

711,066 persons, or considerably more than half the total number covered by all works councils.

The analysis by date of organisation and course of origin shows the effect of the Federal Government's activities in causing the adoption of plans for workers' representation, and also shows that most of these did not long survive the withdrawal of government supervision of the industry.

The various causes of discontinuance of a number of works councils are summarised as follows: (a) the business depression of 1920-1921; (b) lack of interest, in some cases because the relationship between management and worker is so close and the industrial relations department so well handled that there is no real need of a works council; (c) friction between management and workers regarding the plan; (d) bonus or profit-sharing, when business was poor, and there was no bonus or profit to share, so that the men were no longer interested; (e) domination by a management representative, as when the person designated to deal with the committee of representatives on behalf of the management adopted such a manner in his relation with the committee that it considered itself either hampered or useless in accomplishing anything of value.

In addition to the various statistical tables, the Report contains a selected list of industrial concerns having a form of workers' representation, giving in each case the date of introduction of the plan.

Vocational Training on the Paris-Orleans Railway

The organisation and progress of apprenticeship and workshop training in the equipment and locomotive departments of the Paris-Orleans Railway Company are described with great detail in a report presented to the Society for the Encouragement of National Industry in December 1924 by Mr. Maurice Lacoïn, who is chief engineer in the equipment and locomotive departments of the Paris-Orleans Railway and a member of the Council of Technical Education in France¹.

The author first gives a chronological table showing the progressive extension of the organisations set up by the company for the training of its staff. In 1915 the system of ordinary apprenticeship, which had been limited to the large central railway shops, was extended to those of 27 dépôts. In 1916 the reorganisation was further extended to eight repair shops and the two large construction shops, the total number of apprentices in the three annual classes being fixed at 1,200. In 1917 advanced "second-grade" training courses were introduced for the benefit of apprentices selected from among the most promising pupils in their first year (the number so selected being about a tenth of the year's class, or about 40).

¹ MAURICE LACOÏN: "Le développement de l'apprentissage à l'atelier. Sa réalisation à la compagnie du chemin de fer de Paris à Orléans. Les projets d'organisation de l'apprentissage en France et la taxe d'apprentissage"; in *Bulletin de la Société d'encouragement pour l'industrie nationale*, Dec. 1924. Paris.

In 1919 provision was made for the control and supervision of apprenticeship by the creation of a new division in the staff department to deal with all matters connected with training, including that of men with a higher education. At the same time athletic and musical societies were systematically organised and extended. In 1920 evening classes for all employees of the company were set up and extended. A periodical entitled *L'Apprenti P.O.* (The Paris-Orleans Apprentice) was started, and libraries were set up in the chief dépôts of the Paris-Orleans system. In 1921 correspondence courses were started for office and line employees.

In 1922, in order to improve teaching methods, periodical training courses for apprentice instructors were organised, while lecturers toured the system in an "education coach", and gave lectures on general educational subjects to employees in the various departments and their families. In 1923 the apprentices organised an association of former apprentices of the Paris-Orleans line. In the same year an additional year's training was provided for apprentices of the ordinary class who took a high place in their final examinations but were unable to take the second-grade course. Since 1920 continuation classes had been held two or three times a week (not in working hours) to supplement the theoretical classes, but attendance was voluntary; in 1924 attendance was made compulsory. The advanced training course was also supplemented in this year for the first time by laboratory work at the National Vocational School of Vierzon.

There are three main principles in the organisation of apprenticeship on the Paris-Orleans Railway :

- (1) The apprentices must be employed as far as possible on useful work.

- (2) The theoretical training should consist chiefly in explaining to the apprentice why and how he must do the work entrusted to him on a given method.

- (3) The apprentices should be placed in a special shift under a good instructor in a shop working on ordinary industrial lines.

Apprentices are admitted at the beginning of October by examination. Candidates must be French citizens, and be not less than 14 or more than 17 years of age on 1 October of the current year. They must also not be bound by any engagement to employers with whom they may have begun their apprenticeship. In exceptional cases the age limit of 17 may be relaxed for boys who have had more than an elementary school education. Applications for admission, signed by candidates, must be countersigned by their parents or guardians. The examination is held yearly at the end of August, and is of about the same standard as that for the elementary school leaving certificate. Preference is given to the sons or relatives of employees of the Company, to children belonging to large families, and to wards of the nation.

Boys who are accepted are engaged under an apprenticeship contract between the Company and their parents or guardians. They are then placed in the various shops which provide training for apprentices. There are at present 30 of these : 2 central shops, 18 dépôts, and 10 repair shops. The central shops train locomotive fitters, and also some more specialised workers, such as boiler makers, blacksmiths, turners, moulder

and electricians. The dépôts train workers in iron and steel only, and these later become either locomotive drivers or fitters. The repair shops, again, train for special trades connected with the repair of rolling stock (fitters, wheelwrights, leather workers, painters, and electricians). The number of apprentices is equal to 5 per cent. of the number of adult workers, this proportion being calculated according to the average period of service of adult employees, allowing for wastage through discharge, resignation, and death.

The apprentices are given manual training, supplemented by theoretical instruction, and about six hours' instruction weekly in French, arithmetic, geometry, physics, mechanics, drawing, and technology. In addition, compulsory continuation classes are held two or three times a week in order to supplement the deficiencies in the general education of most of the boys. These classes are occupied by explanatory readings and revision of history and geography, or by lessons in ethics, hygiene, or civics, or again by revision of the work done in the theoretical classes. In accordance with the third principle noted above, the apprentices are placed in the shops in groups of from ten to fifteen under the supervision of an instructor. If possible, this instructor should be able to supervise both the theoretical and practical work of the apprentices, so that the two sides of their training may be closely correlated.

During their three years' course the apprentices are paid at a progressive rate. Their pay consists of two chief parts: (1) the wage proper, paid fortnightly, and calculated mainly according to seniority, age, and efficiency; (2) a bonus paid every six months on the result of examinations and calculated according to the work and conduct of the apprentice during the six months and the results of the examinations. These bonuses are not actually paid to the apprentice, but entered to his savings bank account with interest at 5 per cent. per annum; on his departure for military service, or on reaching his majority, the savings bank book is handed to him. Mr. Lacoïn states that the monthly wage of an average apprentice admitted at the age of 15, including a proportion of the six-monthly bonus and the residence allowance, is about 100 francs in the first year, 250 in the second, and 380 in the third. To these figures should be added a cost-of-living allowance of 60 francs a month.

The theoretical and practical instruction given to the apprentices is supervised in the first place by oral examination by instructors, foremen, etc., and by instructors on their tours, and, in the second, by six-monthly examinations, on the results of which the apprentices are graded. In addition, at the end of the first year's course a kind of general competition is organised among the most successful apprentices in the various centres, who are assembled in one of the large shops. Finally, at the end of his three years' training, the apprentice takes a theoretical and practical test set by an examining board consisting of one inspector, the head of the shop, and one worker. Successful candidates receive a certificate and are appointed as boy employees of the Company. Unsuccessful candidates are either engaged merely as boy labourers or discharged. Every year the winners of the general

competition in the first year and the apprentices who have won certificates meet at a prize distribution. These examinations, competitions, and prizes are considered to foster a spirit of healthy emulation among the apprentices and their instructors. It is a point of honour for all the training centres to gain the highest places, and the apprentices are trained with a view to this.

The Company provides for the training of instructors by appointing a chief instructor in each district to supervise and assist the instructors. In addition training courses are held for the instructors of each district under the direction of specialised officials. Each instructor has to prepare and read a report on some question of training or discipline, which is then discussed with a view to arriving at practical conclusions. The instructors then attend a lecture on some question of teaching or education, and a model lesson given to a group of pupils in that centre. With a view to recruiting some of its instructors, the Orleans Company has organised training for its most intelligent apprentices. Boys who are picked out by their instructors during their first year's training as likely to benefit by more advanced instruction take a special examination towards the end of the first year, and if successful take a three-year advanced training course, the programme of which is very similar to that of the national vocational schools, with a marked bias towards railway subjects. Boys who earn the certificate given at the end of this course are then employed on probation for a year at least in the various shifts of the shops to which they are attached.

A year's post-apprenticeship training has been instituted by the Company for apprentices who have worked satisfactorily through their ordinary training, but are less fitted for advanced training or not sufficiently well educated when first admitted. These boys have thus an opportunity of advancing their vocational training, and eventually of reaching the rank of assistant gang foreman.

In addition to these facilities for vocational training, there are libraries, a periodical, athletic societies, the association of former apprentices, and lectures.

The Company also provides facilities for the education of its staff as a whole. It organises evening classes, open to all its employees other than apprentices, and continuation classes intended particularly for those who have already received some promotion (such as engineers, gang foremen or assistant foremen, and clerks) and appear fitted for more responsible posts.

Mr. Lacoïn says that it is difficult to give any precise figures of the cost of the apprenticeship organisation, since it is so complex. He states, however, that the cost of training (including supervisors, theoretical instructors, classes, and equipment) amounts to about 400,000 francs for ordinary apprenticeship. Last year the wages paid to apprentices amounted to 2,750,000 francs, but this sum was easily covered by the work done by the apprentices, the output of an apprentice being estimated in his first year at 20 per cent. of that of an adult worker, and in his second and third years at 70 per cent.