

so systematic, the manner of publication of its techniques and results is so unusual, and so few people in the West can read scientific Russian or have access to publications, that the need for a book of this type is very acute. Therefore, the appearance of this book is to be warmly welcomed. No doubt it will deservedly find its way to libraries and to the private homes of those interested in aerophysics, astrophysics, space biomedicine, energy-matter processes, aerospace science and engineering, and relevant fields.

In spite of its shortcomings (incoherent statements in different parts, an almost complete absence of references to professional aerospace journals and magazines, erroneous spelling, and the like) the authors have succeeded in condensing the vast but scattered information into a regular set of well illustrated and quite readable parts and chapters. It can, in any case, be said that this is the first reference book of its kind, although, understandably, it could not embrace the latest Soviet achievements in the field. I am sure the reader will be anxiously looking forward to its second edition.

G. A. TOKATY

HYLLERAAS'S PAPERS

Selected Scientific Papers of Egil A. Hylleraas

Edited by John Midtdal, Knut Thalberg and Harald Wergeland. Vol. 1: Pp. viii+445. Vol. 2: Pp. 526. (NTH Press: Trondheim, 1968.) n.p.

EGIL HYLLERAAS started research in the theory of crystal lattices and in 1926 went to work with the leader in that field, Max Born, only to find Born entirely full of the new quantum mechanics. After some persuasion, Hylleraas took to applying quantum mechanics to the helium atom and thereafter produced a brilliant stream of papers applying quantum mechanics to the problems of chemical physics. The important thing in those early days was not just that quantum mechanics produced more elegant solutions of problems the solutions of which had been obtained by the old quantum mechanics, but that really accurate new predictions could be made in really complicated situations. Hylleraas seemed designed by nature to take on these problems and with Hartree gave us the basis of quantitative atomic structure. His collected papers have been edited by three leading Norwegian physicists and provide a fascinating view of the development of this branch of physics and of the man himself. One might expect in such a volume a brief biography, but the editors have only provided a brief curriculum vitae because something far better lies among the papers—a brief autobiography. This is a delightful account of his own scientific career and vivid recollections of the Göttingen of the mid twenties, given as a speech at the University of Wisconsin and published in the *Reviews of Modern Physics*. The reader should turn here first to get a true perspective of the papers. I think everyone interested in the history of physics will find these papers and this commentary of great interest and will wish that all the scientists named in Hylleraas's reminiscences would likewise record their experiences, and be so handsomely treated by their colleagues.

I remember Hylleraas visiting Hartree in Cambridge a few years after the war. Needing to do some calculations, he inspected the various machines available (from digital downwards), but eventually chose the humblest Brunsviga over which he reckoned he had the greatest control. In the reminiscences he records the mental processes which went into transforming the good agreement for helium into the very good, by detecting a subtle error of principle in the analysis which weakened the numerical analysis. I suppose nowadays one would have put it all on to a great machine, but would one have learned the things Hylleraas did that way?

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Digging, but not Keeping

SIR,—This institution echoes the views expressed in your article "Digging but not Keeping" (*Nature*, 221, 206; 1969), though we would not wholly agree with the solution you propose to the problem. We think that the Ministry of Public Building and Works has seriously neglected its responsibilities to provide an efficient laboratory for the Inspectorate of Ancient Monuments.

This inspectorate is held in high regard throughout the world and it has done everything possible to establish a laboratory capable of meeting the requirements of British archaeology. There is little doubt that its efforts have been impeded by bureaucracy. In October 1965 proposals were put by MPBW to this institution on new staffing arrangements for the laboratory to meet the increasing work load. There was to be a Chief Laboratory Officer supported by eleven staff in the Experimental Officer and Conservation Officer Classes. Months later—in mid-1966—Mr J. W. G. Musty was appointed as head of the laboratory.

Because of lack of progress in reorganizing and staffing the laboratory, the institution persuaded MPBW jointly to carry out an inspection. The institution's representative reported, "The laboratory had a backlog of about eight years' work and though young people had been recruited and had received training they had left for more remunerative work in provincial museums. We came away with the impression that although the laboratory was well equipped, and the work waiting to be done, there was no one there to do it."

Still the situation did not improve. In December 1967 we made further representations to the ministry. We said, "We have now had some experience of the reorganized laboratory introduced by the Department and there are a number of points on which we are not at all happy. First, the Department's proposal to 'plan a well coordinated laboratory' seems to have run completely on the rocks. The two sections of the laboratory are housed in different buildings and I am informed that the extent to which there is coordination is not very real. One would have thought that the first stage in producing coordination would have been to ensure the creation of one laboratory under one roof so that the officer in charge would be wholly responsible for its day to day work. Instead, we find two quite separate laboratories—each of which seems to be quite separate and distinct from the other.

"Of more immediate concern to the institution is the way in which the complement you proposed in 1965 has not yet come into being."

These representations resulted in the ministry conducting an O. & M. survey of the laboratory in September 1968. The agreed terms of reference were: (1) to review the functions, organization and scope of work being undertaken by the Sections of the Ancient Monuments Laboratory under the Chief Laboratory Officer, particularly in the light of the Treasury Inspection Report of 7th May, 1965; (2) to examine the relationship between the Ancient Monuments Laboratory and those agencies having facilities to assist it (e.g. the British Museum, other museums, universities and learned bodies); (3) to consider the scope and range of functions which should be undertaken by the laboratory, and to recommend an appropriate organization and complement for the work load falling upon it or likely to fall upon it.

The wheels of Whitehall grind exceedingly slow and we still await the report of the survey. Though you suggest that the laboratory should be subjected to a Fulton