

TALK FOR UPLANDS : 15th March 1966

MONEY
MACHINES, METHODS AND MEN

9th June

Philosophy of engineering

Development of machines, methods and men - doing the best we can

Broadcasting initially machines and men not much method

Can never be sure we are absolutely right, essential compromises never reach finality but no change for the sake of change.

MACHINES

Original equipment

Developments - microphones, transmitters, television, automatic monitors, aerials, life of equipment, economic justification for change, avoidance of dead-end jobs, provision of special equipment, standards conversion, etc. Function of the Specialist Departments in all this dependent upon machines and men.

COLOUR

The buildings, also machines, got away from the palatial halls of Droitwich, now putting up small self-effacing type of buildings at Crystal Palace underground.

AMTR BLOSS NOW ENTIRELY FUNCTIONAL

MONEY

METHODS

Continually under review

Changes since early days

Belt and braces attitude replaced by calculated risk

Number of men at transmitting stations: before the war one station 25 - 30 men, average number now 6. Increase of transmitters at sites very great. Before the war we had a few two transmitter sites and shortwave transmitter with four transmitters now we have at Wenvoe 12 transmitters at one site and at Skelton 18 shortwave transmitters. Changes in manpower requirement brought about by automation, automatic monitors, automatic quality checking, installation of duplicate equipment; everything possible to reduce manpower requirements.

Television studios used to have one man per camera, now we have one man controlling five or six cameras. More efficient operation, better picture quality.

Remote control of sound studios. Avoidance of soul destroying monitoring jobs. Review of monitoring committee.

Unattended transmitters - even UHF at one time thought very difficult for this.

Maintenance practices review

Communication practices review

Changes in methods - washing electrical components

Automated methods, field strength appraisal

Introduction of computers into all operations

MEN

This is, of course, the most important factor of all. The kinds of men we have available determine what machines we need, what we can do with the machines and this in turn reflects upon the total number of men. I will deal only with the engineering and technical staff who represent about three fifths of the 8000 staff in the Division. The raw material for these men come into the Corporation by several routes. Numerically the greater part of them come in as young men in their late teens or early twenties. We look for men who have an interest in broadcasting and we try to get men who have as a minimum taken A. Level subjects at school and who have passed in at least one Science subject if they are to go in the technical side. The total number of this intake is about 220 p.a. Our second source, numerically much smaller, is the Science Graduate in either Engineering or Physics and occasionally other subjects, and coming straight from University. Of these we take about 20 p.a. The third source is men, numbering about 50 p.a., who will have had perhaps 5 to 10 years experience in outside industry. A proportion of these will be graduates recruited for specialist departments. These are a most valuable source of recruitment. The training given to these men is various. The T.A.'s go through T.A. Courses and then after about five years in the Corporation go for a 14-week course at Wood Norton to take their Grade C examination in the subject in which they are specialising. After this is passed they are free to be promoted anywhere in E.Division. A somewhat similar scheme applies to T.O.'s. T.A.'s are men whose inherent qualities and training make it likely that they could proceed, after having obtained the appropriate qualifications such as the Grade C Examination, to the highest levels in the Engineering Division. T.O.'s are men with perhaps not so scientific a turn of mind but who will fulfil a very valuable function and can proceed to a very high grade in the operational side of the Division. The Direct Entry and University Graduates do not go to Wood Norton for regular courses but may go for courses in particular subjects.

These courses in particular subjects are a most valuable feature of our training. They can vary from a few days or even a weekend to perhaps two or three weeks

and the subjects dealt with are items of particular interest - colour television, frequency modulation, transistors, computers and the like.

From time to time what we call refresher courses are laid on to bring some of the older staff up to date with modern methods.

→ *OUTSIDE TRAINING RESEARCH SCHOLARSHIPS*
COLLABORATION WITH UNIVERSITIES
We are very conscious that in the higher posts in the Division wide experience

in dealing with problems both on the technical and a managerial nature are necessary. We give courses in basic managerial problems lasting two weeks to a wide variety of fairly senior personnel; more senior personnel go to courses such as this one and a small number go to other courses as Ashridge and Henley. These courses are valuable but they do not replace the vital experience that people get from carrying responsibility in directly carrying out varying duties. This responsibility varies, of course, with the type of problem involved but also of course is very much dependent on the kind of persons with whom the man is working. We therefore try to encourage people to move around to a reasonable extent and are not too happy to see promising men staying too long in one post. We make, I think, more use than any other Division of the attachment scheme. Also, I think, we gain quite a lot from the fact that many of our men are in demand for secondment to various organisations overseas where they have to deal with a range of problems wider and probably take responsibility earlier than they would experience here. All this is done with the intent of making men as reliant and as well-balanced as can be.

The ever-changing pattern of broadcasting in the development of new services, leading to an increase in the number of facilities to be provided, offset, more or less, by the development of automatic and other means reducing the manpower requirement has lead us to insitutue a regular routine of longterm forecasting of manpower requirements in Engineering Division. This is done by a committee which reports on the matter once a year and gives the best estimate that it can of what would be our needs over the next ten years. The actual estimates necessarily vary appreciably dependent upon the interpretation of the position. We are, however, very much concerned to know whether we ought to bring in more graduates or less, how many we should bring in, whether the

longterm trend will be to have more technical and maintenance staff and less operational staff or vice versa, whether we shall want more and more people on the studio side and less on the transmitter side, and so on. These forecasts are absolutely essential to us in planning that we recruit the right number and the right type of man and that we can foresee in good time that adequate training facilities will be available. It takes a long time to increase or to run down a training department and unplanned abrupt changes can be very expensive and very difficult. We are therefore continually revising our estimate of what will be wanted and trying to make sure that we get the right type of entrant so that we will run our services as they ought to be run and when required have a supply of the right type of man with the right qualifications and experience for the senior posts in the Division.

FCMcL/VAL
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