Journal of European Training

VOLUME 5 NUMBER 5 1976

MCB Journals
Bradford · England

Recent European Training Practices: Their Implications for America

by Myron Roomkin and Gary B. Hansen

During the last decade many industrialised Western countries have either overhauled or seriously considered changing their systems of industrial training, especially those segments such as apprenticeship which are intended to aid young workers in the transition from school to work. America is currently reconsidering her traditional approaches to apprenticeship training. An examination of foreign developments might aid us in our present re-examination by helping to place American practices in perspective and by possibly providing the ideas for fashioning changes domestically[1].

Due to limitations of space, this paper is not a detailed account of foreign apprenticeship practices and policies. We offer here a very brief summary of foreign apprenticeship as a preface to our discussion of domestic reform based on foreign-inspired changes.

Trends and Developments in Industrial Training Abroad

After World War II, European countries experienced large increases in the number of apprentices and in the number of apprenticeable occupations, many of which were white-collar, technical, or semi-skilled in character. Expansion of apprenticeship during this period was based on the following principles of apprenticeship[2] (many of which had been developed before World War II, but which continue to influence contemporary changes in foreign systems).

(1) Adolescents (usually 15-18 years of age) leaving full-time education to enter adult work should, wherever possible, undergo a period of training in employment; the objectives of this training should include socialisation and education of young workers as well as manpower development.

(2) Apprenticeship and training are of such importance that their control and supervision should not be left entirely to the private decision-making of trade unions and/or management.

(3) A commitment to quality control in training resulted in the adoption of standards and the acceptance of monitoring and testing procedures.

(4) Training should include both theoretical and practical instruction and should be provided within the hours of a normal working week, and under flexible arrangements.

(5) The government or designated agents assumed all the costs of the theoretical and related instruction, given off-the-job. Training costs to employers were offset by contributions to productivity made by the trainees, who received wages below the level needed to recruit adult workers. The overhead and administrative costs of the system were borne by the public, with funds coming from general revenues or from a levy placed on employers.

In the latter half of the 1960's, several of these nations began to contemplate significant changes in their established systems of training youth in industry—for surprisingly similar reasons. The fruits of the post-war baby boom were beginning to enter the labour market, spotlighting the need for more training opportunities. At the same time, skill shortages were experienced in many sectors of the economies.

Due to rising levels of national wealth, the nations of Europe were able to increase the number of compulsory years of schooling, and families were better able to bear the foregone wages associated with continued education relative to wages being paid to trainees. Early entrance into the labour market was seen as an expression of occupational choice, while continued education preserved options.

In addition, a significant gap was perceived between the way apprenticeship was supposed to function and the way it did, especially with regard to the quality of training. Small and medium-sized companies were reluctant to accept apprentices, and many of those which did were highly specialised and unable to provide broadly based training. Also, employers were likely to approach their training responsibilities casually; monitoring and reporting of apprenticeship were not being vigorously conducted by the authorities who administered the programmes. From the apprentices' viewpoint, the situation was invidious.

The pressure for training reforms was given impetus by two supranational developments: (1) the trend towards more liberal governments in Europe, who were anxious to use training and education policy as one method of income redistribution; and (2) the formation of the Common Market, which encouraged labour mobility and substitutability among nations.

To meet these developments a new model of apprenticeship began to emerge in Europe. In some ways, it is a continuation, or expansion, of old principles, but new directions are also being taken. Among the characteristics of the emerging European model are the following[3]:

(1) There is greater concern for improved co-ordination of apprenticeship with other manpower policies and for improved integration of vocational and regular education. Apprenticeship is still seen as an important and useful method of vocational training, but the emphasis has shifted to improving all forms of vocational education and training[4].

(2) A recognition of the importance of training and the need for better co-ordination of manpower policy has led to greater government involvement in the

administration of training in industry and the creation of a variety of organisational structures to facilitate the accomplishment of these objectives[5].

(3) It is now held that the transition of youth from school to work must be made gradually and under carefully controlled conditions. Specialised forms of vocational guidance and job placement assistance are considered essential to this process. Also, a period of off-the-job training in approved training centres which simulate the industrial environment is being recommended for apprentices[6].

(4) There is renewed commitment to quality training practices. Monitoring activities have been increased and clear lines of accountability created. Substantial national programmes of research in all aspects of industrial training and apprenticeship have been initiated and innovative ways developed to provide competent training technical assistance directly to employers.

(5) Apprenticeship has been made more flexible to meet the needs of employers better and to give trainees the opportunity for further occupational growth and mobility. Reductions in the length of apprenticeship have been sought, and it is becoming widely accepted that youth should be trained through a series of sequentially related occupational modules, each corresponding to a cluster of marketable skills[7].

(6) Coupled with increasing flexibility in the training of apprentices at the outset of their careers, is the development of suitable training programmes for adults. These include accelerated training for those desirous of becoming skilled workers, and training modules designed to enable existing craftsmen to update or extend the range of their skills.

(7) The trend towards greater public involvement in the financing of apprenticeship has continued. More and more, public funds are being used to support all forms of training. Several countries have instituted training taxes on employers similar to the one adopted in France early this century[8]. These charges help to pay the costs of providing technical assistance, the added administrative costs stemming from more systematic and continuous monitoring, and inducing employers to accept trainees.

Relevance of Selected Foreign Training Practices for the US

An analysis of the implications of foreign approaches to apprenticeship and other forms of industrial training can be made at two levels: (1) techniques, and (2) policy. At the level of techniques, selected practices and procedures might be adopted with beneficial consequences without changing fundamentally the goals or policy objectives of American apprenticeship. Some of the policy questions pose a much more fundamental issue: whether the principles of policy in foreign apprenticeship systems are worthy of emulation—even if this requires major structural change in the existing US occupational training system.

In this section some of the techniques developed abroad will be evaluated. Some comments will be made about the larger policy issues in the next section. As a preface to both sections, it is deemed necessary and appropriate to indicate several important characteristics of American apprenticeship which impinge on the relevance and transferability of any foreign-inspired ideas.

When compared to that of other industrialised nations, our apprenticeship system possesses *inter alia* the following attributes:

(1) It is intended primarily as a method of manpower development for skilled craftsmen, and only secondarily as a method of continuing the education of youth or of bridging the gap between school and work. (The importance of this point becomes evident when one realises that the average age of those beginning apprenticeships in the US is in the mid-twenties.)
(2) It is a minority system, since it is generally used to meet the manpower needs of few industries, in a limited number of selected skilled occupations, and involves only a small proportion of all youth entering the job market after high school.
(3) Within the participating industries, apprenticeship is a highly concentrated system, mostly limited to the unionised or large employers.
(4) Apprenticeship has remained a private system of decision-making between unions, management, and youth with only modest amounts of governmental influence in the setting of standards, monitoring performance, or certification of completion. The state financially supports apprenticeship by financing related instruction in public institutions and by providing guidance to the parties.

The need to expand the number of apprenticeships and to improve the quality of training in them has been frequently asserted. Foreign experience, it has been suggested, provides several examples of techniques and methods which have been used to achieve these goals[9]: (1) using cost subsidisations and financing policies to help employers to meet the cost of and/or support the provision of services to help them improve training; (2) creating new administrative arrangements to improve co-ordination between apprenticeship and other methods of skill acquisition; and (3) improving flexibility in training through changes in the content and conduct of training. Our analyses below will focus on the need for, and consequences of, such modifications of practice in the US system.

Economic Support of Training

As practised abroad, economic encouragements to increase the quantity and quality of apprentice training have taken three forms: (a) direct grants to employers from general revenues; (b) imposition of special training taxes on employers; and (c) stipends from general revenues to apprentices.

Grants or Credits

There is little doubt that grants or credits to employers from general revenue would increase the number of apprentices. This has happened in Europe. The justification for this is based on the fact that apprenticeship is viewed as an extension of the educational system rather than just as a skill acquisition process. In the US apprenticeship is primarily a programme of highly general skill training which, if the conventional theory holds, is self-financing through the system of wages for production. Employers provide apprenticeship if it is in their economic interest to do so; otherwise, they produce skilled labour informally or purchase it on the market. Thus, in order to justify public expenditures, we must accept certain things as being true: (1) apprenticeship is a preferred method of skill acquisition for society—i.e., society benefits more from a given dollar invested in apprenticeship than it does when the same dollar is used to produce a journeyman through alternative methods; and (2) less than an optimal amount of apprenticeship training is being or will be conducted for reasons that are correctable through outside subsidisation.

Concerning the public desirability of apprenticeship, we know of only two studies[10] that have found wage benefits of apprenticeship to be positive *vis-à-vis* alternative sources of skill acquisition, but they did not comprehensively deal with the costs of training to society or the parties. Similarly, it has not been shown to our satisfaction that an insufficient amount of apprenticeship is being conducted[11].

At the present time, there is far from enough evidence available to support a wide-scale programme of public subsidies for employers in order to promote apprenticeships. We also lack adequate information on employer's training costs needed to design subsidy programmes in apprenticeship. Marginal or modest subsidies may not produce impressive increases in the stock of apprentices, especially among those firms that have traditionally averted apprenticeship[12]. In addition, we have no up-to-date information on the size of the alleged gap between initial apprentice wages and their productivity[13] and other costs of apprenticeship to the employer.

The effects of public subsidisation might manifest themselves in programme quality instead of quantity. One can only speculate about the net contribution of a subsidy. First of all, it has not been shown that *ceteris paribus* a more expensive programme, one with larger out-of-pocket costs to employers, is indeed a better programme[14]. In addition, we have no reason to believe *a priori* that government subsidies would be used to increase the dollar amount spent on training. Without careful monitoring, the firm may decide to substitute public training dollars for its own, thus keeping the quality of instruction static.

Encouragement through Taxation

In Britain, Germany, and France, government can tax employers who don't train apprentices and can use tax rebates or manipulations to reward firms that do train. The theory behind this approach is that nontraining firms get a free ride: (a) impressive numbers of trained journeymen move from the firms that trained them to firms not

involved in apprenticeship; and (b) a pricing system has not been developed to reimburse the training firms by the nontraining firms for the loss.

The British experience in using a levy-grant system is most instructive on this issue. After extensive development for the past 10 years, the British abandoned the use of the levy-grant as a mechanism for redistributing training costs. They concluded that the cumbersome nature and complexity of the machinery required to deal with the problem far outweighed any value which might be derived therefrom. Consequently, the modest levy now being collected is used primarily to finance training research and the technical and advisory services which are provided by the Industrial Training Boards for employers. Any significant grant activity needed to stimulate training in shortage occupations will, henceforth, be provided from general public revenues.

On the basis of the British experience, we believe the use of the training tax would have a salutory effect on training only if it were used as the British *now* use it (and to some extent the French)—as a means to stimulate training in an industry on a co-operative basis and to provide services to employers that would otherwise be unavailable. The use of training taxes for redistribution purposes raises questions of fact about which we have no definitive information[15].

Stipends

In some foreign countries grants are given to young workers to defray the personal costs of apprenticeship in recognition of the educational character of apprenticeship. Given the current view of apprenticeship in the US, stipends could be given if it were reasoned that the personal costs of indenture deterred an adequate supply of youth from entering apprenticeship.

As we evaluate the evidence, however, the standard measures of occupational shortage do not indicate any unwillingness in the aggregate of youth to undertake indentures. Wages for apprentices do not seem to be rising at a rate faster than that of craftsmen or semi-skilled operatives. Employers do not complain of any shortage of qualified applicants—in fact, there are several stories of programme administrators being swamped by applicants[16].

Queues of applicants may be shorter for the lower status occupations, but these are also low-growth occupations in which the ratio of apprentices to journeymen is low relative to higher-status occupations[17].

In summary, given the paucity of factual data upon which to make an analysis, we would urge that additional research be undertaken to determine whether the complete reliance on the traditional wage mechanism to finance on-the-job instruction for apprentices is still practical in its present form. The research should study both the costs of on-the-job apprentice training borne by the employers, and the benefits that accrue to employers from employing apprentices. The findings of such research should be used to determine the nature of appropriate financial support for employers or apprentices—if warranted. Any subsidies contemplated would then have to be considered in the light of their potential public benefit.

Co-ordination and Integration through New Administrative Structures

If apprenticeship is to continue as an important method of producing skilled manpower, it should be better co-ordinated with other modes of skill acquisition. Likewise, we have long recognised the difficulties in integrating classroom instruction with on-the-job instruction. Often poor integration of the two detracts from the quality of training or further discourages employer participation.

Foreign experience has suggested that a necessary remedy for the problems of co-ordination and integration is the creation of new administrative structures for apprenticeship and other forms of training—structures which give the government or quasi-public bodies, the responsibility for planning and co-ordinating all manpower and post-secondary vocational education policies, while relying on decentralised subordinate organisations to achieve integration and co-ordination for localities or industries. While the integrity of apprenticeship is generally maintained, it is treated as one of several methods of manpower development.

Among the alternative administrative structures represented by foreign countries, some appear quite inappropriate for the American system. The British structure of a national training agency overseeing multipartite industry training boards, and the German variety, which until recently has relied upon employer associations loosely linked to a federal agency, make sense only if all training in industry, not just apprenticeship, is to be co-ordinated or if apprenticeship is widely accepted by firms, and substantial public financial resources will be utilised to accomplish this objective.

Perhaps more appropriate to the US situation would be an administrative restructuring which resembles that recently recommended for Ontario by a special task force on training in industry[18]. At the local level it is frequently argued that the success of apprenticeship is dependent upon the quality and relevance of post-secondary vocational schools or technical colleges, and that those institutions are already an available source of expertise on training and education. Hence, the Ontario Task Force recommended that certain of these colleges (Colleges of Applied Arts and Technology) establish "Employer-Centred Training Divisions (ECTD's)", which would be co-ordinated by a special "Employer-Centred Training Branch" of the Ontario Ministry of Colleges and Universities. These local units would establish advisory services to provide competent technical assistance to apprenticeship and other employer training programmes—which would continue to function voluntarily under the auspices of Joint Apprenticeship and Training Committees (JATC's) or other arrangements. The ECTD's would also be responsible for directing the development and offering of institutional forms of vocational training and related instruction within the Colleges and externally.

Common to the administrative restructuring accomplished in each studied nation is the creation of research and technical assistance agencies on industrial and vocational training. These agencies have the responsibility of finding and promulgating ways to improve the quality of apprenticeship and other forms of training, to make it less

expensive, and to see that it better meets employer needs. Equally important, they provide an effective delivery system to assist employers and JATC's in improving apprenticeship and other training programmes. Roomkin found considerable support for such an agency in the US, even among those employers with the strongest objections to formal programmes and craft unions who traditionally opposed government intervention[19].

The recent work of the pilot Manpower Development Service at Utah State University in offering training advisory assistance to employers offers extremely promising evidence of the value and utility of this kind of capability[20]. At the very least, we would suggest the adoption in the US (on a pilot basis at first) of some form of administrative structure which would incorporate the best features contained in the Ontario Task Force recommendation calling for a system of Employer-Centred Training Divisions with research capability and field staff, the Demonstration Centre concept outlined by Somers[21], and the Training Advisory Service being developed by the Utah State University Manpower Development Service. A structural change of this nature, accomplished at the state or federal level would provide the basis for improving the quality of apprentice training without drastically modifying its essentially voluntary character.

One other development arising from the organisational characteristics of European training systems is the possibility of having some or all apprentices indentured directly to the industry or centralised training agency, which then places them with employers. If insufficient employment opportunities are available, the agency provides for suitable training in agency-operated or agency-approved training centres. This approach is seen as a means of ensuring an adequate supply of skilled workers and helps to prevent the serious problems of disruption in training which occur when apprentices are laid-off during economic declines. It also provides a framework by which apprentices in smaller specialised firms can be rotated to obtain broader-based training.

Increased Flexibility of Training

It has been argued that apprenticeship could be expanded if we, like the Europeans, made it less rigid. In other nations greater flexibility has been achieved through: (1) adopting the modular system of training on-the-job; (2) more appropriate and efficient organising of on-the-job training and related instruction (e.g., block release time); and (3) shortening of the length of the indenture.

While some observers believe that the modular system is best suited to industry and unsuited to construction, Sweden and Britain have utilised modules in the training of building and construction apprentices[22].

The use of modularisation is a relatively recent development, and its successful use requires the development of tools of occupational analysis so that the component skills of an occupation and the desirable sequence in which those units are taught can be identified[23]. While modularisation will offer employers a more rational way to

determine the content and timing of curricula in apprenticeship, it is not clear that modularisation will end the practice of training apprentices selectively—it may systematise and promote it. This, of course, depends on whether the notion is accepted that apprenticeship-like methods should be used for training youth in occupations ranking below that of journeymen, and whether an extensive system of monitoring is provided[24].

Employer willingness to accept the day and block release programmes prevalent in Europe would depend on the incremental benefits and costs of such a programme over existing arrangements. The adoption of these programmes holds considerable promise for improving the co-ordination between related instruction and on-the-job training and could improve substantially the quality of training. On the cost side, however, employers would probably have to overstaff certain positions to compensate for the absence of workers during work time[25]; there would also be a need to pay apprentices release-time wages. To that extent, it would reduce employer demand. The payment of a subsidy to employers to offset this cost is seen as a legitimate public expenditure in Europe since the apprentices are under age 18, and it is considered to be an educational investment. This, of course, is not the case in the US where the average age of apprentices is in the mid-twenties.

In order for the benefits of modularisation and concentrated release time to be achieved, there would have to be improved co-ordination between private apprenticeship programmes and public training institutions, and competent technical assistance made available. Except for the most sophisticated firms, employers typically lack the expertise needed to design a modular system or properly to schedule concentrated release-time programmes; they also are unable to dictate curriculum design in vocational schools. Both shortcomings argue for improved co-ordination through new administrative arrangements.

Finally, despite the universal call for shortened indentures as a method of making apprenticeship more flexible, we would urge that there should be no rush to shorten indentures without careful study. If the same amount of training is squeezed into smaller periods of time, employers might lose that period of the indentures during which the firm recoups its training costs. Thus, shortened indentures without some form of compensation to employers could work to the detriment of quantitative goals[26]. The Europeans have recognised this problem and have provided as part of the reduced length of indenture that apprentices receive their first year of training in training centres with subsidisation to the employers for the stipend given to their apprentices during this period, or direct stipend to the youth if he is apprenticed to the training agency and not an employer during this period of time. If the US apprenticeship programmes were designed to take apprentices at an earlier age, e.g., 18 or younger, and provisions were made for first year off-the-job training in appropriately designed and operated centres, the issue of cost would be considerably reduced. The public investment would then only be needed to cover the cost of operating the

centre and not for stipends for the trainees. The problem of a stipend for the trainee is a concern when he is older and has dependents, or perhaps when he is disadvantaged.

Foreign Practices: For Better or For Worse?

Perhaps the most important lesson to learn from a study of foreign apprenticeship at the level of techniques is that the desirability of new departures in apprenticeship, be they foreign-inspired or otherwise, is extremely difficult to evaluate *a priori*. Many of the European techniques have been successful in their setting. What we do not know is whether the same degree of success could be achieved in the US under the circumstances existing here. Since it is generally unwise to promote change for change's sake alone, it is clear that a strategy must be designed to study systematically, and selectively to adopt, proposals for change.

Efforts to evaluate proposals for change are stymied by the present paucity of comprehensive data on how the American current system actually functions and how well it achieves its objectives. What are the actual costs and benefits of apprenticeship to employers by trade and by industry? How do current administrative practices and structures contribute to or detract from performance of the system? What is the work history of those trained through apprenticeship, those who partially complete their indentures, and those who achieve craftsman status through other methods? Because of the absence of answers to these and related questions, practitioners and policy-makers are forced to evaluate proposals on the basis of intuition and suggestive studies. It appears that the initiation of a long-term programme of research and data collection on apprenticeship and other methods of skill acquisition is an important part of any serious programme of reform[27].

The need for external input and support to the process of reform is another lesson to be learned from foreign experiences. As other nations have discovered, the dead hand of tradition weighs heavily on apprenticeship systems, and change cannot be initiated without constant pressure and stimulation. Piecemeal or limited attempts to overhaul apprenticeship practices in foreign countries were generally ineffective in the post-war period. Success often depends on the boldness of the change and how effectively it is implemented.

It should be recognised, however, that new practices, if launched initially on a large-scale basis, are always controversial since shifts in the responsibilities and power of groups involved in apprenticeship are being made. In most instances, greater government involvement in apprenticeship would be required if we initiated changes in current practices; and vocational schools, employers, unions, and even federal agencies could lose or gain from such changes.

Under the circumstances, changes in current US apprenticeship practices would have to be made carefully and after proper study. The experimental and demonstration approach, which has been utilised previously to determine the efficiencies of new approaches in other manpower programmes appears to be the best way to proceed.

Designed to include a strong evaluation component, such projects would document the monetary and institutional benefits and costs of different practices, identify the practical problems of implementation, and possibly lead to a consensus among affected parties on the worthiness of proposed changes. Given the risks and costs of experimentation, government could play an important role in financing and encouraging change, until the parties are able to judge on the basis of fact the benefits of increased public direction and participation.

Policy Implications of Foreign Systems

At the level of principles or policy, foreign systems offer two important lessons: (1) apprenticeship can serve as a method of securing an orderly transition of youth from school to work; and (2) apprenticeship should be understood and developed within the context of all industrial training practices.

Apprenticeship as a Youthpower Strategy

Universal acceptance in other nations of apprenticeship as an extension of the education process and a more efficient rite of passage into adulthood gives us an alternative use for apprenticeship. To oversimplify, we face a significant choice of policy: we can continue to operate apprenticeship as a private system of training relatively minor portions of our youth[28] as a matter of privilege in a limited number of occupations, striving, of course, for improvements in the quality of training. Or, we can recognise the need to bring the benefits of the apprenticeship method to larger numbers of youth as a matter of right in considerably more occupations. The choice is between apprenticeship programmes for a few or youthpower programmes for many.

Because of the significance and consequence of accepting the latter choice, the US will shy away from such an approach unless we experience the same or equally serious developments that motivated this system elsewhere. It would be necessary for a new consensus on the goals of our educational system to exist. The public would have to recognise that training of youth in industry is too important to be treated as part of the adversarial relationship between unions and management. With such consensus, a system of education in employment for youth would be precipitated by crisis, or on the basis of documented deficiencies in the performance of the existing system.

At the present time, no consensus exists on the desirability of treating the workplace as an extension of school. However, a great many people are bothered by the general problems of youth transition into adulthood. Illustrative of this search for better methods is the recent report by the Panel of Youth of the President's Science Advisory Committee, which wrote:

> "We think it is time to reappraise the contexts of youth, to question even the most accepted and ordinary aspects of their institutional settings, and to consider the reformation of existing structures and if necessary the creation of new ones."[29]

The wide-ranging and innovative recommendations made by the Panel provide a

clarion call for a youthpower strategy with a much broader role for apprenticeship and in-industry training programmes generally. The widespread interest and investment in career education are also indicative of growing concern over the vocational development of youth[30]. Finally, the recent interest in the problems of youth shown by the Labor Department and Ford Administration suggests that a new consensus on a youth strategy[31] may not be as remote as it once seemed.

While the documented deficiencies in our current use of apprenticeship are mounting, there appears to be no imminent crisis resulting therefrom. This might change, however, if it were to be demonstrated that youth unemployment (which persists at eye-opening levels) causes disproportionate and deleterious consequences for the subsequent earnings and occupational growth of adults.

There is one other factor which might influence our thinking on this matter. Due to demographic changes, there will doubtless be a sharp reduction in available young workers for several years to come. Unlike the Europeans, we will not be able to import our labour. Such pressures for entry-level workers might force a movement towards a large-scale apprenticeship model in order to get youth out of school and into productive activities sooner.

Apprenticeship and other Training in Industry

In other nations, apprenticeship is viewed as a special type of all training in industry. This permits policy-makers to consider the needs of apprenticeship programmes alongside those of other programmes, and to improve the allocation of limited financial and training resources among programmes.

Americans still tend to view apprenticeship as a special type of manpower programme—one authorised by separate enabling legislation, supervised by specialised agencies of government, and relatively secure and independent of shifts in federal manpower policy. (Our categorical treatment of apprenticeship is in marked contrast to the decategorised programmes recently created under the Comprehensive Employment and Training Act.)

We seem to be following the same historical pattern as the British and Germans, at least in the first stages. In 1958 the British Carr Report (which resembles rather closely the Task Force on New Initiatives in Apprenticeship) called for modest reforms in apprenticeship while maintaining the voluntary and private decision-making character of the system[32]. By 1964, the obvious failure of this policy led to the creation of a multipartite system of Industry Training Boards (ITB's) with some governmental supervision both radically to reform apprenticeship training and to look systematically at *all* facets of training in industry. By 1973 the British had recognised the need for a coherent national manpower policy. Concern was expanded to include all forms of training in industry *and* the relationship of industrial and vocational training with other components of public manpower policy. The process of co-ordination and integration is currently taking place under the direction of the National Manpower Commission[33]. The reform of craft apprenticeship is being carried out

in the context of the total concern for manpower policy and not in isolation, as it was originally conceived.

Many other European nations have followed or are now following a similar pattern. Of the foreign systems we have studied, the approach of Ontario is exemplary for having convened a Task Force which has attempted from the outset to look at the provincial system of industrial training and relate it to the other components of training and manpower policy[34]. In its recommendations, the Task Force opted for a continuation of apprenticeship as a minority system—with modest efforts to reform the existing system. Faced with what they considered to be the overwhelming rigidity of the existing system of private control over apprenticeship, the major emphasis was placed on institutional vocational training with the provision of a system of technical assistance to aid employers in improving all forms of training—including apprenticeship.

The Ontario Task Force decision is most instructive because of the similarity to the US situation. Without the consensus or crisis faced by the European nations, we see little prospect of the adoption in the US of the more radical training reforms which have occurred abroad, as attractive as some of them might appear. Consequently, we will probably have to accept the realities expressed by Strauss[35] and settle for modest apprenticeship reforms and continued minority status.

Conclusion

The recent strides made by other nations in reforming and modernising their apprenticeship and other training systems are impressive. At the level of both techniques and policy the foreign models offer a substantial number of ideas and insights, many of which appear to be relevant and some that may have direct application to the American scene. The provision of competent training advisory services to employers is especially meritorious.

In order to take full advantage of these ideas, we must: (1) obtain more complete and accurate data on our existing system and how well it is functioning; and (2) undertake a systematic programme to sift and test the most appropriate ideas from the foreign experience. The research programme sponsored by the Manpower Administration's Office of Research and Development during the past few years provides a good beginning at filling the lacuna—but only a beginning. Much more research needs to be done to fill the knowledge gap; and a bold programme of experimental and demonstration projects needs to be initiated.

Before initiating either of the above proposals, however, another significant finding arising out of the foreign experience should be carefully considered: when contrasted with the recent developments abroad in the field of apprenticeship, the current efforts to reform apprenticeship in the US appear to be much too narrowly focused and modestly conceived. What is really needed is a concerted effort to look at our *entire*

system of training (industrial, vocational, manpower) such as has been done in Ontario, Ireland, Germany, Britain, and other nations.

Unfortunately, prospects for an overall training study in America which could be used as the basis for coherent programmes of research and experimentation appear rather slim, if past experience is any indicator. The Report of the 1968 US Task Force on Occupational Training in Industry[36] was buried without a whimper, and our current re-examination of apprenticeship by the Task Force on New Initiatives in Apprenticeship[37] represents a continuation of past experience. The only prospect for major improvement lies in the possibility of an evolutionary development in awareness and effort along the lines of the British experience, using the Apprenticeship Task Force Report as the point of departure. We do hope this will be the case, and that the Manpower Administration will catch the vision of what is needed and undertake to support a major long-term research effort in all facets of training, and launch a substantial programme of experimental and demonstration projects to try out promising new ideas. We believe the benefits to the nation would be well worth the investment, and that through such a programme, many of the successful training techniques and policies of foreign nations could receive the serious consideration and testing they deserve.

References

1. An international comparison of apprenticeship systems is of course a risky exercise. There are numerous economic, political, and institutional differences between the US and other nations whose practices interest us. Still, it is worthwhile noting that an international comparison of vocational and apprenticeship practices has been part of the reviews conducted by several nations. See: Williams, G., *Apprenticeship in Europe*, London, 1963; the report by Australian Tripartite Mission, *Training of Skilled Workers in Europe*, which is summarised in D. L. Casey, "Which Way in Training Skilled Workers?", *Personnel Practice Bulletin*, Vol. XXVI, June 1970, pp. 100-8; Government of Ontario Ministry of Colleges and Universities, Manpower Training Branch, *Training for Ontario's Future: Report of the Task Force on Industrial Training*, Ontario, Canada: Government of Ontario, 1973, pp. 36-61, hereafter referred to as "The Task Force on Industrial Training"; and AnCO, *Apprenticeship: A New Approach: Discussion Document*, Dublin, May 1973.
2. CIRF, *European Apprenticeship*, Geneva, Switzerland, 1966, provides the most definitive report on apprenticeship in those countries during that period.
3. The thrust of the European apprenticeship systems is well illustrated by the following definition taken from the 1971 French apprenticeship law: "Apprenticeship is a form of education. Its purpose is to give young workers who have completed their full-time schooling a general training, both theoretical and practical, with a view to their obtaining a vocational qualification based upon one of the diplomas in the field of technical education. This training, which must be preceded by a contract, is based partly within an enterprise (industrial, commercial, agricultural, or horticultural) and partly on a Centre for Apprentice Training".
4. Reubens, B., "German Apprenticeship: Controversy and Reform", *Manpower*, Vol. V, November 1972, pp. 12-20.
5. See Edding, F., *et al.*, *Cost and Financing of Post-School Occupational Education*, Bunderstag, 7th Session, Printed Matter 7/1811; and a brief description of the structural changes made in the British training system in 1964 is contained in Hansen, G. B., *Britain's Industrial Training Act: its History, De velopment and Implications for America*, Washington, The National Manpower Task Force, 1967.
6. AnCo, *op. cit.*

7. Sweden has gone the farthest of all continental countries in the introduction of module training programmes known as "polyalent training" through legislation. See Hayes, C., "The Shape of Things to Come", *Personnel Review*, Vol. IV, Autumn 1972. A general description of the technique can be found in Dowding, A. E., "An Introduction to Vocational Training using Modules of Employable Skills", *International Labor Review*, Vol. CVII, June 1973, pp. 553-7.
8. After the First World War a tax (taxe d'apprentissage) was imposed on all industry to provide funds for vocational education and training. Law No. 578, of 16th July 1971, imposed on all employers a charge of one half of one per cent of their total wage and salary bill as a contribution toward training and retraining.
9. See, for example, Somers, G. G., "Innovations in Apprenticeship: the Feasibility of Establishing Demonstration Centres for Apprenticeship and other Industrial Training", Mimeographed paper, Madison Manpower and Training Research Unit, University of Wisconsin, 1972, pp. 7-27.
10. See Roomkin, M., and Somers, G. G., "The Wage Benefits of Alternative Sources of Skill Acquisition", *Industrial and Labor Relations Review*, Vol. XXVII, January 1974, pp. 228-41; and Franklin, W. S., "A Comparison of Formally and Informally Trained Journeymen in Construction", *Industrial and Labor Relations Review*, Vol. XXVI, July 1973, pp. 1086-94.
11. While it is tempting to justify employer subsidies by a discrepancy between the current stock of apprentices and the projected skilled manpower needs of industry, there must also be clear evidence that employer demand for apprentices and other trainees will not expand at an adequate rate to meet this need. Some have argued that subsidisation is warranted because apprenticeship enrollments are highly sensitive to changing economic conditions; that short-run optimisation of the number of apprentices could yield less than an adequate supply in the long-run. This is simply another version of the shortfall justification for public subsidies, which speculates about low degrees of flexibility in the production of journeymen and the mobility of labour.
12. Roomkin's study of employer reactions to selected foreign-styled changes in apprenticeship found that subsidies in the range between 25 to 33 per cent of apprentices' wages would be needed in order to induce apprenticeship sponsorship in one out of three firms with no prior association with apprenticeship. Roomkin, M., "Improving Apprenticeship: a pilot study of employer and Union Reactions to Foreign Training Practices", hereafter referred to as Roomkin, "Improving Apprenticeship", Mimeographed paper, Graduate School of Business, University of Chicago, 1973.
13. For example, we do not know the extent of the cost of administration (which might increase as governmental monitoring gets more intense under subsidies) and the costs attendant upon voluntary indenture cancellations (which might also increase as youth take advantage of the increased demand to find more appealing work environments). Studies of this phenomenon are small-scale and badly dated. See Barres, S. J., "Training the Electrician Apprentice for the Age of Construction", Ph.D. dissertation, Purdue University, 1958; and Scott, R. H., "An Appraisal of the Apprenticeship Programme in the Painting Trades in King County", MBA thesis, Washington University, 1953.
14. Evidence from one study of related instruction, which constitutes an important real expense for some employers, indicates that related instruction may not be an important explanation of either apprentices' performance at work or that of a journeyman after apprenticeship. Swanson, S. M., Hernstadt, I. L., and Horowitz, M. A., *The Role of Related Instruction in Apprenticeship Training: a pilot study*, Boston, Mass., Northeastern University, Department of Economics, 1973.
15. Several points should be considered before any such taxation programme is started: (1) If firms offer apprenticeships because of favourable private benefit-cost ratios, then surely the probability of losing journeymen after training already enters into their decision to train. In our search we have found no evidence to suggest that employers voluntarily maintain programmes when apprentice-trained workers are very likely to leave before the break-even point. (2) In industries or areas with high interfirm mobility of craftsmen, firms have agreed to systems of voluntary taxation—i.e., pooled training funds—as a means of sharing costs. (3) Apart from the construction industry, which has made widespread use of such multi-employer funds, studies have shown that sponsoring firms seek to hoard apprentice-trained journeymen for supervisory positions, thus suggesting a low rate of interfirm mobility for such workers. (4) Studies have also shown that apprenticed journeymen in industry are not produced as all-round journeymen, but are specialists. Thus, even for craftsmen and partial craftsmen, periods of retraining are required. (5) Additionally, an imposed system of taxation on non-sponsoring firms: (a) would compel them to pay for training elsewhere that is being conducted unprofitably because of union compulsion; (b) not recognise the contribution to an industry's or area's skilled workforce achieved through informal, non-apprenticeship methods; and (c) could depress wages, increase product prices, or decrease employment among non-training firms, depending upon the characteristics of product and labour markets.

On the side of taxation, one could point to the high non-completion rates in apprenticeship, a problem which might indicate some subsidisation of apprenticeship-averting firms by promoting firms. But *ceteris paribus* it must be shown that cancellations due to voluntary withdrawals are a major problem, that apprentices do indeed transfer their skills elsewhere, and that in so doing nontraining firms are spared the costs of producing skilled labour through informal methods. Barocci found almost 50 per cent of his dropouts surveyed to be employed in the same general occupation as that in which they served a partial apprenticeship. A high incidence of employment in related occupations alone is not sufficient proof of transferred skills. If dropouts have a preference for this type of work but an aversion to apprenticeship (particularly off-the-job instruction), then they will seek out similar work. Considering our knowledge of cancellations, we find no compelling case for redistributive taxation schemes, but can see the need for studying this problem on its own merits. See Barocci, T. A., in "The Determinants of Completion in Apprenticeship" in *Proceedings of the Twenty-Sixth Annual Winter Meeting, Industrial Relations Research Association*, Gerald G. Somers, ed., p. 166.

16. Strauss, G., "Union Policies toward the Admission of Apprentices", in *Issues in Labor Policy*, ed. by Stanley M. Jacks, Cambridge, MIT Press, 1971, pp. 87-100.
17. Strauss, G., "Minority Membership in Apprenticeship Programmes in the Construction Trades: a comment", *Industrial and Labor Relations Review*, Vol. XXVIi, October 1973, pp. 93-9.
18. Task Force on Industrial Training, *op. cit.*, pp. 109-20.
19. Roomkin, "Improving Apprenticeship", *op. cit.*
20. This unit was funded by the Office of Research and Development in the Manpower Administration. It has been functioning since 1st July 1972. The objectives of the project are to explore with selected employers whether, how, and what kinds of training advisory services are needed, sought, and can be realistically provided to them, under the auspices of a university.
21. Somers, *op. cit.*
22. Hayes, *op. cit.*, p. 69.
23. All of this has necessitated the development of analysis of jobs and occupational functions. Standing Conference of European Ministers of Education, Eighth Session, *The Educational Needs of the* 16-19 *Age Group*, CME, Vol. VIII, No. 73, I.
24. An assessment of the strengths and weaknesses of the modular system of training as it is used in Ontario is presented in Chapter 11 of Task Force on Industrial Training, *op. cit.*, pp. 173-80.
25. British firms are encouraged to overman by 2 per cent for purposes of training through block release programmes. See Skitt, J., "Training in Europe", *Industrial Training International*, Vol. VIII, January 1973, p. 6.
26. Strauss, "Minority Membership", *op. cit.*
27. The occupational training survey currently being conducted by the Bureau of Labor Statistics is a welcome first effort in helping to fill this void.
28. As noted earlier, it is really a misnomer to call the American apprenticeship system a training programme for youth—findings arising out of a study of apprentices by Barocci in Wisconsin and Hansen in Utah indicate that the average age of beginning apprentices is closer to 25. Barocci, *op. cit.* and Hansen (preliminary unpublished data).
29. Coleman, J. S., *et. al., Youth: Transition to Adulthood, Report of the Panel on Youth of the President's Science Advisory Committee*, Chicago, The University of Chicago Press, 1974, p. 3.
30. The best available treatment on the subject of career education is Hoyt, K. B., *et, al., Career Education: What It Is and How to Do It*, second edition, Salt Lake City, Olympus Publishing Company, 1974.
31. Speech by R. F. Schubert, Undersecretary of Labor, Conference on Improving Labor Market Information for Youths, Temple University, 21st October 1974.
32. Great Britain, Ministry of Labour and National Service, *Training for Skill: Recruitment and Training of Young Workers in Industry*, London, HMSO, 1958. The following quotation is illustrative of thinking at the time: "We have asked ourselves whether a continuation of the evolutionary process in our apprenticeship system will be sufficient or whether we should not suggest more radical changes." After looking at foreign practices, the Committee concluded that Britain should "build upon foundations that have already been laid rather than attempt to construct something entirely new. We consider that, as a general principle for the future, the existing division of responsibility between government and industry for the education and training of apprentices should be maintained. The efforts of the government should be directed to the expansion and improvement of facilities for technical education, while the responsibility for the industrial training of apprentices should rest firmly with industry."

33. Manpower Services Commission, *Training Services Agency: A Five Year Plan*, London, 1974.
34. The Task Force is unique in that it provided definitions of the various kinds of training (industrial, vocational, manpower) and analysed these various components in a systematic fashion. *Task Force on Industrial Training*, *op. cit.*, pp. 25, 85-9.
35. Strauss, G., "Alternative Approaches to Improving Apprenticeship Effectiveness", in *Report of a Conference on Apprenticeship Training and Suggestions for a Model Apprenticeship System for the* 1970's, Felician F. Foltman, ed., Springfield, Va., NTIS, 1974, p. 21.
36. The Task Force was created by the Secretaries of Labor and Commerce and charged with focusing on the crucial role of training in meeting the nation's employment problems. *Report of the Task Force on Occupational Training in Industry*, Washington, DC, 1968, 2 volumes.
37. See Bureau of National Affairs, *Daily Labor Report*, No. 143, 25th July 1973, p. A-11; Manpower Administration, US Department of Labor, "Report of Task Force on New Initiatives in Apprenticeship", mimeographed paper, Washington, DC, August 1973.