The NATIONAL COLLEGE for
HEATING, VENTILATING, REFRIGERATION
and FAN ENGINEERING

1947
ESTABLISHING THE COLLEGE
Story of Achievement

National College of Heating, Ventilating, Refrigeration and Fan Engineering


(Secretary of the Education Board of the Heating and Ventilating Industry)

After nearly two years of hard and patient effort of conferences, discussions and interviews and of the preparation of reports, syllabuses and estimates, the National College of Heating and Ventilating, Refrigeration and Fan Engineering is an accomplished fact. At a meeting held on April 28th, 1947, officials of the Ministry of Education, who had been meeting representatives of the industry at intervals over a period of twelve months, expressed themselves as satisfied that a national college was needed and that the financial proposals of the industries concerned were likely to be acceptable. The first steps were then taken to set the creative machinery in motion. There still remains, of course, a large amount of preliminary work to be done before the College can begin to operate, but already the Ministry is engaged in negotiations for the formation of the Governing Body, and as soon as this is constituted it will be for the Governors to get down to the organisation as expeditiously as possible.

This is, without question, an outstanding event in the history of technical education. Only one other national college is at present in being—the recently formed College of Horology—and much well-earned credit must, therefore, be given to those leaders of the heating and ventilating industry who have spared no effort to ensure that the best possible vocational training is available for those engaged in the industry.

The Technical Education System

As yet, a national college means very little to the layman, and to enable understanding of the importance of the achievement in obtaining one for the industry, some explanation must be given of the function of these colleges and of the part that it is intended they should play in the general scheme of technical education.

Since 1903, when nationally organised further education was first introduced, much development in scope and volume has taken place. The responsibility for its provision and administration has, however, more or less remained as it was in those early days. County councils and county boroughs have been, and still are, the responsible authorities, and the tendency generally has been for each to be a self-contained unit, making whatever provision of facilities it is thought sufficient to satisfy the effective demand within the area. This arrangement has, in the main, worked quite well, although there are obvious defects. In the larger areas with many students and a number of technical colleges the work has been planned to make overlapping and colleges have been able to specialise up to a comparatively high standard. In the smaller or more scattered communities, however, such co-ordination has very often been absent.

Further education, too, has always been in poor relation in the education family, the first to suffer when economics have been called for and the last to benefit when money has been available for development.

The disadvantages of such a system, both on the individual student and to industry which must rely primarily on the education system for the proper training of its men, and of those already within its ranks, has long been apparent, but they became painfully obvious to the nation when the demands for skilled technicians could not adequately be met. Consequently emergency schemes of training had to be hurriedly introduced to meet the national need.

The Education Act, 1944

Undoubtedly these conditions accelerated the introduction of the Education Act, 1944, in which provision is made for the setting up of a more complete and co-ordinated system. Sections 41 and 42 of the Act require local education authorities to secure the presence of adequate facilities for further education, within their areas and to prepare and submit schemes for this purpose to the Minister.
Pamphlet No. 8, "Further Education," contains a brief statement of its policy regarding national colleges.

These colleges are intended to provide facilities for technological training at the highest level required by an industry and, where an industry is so small or so scattered as to make it impracticable for local authorities to be expected to provide these facilities on a regional basis, the Ministry is prepared to consider the desirability of establishing a college to meet its needs. The Ministry must be assured, however, that the industry does in fact need such facilities and is prepared to back its request for a college by an assurance that it will give active support in the way of sharing costs and of co-operating in the recruitment and release from industry of students and teachers. The balance of the cost will be met directly from national funds.

A national college will normally be housed in an existing college of further education, but it will have a separate governing body mainly composed of representatives from the industry and with representation from the governors of the parent college. This body will be directly responsible to the Minister for the administration of the college and for the determination of its curriculum.

The advantages of a national college may be summed up as follows:

(i) The actual control of the college is in the hands of the industry.
(ii) The governors of the college, mostly from the industry, will determine what is to be taught.
(iii) In the one centre it is possible to concentrate the best and most up-to-date equipment.
(iv) It is possible to concentrate the most highly trained and competent staff at the college and to ensure that their contacts with the industry are always alive.
(v) All students, irrespective of where they live, can be admitted at the same fee.
(vi) Facilities can be provided for carrying out research, which is so important in maintaining a high level of teaching.

How It Was Done
As soon as the Percy Report was published in 1945, it was examined by the Education Board of the Heating and Ventilating Industry, and a report was submitted to the Association of Heating, Ventilating and Domestic Engineering Employers pointing out the possibilities of a national college for the industry.
The Council of the Association gave immediate attention to the matter and passed a resolution requesting the Board to make a preliminary approach to the Ministry in order to ascertain whether a request from the industry would receive favourable consideration and, if so, what support for the college would be called for from the industry. The Ministry was therefore asked to receive a deputation from the Board, and a meeting was arranged for April 12th, 1946, when a case was made.

The arguments of the deputation were considerably strengthened by the fact that already, for nearly two years, the industry had had its own full-time course running at the Borough Polytechnic (London) on a national basis, with the fees and maintenance allowance of students and a large amount of the equipment provided by the industry.

It could also show that the industry as long ago as 1942 had organised its educational scheme on a regional basis and had, in fact, then anticipated some of the recommendations contained in the Percy Report.

The Ministry's officers were impressed by the industry's record of educational organisation, and promised that the request for a national college should receive consideration, but at the same time they expressed doubt as to whether a college solely devoted to heating and ventilating engineering would be wide enough in its scope. They asked whether it would not be possible to strengthen the application by including other industries closely allied to heating and ventilating. The deputation could see only mutual advantage arising out of this proposal, and the Ministry therefore undertook to call a meeting of representatives of allied industrial bodies at a later date to discuss the formation of a college to meet the needs of all or some of them.

In 1945 the refrigeration industry had followed the example of the heating and ventilating industry and had started at the Borough Polytechnic a full-time course on similar lines. It was known that this industry, too, was interested in a national college, and so representatives of both industries met together to discuss ways and means.

There followed a period of informal meetings, when financial estimates and syllabuses were discussed, and then, on September 30th, 1946, the joint meeting was held with representatives present from the heating and ventilating, refrigeration, fan manufacturing and boiler manufacturing industries. It was generally agreed among those present that there was a need for higher technological education for those employed in the industries, and it was decided to set up a sub-committee "to advise the Ministry on the scope and content of a national college for the heating and ventilating and allied industries."

The sub-committee met in October and reported that the need for advanced training for those engaged in the heating and ventilating, refrigeration and fan manufacturing industries could be met by the provision of one college provided the instruction offered was on a broad enough basis, but that it was apparently not appropriate to attempt to include courses connected with the boiler manufacturing industry.

This report was considered by another full meeting held in December, when it was agreed that the Ministry should issue a statement, which could be considered by the various industrial associations concerned, giving details of the organisation, scope and functions of the proposed college and of the support which would be expected from the participating industries.

The statement was issued in due course and considered, and the three industries concerned confirmed their desire for a national college and gave assurances that they would support it, both with students and finance. As these proposals were acceptable, the meeting held on April 28th was called, and it was decided that the college be set up at the Borough Polytechnic, London, with the title "The National College of Heating and Ventilating, Refrigeration and Fan Engineering."

In view of the active part which had been taken by the heating and ventilating industry in the formation of the college and of the measure of support which it was prepared to guarantee, it was unanimously agreed that the industry should have the right of nominating one of its members to the Minister for appointment as chairman of the Governing Body of the college.

In addition to the chairman, the Governing Body is to consist of 23 members and will be constituted as follows:

- Heating and Ventilating Industry: 4
- Refrigeration Industry: 4
- Fan Manufacturing Industry: 4
- Governing Body of the Borough Polytechnic: 4
- Trade Union representatives: 3
- London County Council: 2
- University of London: 1
- Department of Scientific and Industrial Research: 1

The Ministry of Education will have one assessor on the Governing Body. At the

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request of the heating and ventilating industry, one of the trade union representatives will be nominated by the National Union of Operative Heating and Domestic Engineers and General Metal Workers, and it was agreed that the other two should be nominated by the Trade Union Congress.

The next step is for the Ministry to obtain the approval of the Governors of the Borough Polytechnic and the London County Council to the proposal to house the college in the Polytechnic, and when this is given, a draft trust deed will be prepared setting out the essential details of the scheme.

When the interested parties have approved this deed and the Governing Body has been appointed, the actual work of the college will begin. It will then be for all those associated with the industry to see that the college is fully supported and that it does in fact satisfy their requirements for higher technological education.
EDITORIAL

"Science moves, but slowly, slowly, Creeping on from point to point."

COLLEGE OFFERS SOME HOPE

It is quite certain that Tennyson, in "Locksley Hall," did not have the subject of heating research in mind, but this quotation seems singularly apt, albeit a little optimistic. The brilliant project of a National College of Heating and Ventilating, Refrigeration and Fan Engineering (fully dealt with last month) offers some hope. Universities and colleges of university status have for some time been a home for research, and particularly for that kind of research sometimes called pure, meaning that it has no obvious direct application. In parenthesis, it may be said that such research without strings is most valuable if substantial progress is to be made and that frequently it has been found to have a direct utilitarian value.

At least three factors affect the possible success of the College in the field of research — equipment, students, staff. Although a great deal of valuable work has been done with lash-ups, the provision of adequate machines and instruments may save time and permit investigations which are beyond the reach of crude equipment. Perhaps space is as important, and more difficult under present conditions than materials. The trade may be willing to help with the latter, but lack of room seems likely to slow the pace for years to come.

The second requisite, research students, appears to offer less difficulty than either of the other two. There is already apparent a trend in the industry to attract and make use of university graduates. Their diversion to research for a year or two should not be difficult, but the path would be still easier were a few research fellowships to be endowed. Here is an opportunity for public spirited tycoons of the heating business.

The third factor, staff, is again not easy to provide. It is essential that there be someone who is not trammeled too much by the cares of the day, whose mind and energies are not absorbed by lectures and whose training and intellect fit him for work combining science and the utilitarian. An intimate acquaintance with the industry and its needs would be most valuable if early results are anticipated. Money is again important since enough of it is needed to attract men of appropriate calibre. Without further knowledge of the detailed proposals, it is difficult to foresee how this need will be met in the proposed college, for such things as Burnham Scales have a sulltying influence. This question of staff is vital since an enthusiastic and untrammeled leader can make bricks without straw.

STEP UP FOR MECHANICALS

This splendid venture of a National College has to some extent removed the impotence and dismay felt when it became obvious that the research project mooted by some leaders of the industry failed through lack of support. In part these feelings were revived when the tentative programme was received of the new organisation to be set up by the Department of Scientific and Industrial Research to carry out scientific research in mechanical engineering. It was hoped that in view of the close liaison which seems to have come about in recent years between mechanical and heating and ventilating engineering that a small corner might have been found to continue the work begun at Garston.

The new D.S.I.R. organisation will have as its Director Dr. G. A. Hankins, who is at present Superintendent of the Engineering Division of the National Physical Laboratory, and he will be advised by a board composed in the main of men well known in the engineering