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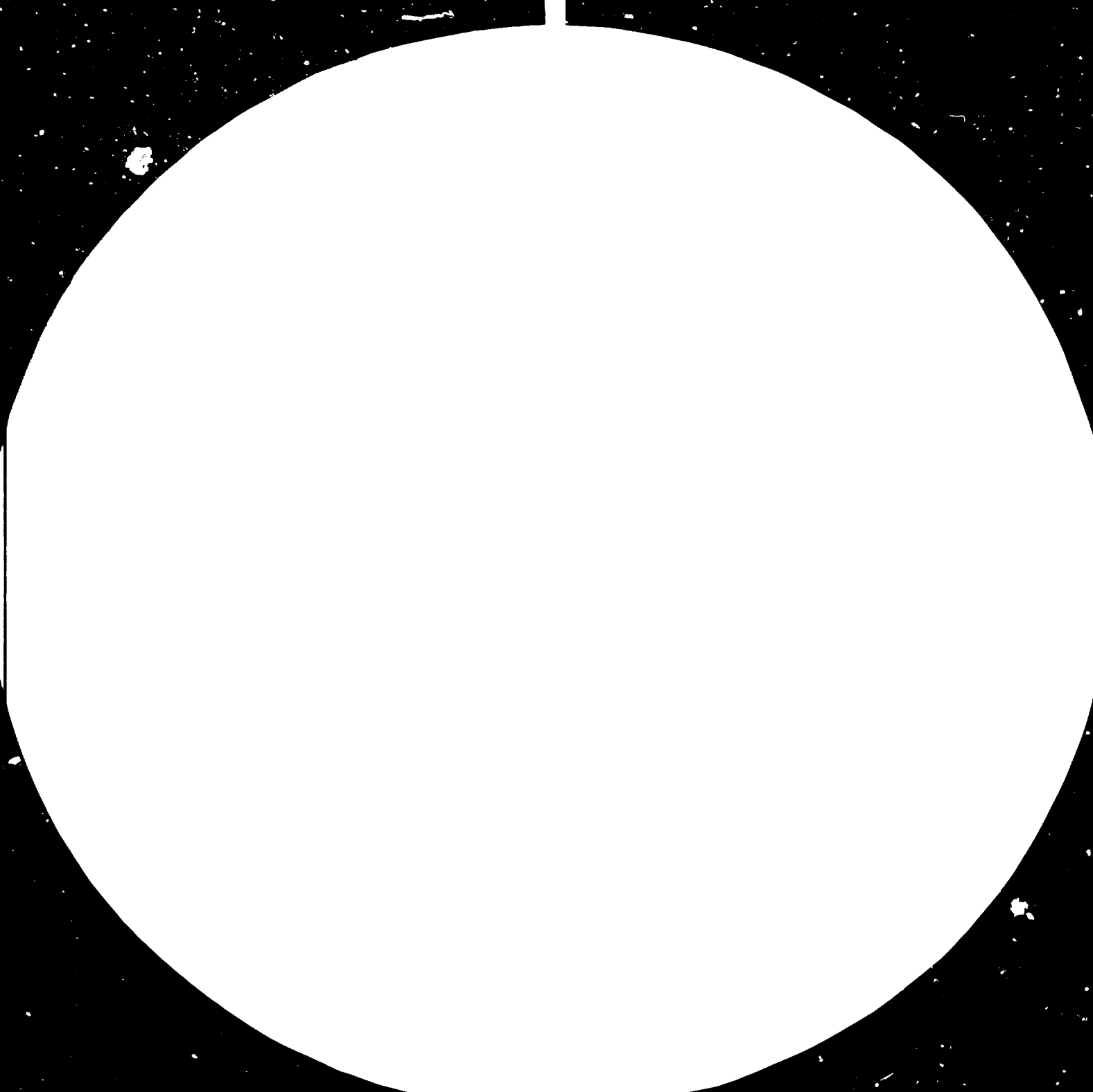

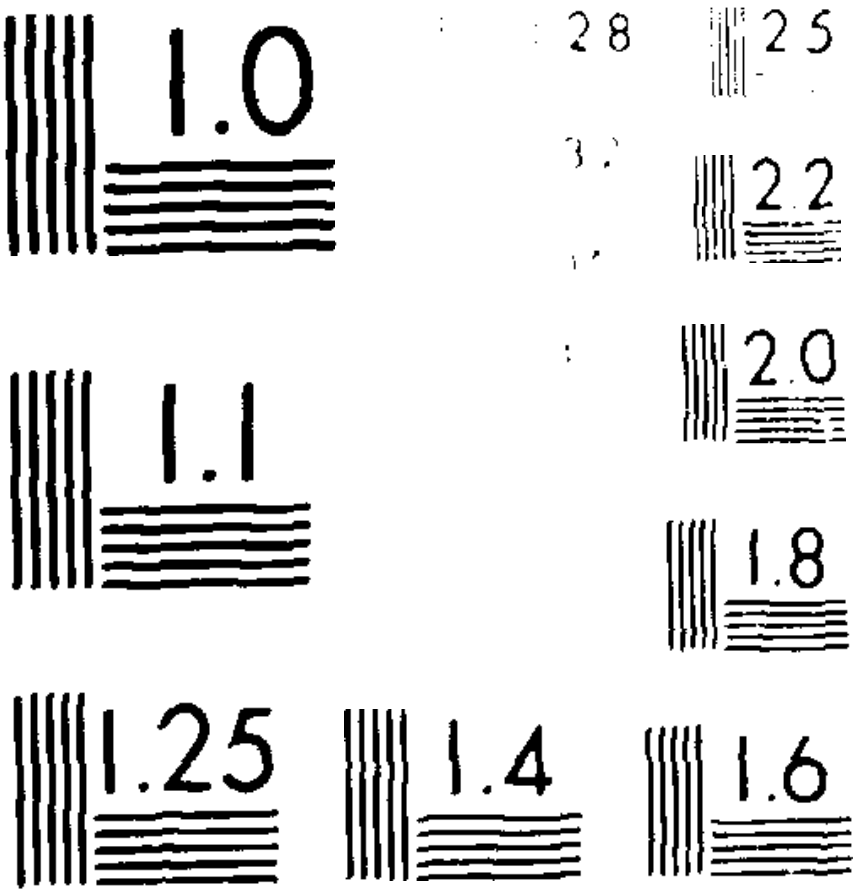
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RECENT AND CURRENT CHANGES IN THE UK EDUCATION AND TRAINING SYSTEM TO MEET HUMAN RESOURCES REQUIREMENTS AS A RESULT OF CHANGES IN INDUSTRY AND TECHNOLOGY

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PREFACE

This paper aims to examine changes in the UK approach to the development of human resources to meet the challenge of new patterns of industrial activity in ways which will increase the capability of the workforce to learn and adapt to new and emerging skills. The paper examines the position under four heads

- The Social Environment: Education: Adaptability: Technology, and against a framework of three questions:-

Is the present system adequate for the kinds of skills and capabilities needed?

To what extent are institutional arrangements adapting to new needs?

Is there a need to balance initial education and training with a more broadly conceived development of human resources?

THE SOCIAL ENVIRONMENT

1. Because it is old, the UK system is more traditional than most. Custom and practice tend to prevail. The mainstay of industrial training has been the apprenticeship system, and the main concern has been to avoid skill shortages. This concern found expression in the Industrial Training Act of 1964, which placed industrial training on a statutory basis in twenty four major industries. The training boards tended to re-inforce the existing practices, whilst achieving improvements in the quality of training. But the virtues of a system which aimed at highly developed craft skills for an elite minority of the workforce, were seen to be weaknesses in the face of a rapidly increasing rate of change in industrial structure and processes. It was also clear by the 1980s that some structural and systematic vocational training should be provided for about 40% of minimum age school leavers for whom no provision was being made.

2. The reasons why there was a gap between the system's promise and its performance all derived from changes in the social environment which in the UK is inevitably subject to industrial influences. First there were massive changes in the structure of industry: old established industries, relying heavily on manual labour, such as steel, shipbuilding and textiles, were, and continue to be, in sharp decline. Massive job losses resulted, often in areas of local geographical concentration, where the prospects of re-employment were low, not least because those displaced possessed specific skills, and in many cases were not, and did not regard themselves, as candidates for re-training. Structural change in an industrial society is unavoidable; it is also permanent. Whilst its long term effects may be beneficial, its short term results are often socially disruptive, economically destructive, and in established industrial communities, disastrous.

3. The recession has compounded the difficulties arising from structural changes. Labour market developments in 1980 and 1981 confirmed the depth of the recession, which is the worst since the war. Both the fall in employment, and the rise in unemployment were considerably greater than in previous downturns. By the end of 1981 the manufacturing share of total employment had dropped to 28% compared with nearly 40% in 1960. Half a million jobs in manufacture disappeared during the year. The recession has accelerated labour market trends towards a larger service sector, which has been a feature of established industrial societies in recent decades. Whilst the recession is not likely to be permanent, the trends it reflects are. Even without taking into account the possible effects of new technology on jobs, the UK manufacturing base will be smaller in job terms in future, although this does not preclude the possibility of higher productivity.

4. The impact of technology is considered separately in this paper. Suffice it to say at this point that its effects are more the subject of more or less imperfectly informed guesses than of scientific calculation, or even reliable forecasts. But some effects are clearer than others. There has been a significant growth of jobs demanding the interpretive and problem solving skills traditionally associated with technician type employment, and this has been reflected in larger numbers preparing for technician employment through full time technical education programmes leading to diploma type qualifications. The growth rate of the white collar sector of the UK labour market will mean that by 1985 the numbers of white and blue collar jobs will be in balance.

5. The result of these major changes - in industrial structure,

in employment patterns, and the arrival of new technology - has been to increase uncertainty about the future. In the face of uncertainty the role of manpower planning has been increasingly called into question. In the 1970s it was largely believed that the key to effective interventions in the labour market was manpower planning on a national scale. The Manpower Services Commission (MSC) as the agency with responsibility for manpower policy, put considerable pressure on the Industry Training Boards (ITBs) to produce industry based manpower statistics as part of an overall planning process. By the 1980s the emphasis had moved from the concept of a national planning framework to the study of local labour markets, in the belief that at the level of the locality, problems can be more easily identified, solutions are more manageable, benefits more visible, and the support of local interests more readily forthcoming. Today, local patriotism is seen as a crucial feature of labour market management, from planning to delivery.

As a footnote to this paragraph, it should be noted that in the UK manpower planning includes women in a very real sense. Although the recession will have reduced the figure, in the early 1970s the proportion of women in paid employment reached 60% (the highest in Europe). It is part of MSC policy to widen opportunities for women, particularly in technician, supervisory and management grades, and the Commission supports a range of schemes designed to improve the access of women to traditionally male occupations.

6. It is not possible to separate consideration of the social environment from the question of costs. Who pays for industrial training has been a central question since the Industrial Training Act of 1964, which was based on the simple view by government that

the cost of training should fall on the employer, and indeed the Act of 1964 was designed to ensure that all employers subscribed their share of costs. In practice it has not proved possible to maintain the conceptually simple position that the employer pays, since government has accepted an increasing share of training costs in recent years. The 1973 Employment and Training Act resulted in government acceptance of responsibility for the administrative costs of the Training Boards. The 1982 Employment and Training Act aimed to save government funds by abolishing sixteen of the twenty four Training Boards, but the sharp increase in youth unemployment has led to government funding of the Youth Training Scheme for both employed and unemployed young people in the first 'foundation year' in industry, at a cost of £1 billion for the year 1983/84.

6. Apart from its commitment to the Youth Training Scheme, the government contributes to industrial training costs in other ways. The government financed "Training Opportunities Scheme" (TOPS) provides initial and re-training for adults, both through the Skillcentre network, and by contracting services from the further education service. The "Micro-processor Awareness Programme" (MAP) is paid for by the Department of Industry. The reality is that the costs of training, whether as first year programmes for young entrants, or as training in new technology for adults attracts heavy contributions from government. Government has shown increasing willingness to recognise that training should be seen as an investment rather than a cost, and this has become more evident since the recession has made it more difficult for employers to maintain levels of training.

What government and employers see as costs, individuals see

as opportunities. In the UK general education is free. Post school vocational training is either provided as a normal employment contract, or grant aided for the unemployed. Further education is free for those under 18: for those over 18 fees are commonly paid by the employer. In the public training services tuition is provided free with subsistence grants in addition.

7. In the UK some industrial training issues fall within the sphere of industrial relations. Apprenticeship particularly is subject to collective bargaining agreements about length, content and rates of pay. Often, the acceptability of trainees is a matter for trade union agreement, and traditionally held views about the demarcation between one craft union and another, or about the skill levels and status of jobs can bear on training questions. Since its inception in 1973 the MSC has been a tripartite agency, drawing on employers, the trade unions and education for its membership. As a result of the commission's developing the New Training Initiative, there is now widespread agreement in the UK about the need to reform the apprenticeship system, to offer vocational training to all young people, and to widen opportunities for adults. There is no doubt that in influencing public opinion in support of fundamental changes, the commission has been greatly helped by events. The decline in apprenticeship recruitment has been dramatic and encouraged consideration of alternative approaches. The need for a better educated and more versatile workforce in the face of future uncertainty has been more clearly seen. The disappearance of many jobs which will not return with economic recovery has influenced UK thinking. The challenge of technology has concentrated minds on changing perspectives. If the UK is to benefit from the changes implicit in the future of industrial organisation and applications it will need the changes which have been identified and agreed upon.

Some are already in place: others are in train: others less imminent. But overall they all need to be made if, to quote from the aide memoire to the preparatory conference, 'the dexterity and skill of the population are the foundations of national wealth'. It is the same dexterity and skill which will offer to individuals the capability to adapt to the needs of the future, to improve their job prospects and earning capacity, and to achieve satisfying career progression as contributors to the needs of their society.

EDUCATION

8. In 1978 the Department of Education and Science (DES) published a Green Paper entitled 'Education in our Schools' which raised a number of issues about the relevance of the general educational system to the modern world, and about the expectations of young people leaving school to join the world of work. The paper acknowledged that some of the criticisms of the educational system were not without justification, and included proposals to remedy them. In response to criticism by employers that the system overemphasised the virtues of academic value judgements at the expense of the practical, the paper accepted that for the many pupils for whom university entrance would never be a realistic possibility, some changes should be made. Such changes should acknowledge that for many pupils doing - the ability to perform in practice - was as important as thinking. The paper did however stress the values of a general education, implicitly warned against too strong a vocational orientation, and made it clear that it was no part of the schools' responsibility to respond unreservedly to the views of employers in the provision of education. The changes

which have taken place since 1978 reflect the fundamental tenets of the Green Paper and reflect agreed attempts in the UK to modify a long standing educational tradition through the introduction of contemporary values as articulated in an industrial society.

9. One of the first developments was the setting up, within the DES, of a Further Education Unit (FEU) with the task of considering the curriculum within Further Education Colleges, to which many pupils transfer from school. The curricular philosophy and practice, which has been widely publicised by the FEU is having a direct impact on developments in further education, which in turn have a second order effect on the schools. With the setting up of the FEU there is now a permanent body (currently being strengthened) to oversee and review curricular developments. Whilst it does not have the power to direct in matters of the curriculum, the representative nature of its constitution and its undoubted expertise have endowed it with undoubted influence.

10. A second major innovation was the introduction of the so-called 17+ examination in the schools. This is designed to come at the end of a programme of vocationally biased education for pupils who do not wish to follow the traditional course leading to university entrance. It will provide direct links with the further education system, be compatible with the first year of the Youth Training Programme to be introduced in 1983, and will for the first time offer a nationally recognised qualification for pupils whose special interests have not been previously catered for within the schools. Administratively it is the responsibility of a consortium drawn from the existing examining bodies in further education, which will ensure that it establishes and maintains strong links with post

school provision. It has made vocational education visibly respectable in the UK, and paved the way for a third important change - the Technical and Vocational Education Initiative (TVEI).

11. The TVEI is currently being launched by the MSC at the instigation of the Prime Minister, and will include 10 projects in a pilot scheme. Each project should be capable of providing a four year course, commencing at 14 years, of full-time general technical and vocational education, including appropriate work experience. Courses will be for young people across a wide range of ability and will lead to nationally recognised qualifications. Within this framework young people will be encouraged to develop broadly based occupational skills. The purpose of the pilot scheme is to explore and test methods of organising, delivering, managing and resourcing readily replicable programmes, curricula and learning methods required for success. The TVEI is a radical attempt to widen and enrich the curriculum in a way which will help young people to prepare for the world of work, and to develop skills interests and creative abilities, that will help them to lead a fuller life and to contribute more to the community. A major aim is to help students to 'learn to learn', so that as the requirements for skill change, their education will enable them to adapt to the changing occupational environment. Each of the 10 projects will be the responsibility of a Local Education Authority (LEA) - this aspect again being consistent with the decentralised management approach of both the DES and MSC.

12. The characteristics of the scheme are worth quoting, since they illustrate the extent to which the design of education has

moved in the direction of the world of work:-

(a) Equal opportunities should be available to both sexes.

(b) They should provide four year curricula designed as a preparation for adult life in a society liable to rapid change.

(c) They should aim to encourage initiative, problem solving, and other aspects of personal development.

(d) There should be both a general and vocational element throughout.

(e) The technical and vocational elements should be broadly related to potential employment opportunities.

(f) There should be planned work experience within the programme.

(g) Courses should link effectively with subsequent training/ educational opportunities.

(h) Regular assessment, careers and educational counselling will be essential.

(i) Students should normally be preparing for one or more nationally recognised qualifications.

13. The degree of support for this initiative can be judged from the fact that 64 (out of 80) Local Education Authorities responded to the MSC invitation to participate. Almost without exception they proposed a distribution within the curriculum of 60% average time on general education and 40% on vocational, although in many cases the balance changed during the programme, with a heavier weight of vocational work in the last two years. It is arguable that a step change of this order would have been inconceivable in the UK twenty years ago, and it is a measure of

the recognition of the need for change that such programmes are being designed to run within the schools.

14. It would be wrong to conclude that the enthusiasm which has greeted the IVEI means that nothing was changing in the schools before it was announced. Mary of the schools examining bodies had broadened their range of examinable subjects to include such subjects as computer studies, technology and design studies. More generally the DES has been running the Schools Computer Project for some three years with the object of having a micro-computer in every school. Some schools have exceeded this target, and keyboard skills commonly feature within the curriculum. Most young people currently in UK schools will acquire a working knowledge of computers by growing up with them, thereby seeing the computer as a normal accompaniment to the workaday world. This response to meet the educational needs of new technology has been re-inforced by some Local Education Authorities who have introduced mobile technology units, housed in lightweight commercial vehicles. These compact travelling laboratories are available to optimise the use of modern technological teaching aids and make good use of scarce resources.

15. Another means of bringing learning to the student is the Open Tech, based conceptually on its well known predecessor, the Open University, which greatly extended facilities for distance learning in the UK. Initially the Open Tech will concentrate its efforts on the training of technicians and supervisors, and soon to management training. The Open Tech has been conceived as supplementary to existing facilities, and its role will be to extend delivery of what is already available but not necessarily accessible - whether the limits to accessibility are geographical, temporal or financial. It is intended to work on an agency basis,

and will in effect invite contractors - usually existing educational institutions - to use it as an additional delivery medium. Its services will be available for private study on an individual basis, or for group study on company premises, and access will be equally to those in employment and the unemployed. Its main contribution to the UK training effort is seen as offering opportunities for re-training, for up-dating and for career development for self-motivated students.

16. One important institutional change should be mentioned. The Business Education Council (BEC) and the Technician Education Council (TEC) are to be merged from the autumn of 1983. This reform recognises the conjunction between business and technical consideration which is the modern reality, and also anticipates that in future an increasing range of occupations will spread across specific industrial sectors. For such occupations, of which perhaps computer work is the prime example, training requirements will extend beyond the traditional prescription, and the merger of the two separate councils will greatly facilitate the delivery of new style training services.

17. The changes outlined above, although taking place within the sphere of education, are closely linked with concurrent changes in industrial training. It is these changes, presented collectively in the MSC's New Training Initiative (NTI), which are the subject of the next section of this paper.

ADAPTABILITY

18. The New Training Initiative (NTI), published in 1981 by the MSC, represents a radical departure from past and present assumptions and practice. The pattern of training in the UK has

rested upon the perceived needs of particular employers. Training has been seen in terms of particular jobs rather than as an introduction to a progressive career. The NTI was a deliberate attempt to widen and change attitudes to training to ensure that its contribution to a modern industrial economy corresponds not solely with the employer's interest, but also with the interests of the individual, and so to the economy as a whole. The NTI is firmly based on an analysis of the UK labour market which indicates that in the 80s and 90s it will be the untrained and half-trained - those who know only one task, and that a limited one - who will be stranded on the edge of the labour market. Not only will they suffer from lack of skill, but because they lack adaptability and resilience. This is the lesson of experience which is compelling the new approach implicit in the new initiative.

19. The NTI was launched against a background of continuing fundamental change on UK industry. Technological developments have already meant the decline of some traditional industries and processes and the rapid growth of new ones. The pace of change is likely to accelerate over the next decade and it will be vital for both firms and individuals to adapt quickly to new technologies and market changes. Without a major investment in new forms of training there will be continuing high unemployment alongside skill shortages damaging to the economy. The need will arise for a flexible workforce in future. Experience tells us that a high degree of uncertainty, even wide divergency, attaches to manpower forecasts, and their reliability is not likely to grow in the face of a continuous technological revolution. Workers will need to adapt and modify their abilities time and time again, and the training system must be designed to facilitate adaptability. The

characteristics of such a system are built into the three objectives of the NTI:-

(i) skill training, including apprenticeship, must be developed in such a way as to enable young people entering at different ages, and with different educational attainments to acquire agreed standards of skill appropriate to the jobs available, and to provide them with a basis for progression through further training.

(ii) all young people under the age of 18 must have the opportunity, either of continuing in full time education or of entering training or a period of planned work experience combined with work-related training and education.

(iii) opportunities must be available for adults, whether employed, unemployed or returning to work to acquire, increase or update their skills and knowledge during the course of their working lives.

20. Such a programme, which potentially affects the whole of the working population, many of whom will be joining the workforce for the first time, raises the fundamental question about the funding of training. Who pays? The UK experience is that market forces have not produced training of an adequate quantity or quality in the past and there is no reason to suppose they will do so in future. In practice the less specific and more general training is, the less willing the employer is to pay for it, and it is recognition of this fact that has led to government paying for the first year of training under the Youth Training Scheme (which has developed directly from Objective (ii) above).

Similarly government has intervened since 1974 to support the cost of apprentice training as the numbers recruited fell from 200,000 in the mid 60s to 100,000 in the mid 70s, and to less than 50,000 in the early 80s. Apprenticeship is unlikely to recover from its collapse, not least because apprentices are now included in the Youth Training Scheme, within which the training criteria are wider than those of specific apprenticeship schemes, and expressly included to encourage adaptability. The criteria for the Youth Training Scheme include:-

- basic skills, including computer literacy
- job specific and related skills
- world of work learning
- personal effectiveness, including problem solving and planning
- skill transfer, including learning to learn,

All the criteria support the concept of a broad based occupational training rather than a narrow, job specific, employer specific training. For <u>training</u> purposes, occupations are grouped into eleven 'occupational families' which influence the design of broadly based training. (Appendix 1).

21. Traditionally training in the UK has been characterised by front end loading, or the idea that adequate training for a working life takes place in the first few years at work, and provides a fund of skill capital which can be drawn on until retirement. This concept is no longer valid, partly because many people will move in and out of employment in the next few years, partly because people change jobs, partly because skill requirements change. Training for the future needs to be flexible and adaptive, incremental and progressive. It is likely to be built on a modular structure which will facilitate changes of occupational direction,

allow for increases in levels of skill, offer access to those seeking re-training, and above all be capable of adapting to new and emerging training needs. Modular training has been developed, tried and tested by some of the Training Boards. In the public training service, the 'Skill plus' programme, offers personally tailored modules to strengthen the skills of qualified craftsmen, and so enhance their employability. As occupations develop which require a multi skill or interdisciplinary training, the modular design of training will best meet these new needs.

22. In practice for the individual access to the training system is important. To gain access he needs to establish his credentials, either in terms of experience, or in terms of qualifications, and frequently in both. For this reason the NTI has stressed the importance of standards which need to be identifiable, recognised, and which establish the creditworthiness of trainees as they seek to progress their working careers. In particular great importance is attached to the substitution of standards for time serving (in the UK the duration of apprenticeship has been established on the basis of elapsed time, usually a fixed period of four years, rather than on the basis of what has been learned, and how successful the learning process has been). Many would argue that in the UK apprenticeship is over institutionalised, and so prevents opportunities for adults, or even late teenagers, who wish to, or need to acquire craft level skills. To replace time serving with training to standards which are achievable and usable by people of any age and academic qualifications and through a variety of training forms will build much needed

flexibility into the training system. But progress will depend upon the availability of up-to-date syllabuses and standards of competence for all occupations. To be of practical use standards must be:-

(a) designed to cover educational attainment and practical competence.

(b) widely known, perhaps through occupational booklets.

(c) accepted by employers and unions as opening up job opportunities to all who have reached specified standards.

(d) accepted by the education service and training providers.

(e) achievable through a variety of routes.

(f) responsive to changing needs.

(g) certificated.

Usefull progress is being made. The trade unions are committed to standards. The major examining bodies are initiating meetings between them to study the practicalities of access, transfer, progression and accreditation. The electrical contracting industry now works to a collective agreement establishing standards for trainees. Thus more broadly based programmes aimed at developing adaptability in the workforce are being matched by institutional reform aimed at the creation of more flexible training routes. These developments have come about none too soon if the UK is to have the benefit of a training system whose availability, flexibility and adaptive character can match the pervasive and versatile applications of new technology.

TECHNOLOGY

23. In the UK there remains uncertainty about the effects of new technology on training. employment and career development. The

application of new technology has been more gradual than dramatic, and so far the effects have been absorbed by the labour market, though there must remain a question about the extent to which the recession has masked the impact of technology on jobs. But even without the recession, there were underlying fears about the likelihood of future job losses, the obsolescence of traditional skills and the uncertainties of rapid adaptation. By contrast there are expressions of confidence, based on historical fact, that in the past technological change has led to increased wealth, income and employment. This view may discount the scale, speed of introduction, and pace of change which characterises the new technology in areas where its advantages are beyond doubt - in information and communications systems, office automation, and banking services, for example. But the fact is that at the moment there is no consensus view in the UK as to the threat or promise of the application of new technology to industrial processes. It is even possible that over the next few years more conventional economic forces, such as rising investment levels, and recovery from recession will be more significant factors than new technology in their effect on the deployment of human resources.

24. There is no doubt about the effect of technology on the <u>structure</u> of employment and the <u>content</u> of jobs. A human resources development policy must aim to ensure that new skill requirements are met, economic developments are not delayed through skill shortages, and that individuals have opportunities to adapt to the changing needs of the economy. Already some changes in skill requirements can be seen in a clear demand for a range of higher level technology related skills, particularly those which <u>cross traditional boundaries</u>: examples include design engineers, systems

analysts and maintenance engineers. A major aim of human resources development must be to ensure that shortfalls in training do not delay, or even worse prevent, the adoption of new technology.

25. The way in which new technology will affect skills is not a straightforward issue. It could result in a strong trend towards de-skilling, leaving unskilled workers without access to further training in a very vulnerable position in the labour market. Another possibility is a polarisation of skills, with a relatively small highly qualified elite, and a large number of unskilled. It is also possible that as machines become more complex there will be an upmarket movement in skills at all levels. The possibilities are still open, but it should be noted that whatever the likelihood of micro-electronics leading to pressure to de-skill, decisions about skill levels are not determined exclusively by technology, and can be influenced by political, managerial and social considerations. Technology does not necessarily remove policy options as matters of managerial judgement.

26. In face of the uncertainties, the main thrust of UK training policy is towards a more open, broadly based and flexible structure. The three objectives of the New Training Initiative (NTI), especially those concerned with the reform of craft skills and the widening of access for adults, must be closely linked with the demands and opportunities technological advance will generate. Apart from the general thrust of the NTI, a number of specific actions have been taken to meet new training needs.

(a) One of the first responses from government was the launch of the Microprocessor Awareness Programme (MAP) by the Department of Industry. This had as its main objective to increase the awareness of managers about the scope, potential and applications

of microtechnology. It also greatly increased (from about 40 to over 2000 in two years) the number of short courses available in teaching institutions. As a further incentive to management, the Department also offered grants in support of applications of microtechnology.

(b) The government sponsored Training Opportunities Programme (TOPS) for adult trainees expanded the provision of training in electronics, microelectronics, systems engineering and computer skills. In 1981/2 about 4,300 people were trained in computer skills in TOPS.

(c) School leavers were offered the opportunity to undergo computer training as operators and programmers in the Threshold Scheme, which provided a six months intensive programme.

(d) A grant system was introduced to support undergraduates studying in Computer Sciences, primarily to increase the number of industrial training places available to them.

(e) A grant scheme was made available to employers who were willing to recruit trainees, or to re-train their existing staff in computer skills.

(f) A network of Information Technology Centres was set up (there are currently 150 in the UK). The Centres are designed to help unemployed young people to get work experience in the area of new technology, with the main purpose of giving young people experience of a range of adaptable skills. The practical involvement of local industry is seen as vital to the success of the Centres. The training lasts not less than six months and is certificated.

(g) The Open Tech Programme exists to provide training,

re-training and up-dating of technician and supervisory levels of skills and knowledge to meet identified labour market needs through open and distance learning methods.

The above programmes are government funded, and do not take into account training provided by employers for their own needs.

27. "We do not regard the introduction of microelectronics as a discontinuous change, but it can accelerate trends to rationalisation, mechanisation, automation and general improvement in productivity. Only new economic activity in new products and/or services can take up the labour freed by such continuous improvements in productivity. This is what has happened, with very large fluctuations since the industrial revolution. All new technology causes disruption - labour and infrastructural support must shift from one activity to another. The great danger of severe disruption from microelectronics comes from its sumultaneous introduction into all sectors of the economy". (Report on New Technology and Employment, E. Braun and P. Senker 1982).

So far, in the UK, the danger threatened by the final sentence of the above quoted paragraph has not materialised.

CONCLUSION

28. The UK education and training system is undergoing great changes. As a long established system it has perhaps been more rigid, more restrictive, and increasingly, with the passage of time, and under pressure of events, less relevant to the needs it purports to serve. There is no doubt that evolution has simply proved too slow in stimulating change. The last few years have witnessed positive

government interventions - in the schools, in relation to the vocational preparation of all young people, in stimulating the application of technology, in attacking the rigidities and conservatism of the labour market through the New Training Initiative. Changes are inherent in any industrial society. The fact that they have been seen to be necessary on such a large scale in an advanced industrial country like the UK, should remind us that in attempting to develop human resources, whether to benefit society at large, economic capacity, technical capability, and not least individuals themselves, systems need to be dynamic, relevant, realistic and creditable. In the UK, particularly since the review of the 1973 Employment and Training Act, a serious attempt has been made to develop a system which is more open, more flexible and more coherent. It may never be free from imperfections, but if it comes close to fulfilling its potential, it will be a great improvement on what preceded it. It is designed to offer opportunity in the face of uncertainty, and if we have the sense to take the opportunity, there will be less cause to worry about the uncertainty.

It remains to ask to what extent the reformed UK system provides satisfactory answers to the three questions in the preface to this paper.

First, is the system adequate for the purposes it is supposed to serve? The answer is that conceptually it is certainly an adequate design. It represents a sharp move away from past practice which corresponds realistically with the step change in industrial structures and skill levels. Progress may not be even on all fronts, but the public commitment of employers and unions alike, supported by greatly increased government funding, should ensure

that a new direction and purpose is achieved.

Second, are the institutions involved capable of adapting to the needs of the new system? The institutions primarily concerned are government itself, employers' associations, trade unions, the teaching establishments and the examining bodies. All are moving in sympathy with the new outlook, and taking active steps to implement measures to reflect its needs. There is no institutional interest standing apart from the New Training Initiative.

Third, does the system extend beyond initial education and training to serve the wider interests of human resources development? In its emphasis on the development needs of adults, its stress on opportunities through an adaptive training design, and its offering of access to jobs and career progression in a dynamic, but uncertain industrial future, the system seeks to ensure that the interests and well being of the individual are promoted within the context of industrial development.

SUMMARY OF MAIN POINTS

1. The UK education and training systems are undergoing radical change, largely under pressure of events, but also from a conviction that the future will not be an action replay of the past, even with the benefit of economic recovery.
(DOCUMENT: The New Training Initiative 1981).

2. The government is stimulating pilot schemes within the schools designed to ensure that within the curriculum, technical and vocational options are available and given due weight in a balanced general and vocational education.
(DOCUMENT: Guidance on the TVEI to Local Education Authorities, distributed by MSC 1983).

3. From April 1983, the government funded Youth Training Scheme will offer a years structured foundation training linked with further education to all school leavers not continuing with full-time education.
(DOCUMENT: Youth Task Group Report 1982).

4. In place of time serving, skill training to recognised standards should be available for the broadest possible range of skills and the greatest possible numbers of people,
(DOCUMENTS: Training for Skill 1977 and New Training Initiative 1981).

5. Initial training will be broadly based, followed by a modular training structure aimed at increasing the adaptability and flexibility of the workforce.
(DOCUMENT: New Training Initiative 1981).

6. Training in new technology is to be available in schools, through Information Technology Centres, through the Open Tech, and on an increasing scale through the publicly funded Training Opportunities Scheme.
(DOCUMENT: MSC Annual Report 1981/2).

7. Whilst government has accepted responsibility for the funding of first year foundation training, it is government policy that training in specific skills remains the responsibility of the employer. In the UK most training is undertaken by employers using their own resources.
(DOCUMENT: Outlook for Training 1980).

8. Training will increasingly in future move away from front end loading, and be characterised by periodic modular training as it becomes necessary. Initial training will be more broadly based and less job specific.
DOCUMENT: New Training Initiative 1981).

9. The institutional arrangements for industrial training combine statutory and voluntary training bodies. The number of Industrial Training Boards has been reduced from 24 to 8, whilst voluntary training bodies, about 150 in number, have been set up for industry sectors. The cost of training bodies whether statory or voluntary bodies is borne by industry.
(DOCUMENT: Training and Employment Act 1982).

10. There is not yet any general consensus in the UK about the likely effects of new technology on employment, though it is possible that its effects have been blurred by the recession. New

technology is creating new training needs, most particularly at higher levels of skill.

(DOCUMENT: New Technology and Employment 1982).

NOTE: See Appendix 2 for sources of documents.

APPENDIX 1

OCCUPATIONAL FAMILIES AND THEIR 'KEY PURPOSES'

	OCCUPATIONS	KEY PURPOSE
1	ADMINISTRATIVE CLERICAL, AND OFFICE SERVICES	INFORMATION PROCESSING
2	AGRICULTURE, HORTICULTURE, FORESTRY AND FISHERIES	NURTURING AND GATHERING LIVING RESOURCES
3	CRAFT AND DESIGN	CREATING SINGLE OR SMALL NUMBERS OF OBJECTS USING HAND OR POWER TOOLS
4	INSTALLATION, MAINTENANCE AND REPAIR	APPLYING KNOWN PROCEDURES FOR MAKING EQUIPMENT WORK
5	TECHNICAL AND SCIENTIFIC	APPLYING KNOWN PRINCIPLES TO MAKING THINGS WORK OR USABLE
6	MANUFACTURING AND ASSEMBLY	TRANSFORMING METALLIC AND NON-METALLIC MATERIALS THROUGH SHAPING, CONSTRUCTING AND ASSEMBLING INTO PRODUCTS
7	PROCESSING	INTERVENING INTO THE WORKING OF MACHINES WHEN NECESSARY
8	FOOD PREPARATION AND SERVICE	TRANSFORM AND HANDLE EDIBLE MATTER
9	PERSONAL SERVICE AND SALES	SATISFYING THE NEEDS OF INDIVIDUAL CUSTOMERS
10	COMMUNITY AND HEALTH SERVICES	MEETING SOCIALLY DEFINED NEEDS OF THE COMMUNITY
11	TRANSPORT SERVICES	MOVING GOODS AND PEOPLE

DOCUMENTATION

The paper draws on the following documents:

1.	The New Training Initiative	Published	1981	MSC *
2.	The Youth Task Group Report	"	1982	MSC
3.	New Technology and Employment	"	1982	MSC
4.	Information Technology Centres	"	1982	MSC
5.	Annual Report Manpower Services Commission		1981/2	MSC
6.	MSC Manpower Review 1982			MSC
7.	Green Paper: Education in our Schools	"	1978	HMSO ≠
8.	Technical and Vocational Education Initiative: Guidelines to Local Education Authorities		1983	MSC

		Address
*	Manpower Services Commission,	Moorfoot, Sheffield, UK.
≠	Her Majesty's Stationary Office	Kingsway, High Holborn, London, UK.