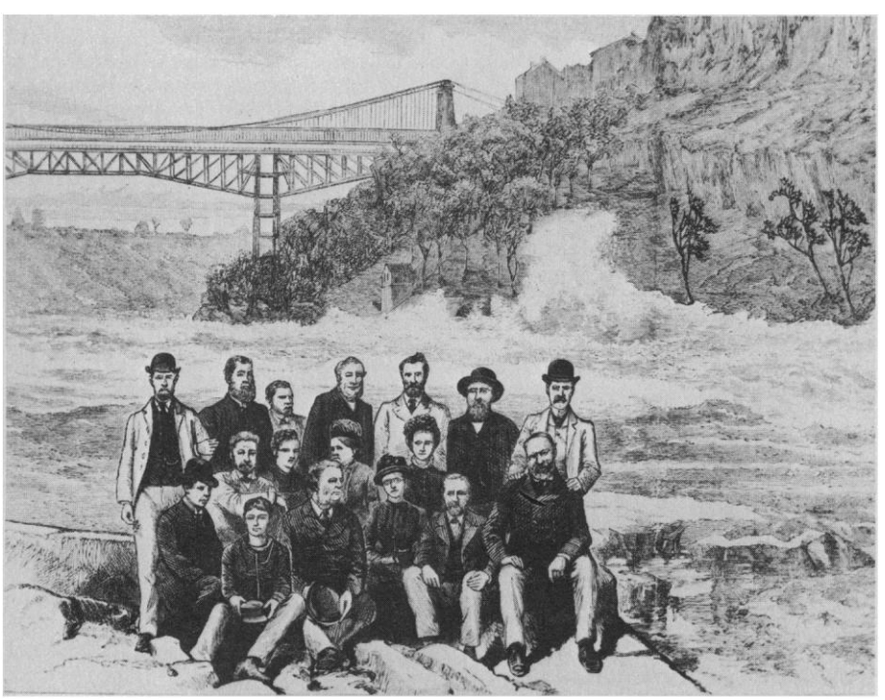
By now the academic procession through the minster, the hot air balloon carrying specially franked mail, and the reduced rail fares to York merely linger as memories for those who celebrated the 150th anniversary of the British Association for the Advancement of Science early in September. More enduring are two books struck to honor the occasion: Jack Morrell and Arnold Thackray's *Gentlemen of Science* and *The Parliament of Science*, edited by Roy MacLeod and Peter Collins. One message communicated by both books is that pomp, circumstance, and perquisites are as much a part of the association's history as research presented to its scientific sections. Although spectacle and theatrical display have always generated criticism among the association's detractors, such ritual has made science "visible" to a broad spectrum of the population.

Gentlemen of Science, the authors tell us, is the product of nearly ten years' investigation into the relationship between science, medicine, and technology in industrializing Britain. The collection of papers entitled *The Parliament of Science* was commissioned by the British Association only in 1979. Owing to the pressure of publishing deadlines, two proposed essays—presumably treating the association since World War II and analyzing the content of the *Annual Reports*—could not be included. *Gentlemen of Science* covers the first 14 years of the association's history, 1831 through 1844; *The Parliament of Science* spans its entire 150 years. There are many points of contact between the two volumes because over half the contributions to *The Parliament of Science* detail portions of the association's history during the 1830's and 1840's. The works also share an "anthropological" perspective, as Morrell and Thackray put it, or, as MacLeod says, they posit that "what the British Association actually did counted for less than what it was believed to stand for."

The authors of *Gentlemen of Science* in particular contend that the activities of the British Association were so heavily charged with cultural connotations that its history can be understood better as a set of symbols, images, and evocations—all skillfully manipulated by its directors—than as a series of scientific events. This view may be seen as a new departure in the history of science which will earn for the authors both praise and criticism. One central argument is that the association itself transformed science into a "visible cultural resource." This was accomplished by holding annual meetings at different locations throughout Britain, creating local committees to take charge of the arrangements, and by carefully recruiting members from a wide range of constituencies. With thousands flocking to its meetings, the association became a "huge unwieldy monster" altogether without precedent in the annals of British learned societies. The visibility of science, in turn, imbued association activities with special significance and permitted its managers to disseminate their own particular ideologies concerning religion, politics, and even what counted as science.

Morrell and Thackray's account of the British Association is often powerful and persuasive, but it is not without passages that annoy and exasperate the reader. The authors' principal thesis—that the association fostered social cohesion under the banner of science—is interesting and for the most part convincing. Their evocation of the atmosphere of early meetings by presenting some of "its audiences, its patrons, its performers, supporters, and hangers-on" is especially successful. Yet when association theatrics and panegyrics are not under review, the search for symbols and latent functions clouds the story and becomes wearisome. For example, the fact that 14 Manchester institutions and individuals invited the association to visit their city is supposed to exhibit "the power of science to unite the middling and upper classes." Glasgow's decision to treat special guests to a dinner of turtle, venison, and champagne is selected to show that "science was a vehicle for civic virtue." Local arrangements elsewhere are invoked as instances of science as "an agent of communal effort."

The authors insist that "without an



"Advanced excursionists of the British Association at the Whirlpool Rapids, Niagara." [*Illustrated London News*, August 1884]

epistemological or sociological—perhaps almost an anthropological—approach, our history would be barren." It would also be clearer. After stripping away the terminology and generalizations dictated by this approach, a solid revisionist history of the British Association emerges. This history is based upon the lives and letters of the "gentlemen of science," 23 men who held major offices in the association for more than one term. To Morrell and Thackray, the early years of the association are comprehensible in terms of the attitudes, interests, and even the fears of this liberal Anglican and politically conservative inner core of a wider "scientific clerisy."

A plank of the revisionist platform, then, is that, far from being run as a democratic "parliament" (not to mention a "republic") of science as its rhetoric suggested, the British Association was controlled by a closed oligarchy. The group in power carefully steered a course between those who wanted government to take a strong hand in countering the alleged decline of science and those who thought otherwise. By sidestepping the "Declinist" crusade to create paid positions for scientists, the gentlemen of science avoided associating themselves with the cause of professionalization. They viewed science as a "calling" or as an opportunity to establish an intellectual reputation.

One problem with Morrell and Thackray's interpretation here involves the size and composition of the governing elite. Vernon Harcourt and Roderick Impey Murchison seem to run the show; more than half the cast rarely utter a line. According to the authors' own account, one of the oligarchy, the aged and infirm John Dalton, was trotted out on occasion merely as an "emblem" or "symbol." Given the backdrop of social and political ferment the authors present, in addition to the confusion over short-term strategies and ultimate purposes within the association, it seems remarkable that any single clique could direct the action for some 15 years. In this regard, A. D. Orange's essay in *The Parliament of Science* may provide a useful corrective. He divides the association's history into three stages before 1851, with a different "gentleman" imprinting his character on each phase: first the editor David Brewster, then general secretary Harcourt, and finally Harcourt's successor, the geologist Murchison.

A second part of Morrell and Thackray's revision concerns the role of the provinces. They argue that, contrary to conventional wisdom, the group that controlled the British Association insured that it represented the interests of centers of learning and culture, such as Cambridge, Dublin, and Edinburgh. Just as the elite distrusted the common scientist, they hesitated to enter the unpredictable hinterland, whether a "coal hole" like Newcastle or a textile town like Manchester. The function of provincial philosophers, according to this view, was to swell membership rosters and thus fill the organization's coffers with their subscriptions. Since these funds would then be channeled in the form of research grants to the directors' pet projects and protégés, the provincials handed over their hard-earned shillings to an indifferent and metropolitan-inclined leadership. Against this interpretation of the cunning savant exploiting the country bumpkin, Philip Lowe in *The Parliament of Science* emphasizes the benefits that flowed to towns from hosting the association. These included a stimulus to local commerce and the possibility of tapping the expertise of visiting scientific eminences.

Another heretofore unrecognized characteristic of the young organization is the low status it accorded technology. The prevailing mythology that traces the origins of the British Association to provincial interests has linked the organization with emerging manufacturing concerns. *Gentlemen of Science,* in contrast, maintains that the appeal to applied science and technology was either a rhetorical device or a deliberate cultivation of spectacle. According to Morrell and Thackray, the association's grant allocations and government lobbies in fact enshrined the physical sciences, especially astronomy, tidology, and terrestrial magnetism. The essay by W. H. Brock in *The Parliament of Science* points out that these pursuits—dubbed "Humboldtian sciences" by S. F. Cannon—were precisely those eulogized by a succession of association presidents. This congruity between the views of the association and its historians leads one to suspect that Morrell and Thackray adopt a portion of the rhetoric that they intend to debunk. The role of the association as "knowledge maker" may be portrayed more realistically by examining communications to the geology section, for example, which, according to Orange, dominated early meetings.

Gentlemen of Science, the authors tell us halfway through the book, covers only the "first cycle" of the British Association. Oddly, we are not provided with any sort of conclusion to the history of the period. This omission is particularly puzzling given the propensity to draw a moral and the sometimes excessive amount of detail included. The essays in *The Parliament of Science,* however, treat the 1830's and 1840's as part of the golden age of the association and place its decline in the 1880's. When on the defensive, the organization turned to new ventures, seeking in popularization, education, internationalism, and imperialism a means of strengthening its position. As MacLeod suggests, the situation of the association mirrored the changing place of science in society. No longer seen as a necessary part of the acculturation of a gentleman, science had become merely one among many competing forms of culture.

SUSAN SHEETS-PYENSON
Centre for Interdisciplinary Studies, Concordia University, Montreal, Quebec H3G 1M8, Canada

Biological Timekeeping

Handbook of Behavioral Neurobiology. FREDERICK A. KING, Ed. Vol. 4, Biological Rhythms. Jürgen Aschoff, Ed. Plenum, New York, 1981. xx, 564 pp., illus. $45.

Natural scientists have long been intrigued by biological clocks. Indeed, many now believe that few physiological or behavioral processes can be fully explained without some reference to temporal organization. This realization has led to a significant increase in the number of laboratories addressing problems involving biological timing as well as the curious development of the occult study of "biorhythms."

Since the inception of biochronometry (or chronobiology) as a coherent field, efforts have been made at irregular intervals to provide summaries of research progress. The first such treatise, the proceedings of the 1960 Cold Spring Harbor Symposium on Quantitative Biology, confirmed the multidisciplinary nature of the enterprise and provided the first well-developed formal models of biological rhythms as overt expressions of underlying clocks. The present volume is the fourth effort to capsulize our knowledge about biological timekeeping.

Even a cursory glance at the volume reveals that research emphasis in biochronometry has not remained stationary during the past two decades. Absent are papers focusing exclusively on exogenous sources for biological rhythmicity, evidently replaced by an increasingly sophisticated approach in which environmental cyclicities are treated as synchronizers for endogenously generated rhythmicities. Gone too are the purely