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CITY TECHNOLOGY COLLEGES

Potentialities and Perils

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by David Regan

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C O N T E N T S

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Introduction

The Rt Hon Kenneth Baker, PC, MP, then Secretary of State for Education and Science, announced the City Technology College programme at the Conservative Party Annual Conference on 7 October, 1986. The plan to set up a pilot network of twenty independent secondary schools, with joint funding from the Government and the private sector, to specialise in technical subjects, had been revealed to the press a few weeks before. [1] After the formal announcement at the Conservative Party Conference, Mr Baker subsequently set out details of the new schools, to be called City Technology Colleges (henceforth CTCs), at a meeting of the Confederation of British Industry's Education and Training Group on 14 October, 1986. Simultaneously the Department of Education and Science published an explanatory booklet City Technology Colleges: A New Choice of School.

Before assessing the record and potential of the CTC programme let us set it in the context of other educational policies initiated not only by the Department of Education and Science (and other Departments) but also by private bodies, local government and individual schools and colleges. The CTC programme should also be seen in the light of the various educational problems which it was designed to tackle.

1
The problems

Britain has a relatively poorly educated and trained population. Comparisons of the attainments of British youngsters with those of their German, French, Japanese etc. counterparts usually place Britain bottom.

Studies show clearly that the basic reason for this lies in the education of children of average and below average ability. Thus Prais & Wagner show that Britain produces per capita roughly the same number of university graduates as West Germany but less than half the number of school leavers with basic attainment in three core subjects - English (or German), mathematics and a foreign language.[2] In West Germany 34% of school leavers achieved this basic qualification, in Britain only 14%. Similarly, when assessing mathematics alone Prais & Wagner in the same study found that British sixth formers specialising in science and mathematics scored higher than their West German counterparts but that the position was reversed when all pupils were compared.

> "....German pupils in the lower half of the ability range have a substantially higher level of attainment in basic arithmetical processes than the average of all pupils in England (for example 75% of German pupils from their secondary modern schools could answer correctly a sum involving additions and subtractions of decimals compared with only a quarter of all English pupils who answered a similar sum correctly." (original italics).

Moreover the problem appears to be getting worse. Recent National Institute of Economic and Social Research comparisons not only show English youngsters lagging behind their counterparts in other countries in mathematical attainment but ...

> "England was the only one of the countries for which comparisons were possible which showed a fall in average scores in all three main components, arithmetic, algebra and geometry". (original italics). [3]

The problem of low average attainment in basic subjects is bad enough in itself. It is made worse by poor provision for vocational instruction. Traditionally British secondary schools take most pride in their academic high flyers and include little that is vocational in the curriculum. Indeed vocational instruction tends to be considered 'training' rather than 'education' and is usually undertaken after leaving school.

Prais & Wagner compared vocational provision in West German schools with the findings of a survey by HM Inspectors in Britain. They concluded:

> " ....the main contrast between the two countries is that subjects in the general area of vocational studies are obligatory in Germany for the last four years of compulsory schooling and have an explicitly practical emphasis: whereas in England there is a very varied pattern - such courses have a craft rather than an industrial emphasis, and for less able pupils (in the view of HM Inspectors) the curriculum was particularly unsatisfactory". [4].

On the whole British schools offer inadequate vocational training. Moreover even when young people leave school, provision for their vocational training is not very effective. Apprenticeship schemes deteriorated to the point of collapse in the 1970s and early 1980s. Non-advanced further education (which embraces most vocational courses) had become confusing in its heterogeneity of provision, standards and validation by 1979 when the Thatcher Government came to power. Potential students and employers often found it difficult to pick their way though this jungle and to decide whether courses were of equivalent value.

In contrast to other West European countries, few British pupils stay on at school beyond the age of sixteen -- barely one third, compared to more than three quarters elsewhere; and only a minority of British young people acquire further qualifications after leaving school. At the beginning of the 1980s 60% of the

West German labour force completed apprenticeship training or acquired similar vocational qualifications, compared to at most only 30% of the British. [5] Moreover, Britain has a massive shortage of skills. A Times analysis in 1989 showed unfilled vacancies ranging from 40% in the utilities to 20% in engineering and manufacturing.

As John Rae put it, " Other countries educate their people so well that they have to import their unskilled workers to do the menial jobs; Britain educates its people so badly, it could soon be exporting unskilled labour to the Continent. There will certainly not be enough unskilled jobs at home." [6]

2
The reforms

Explanations are legion for Britain's educational problems and attempts to solve them go back at least to the last century. [7] Reforms in the 1980s were, however, especially directed at improving vocational training and reducing the sharp differentiation between education and training. These reforms were principally those launched by the Department of Employment. Other reforms, especially those designed to improve basic standards in schools by increasing the influence of education 'consumers' (pupils, parents and employers) and creating a national framework for testing and for curriculum content, were introduced by the Department of Education and Science. According to Mr. Kenneth Baker:

> "Education can no longer be led by the producers - by the academic theorists, the administrators, even the teachers' unions. Education must be shaped by the users". [8]

(a) Department of Employment Reforms

Education reforms sponsored by the Department of Employment were implemented by its agency, the Manpower Services Commission. According to a senior education official in Oxfordshire, the Manpower Services Commission has been 'the most influential agent of educational change in the 1970s and 1980s'; indeed the MSC has 'terrorised education'. [9]

The Manpower Services Commission (MSC), now replaced by the Training Agency, was originally an expression of the divide between education and training but subsequently became an innovatory bridge builder between the two. As first set up by the Heath Government on 1 January, 1974 it was firmly on the training side of the divide. It brought together job placement and industrial training and sought to improve the latter for both young people and adults, especially the unemployed. Early schemes included the Training for Opportunities (TOPs) programme for adults and the Youth Opportunities Programme (YOP) for young

people. Trainees received MSC grants; employers, local education authorities and private agencies received MSC contracts to provide training and work experience.

The MSC tried to identify the skills needed by employers and directed its training and retraining schemes at equipping people with them. The MSC also established its own 'Skillcentres' to provide short training courses quickly where a need emerged and the Open Tech (similar to the Open University) for home based training.

The MSC claimed some success in reducing both skill shortages and unemployment in the second half of the 1970s. Its role was transformed by the Conservatives' accession to power in 1979 and especially by David (later Lord) Young's chairmanship of the MSC from 1982 to 1984 and his spell as Secretary of State for Employment from 1985 to 1987.

Lord Young may well have been influenced by his long association with ORT - the Organisation for Rehabilitation through Training. ORT started in Tsarist Russia as an organisation to provide technical training for Jewish youths. It developed into a major international organisation for technical and technological education - advising governments, conducting research and running schools (some eight hundred today) in many parts of the world. One of its characteristics is to combine the practical and the theoretical, the educational and the vocational. Lord Young was involved in a senior capacity with both the World ORT Union (headquarters in London) and British ORT for many years.

No matter where the ideas originated, and no doubt there were many sources, under the Conservatives the MSC moved powerfully into the world of education. A substantial proportion of the education budget came to be distributed via the MSC, which dealt extensively with schools, colleges and local education authorities despite its sponsorship by the Department of Employment (DE). The burden of the MSC's engagement was to secure that training should start, not when young people left

school, but during secondary education both in terms of skills and of practical experience.

Two main instruments were developed by the MSC in the 1980s - the Youth Training Scheme (YTS) and the Technical and Vocational Educational Initiative (TVEI).

(i) The Youth Training Scheme

The YTS was announced in a White Paper published in December 1981, A New Training Initiative: A Programme For Action, Cmnd. 8455. The scheme came into operation in September 1983 in place of the YOP. It guaranteed one year's training for all sixteen year old school leavers who could not find a job. In 1986 one year became two years. The scheme is designed to equip unemployed youngsters with basic skills like literacy and numeracy (where necessary), as well as to provide training and education, both on and off the job, relevant to their occupations. Trainees are paid an allowance by their employers but the scales are laid down by the MSC.

The YTS is important both because it has led to a massive increase in training provision and because it has firmly linked training and work experience. Schemes are either employer-based (with both work experience and training provided by the employer) or joint schemes between employers and educational institutions. In 1989 the YTS was made the responsibility of the new Training and Enterprise Councils (TECs).

The YTS is perhaps even more important for its general impact on the education system. The MSC adopted a rigorous approach. To be accepted as a YTS scheme, prescriptive requirements on the content, conduct and cost of courses have had to be met. Schemes must have clear, realisable objectives; methodology has to be explained and the responsibilities of the training staff set out; skills and knowledge of a personal and social, as well as of a vocational kind, have to be imparted; the progress of trainees has to be continually assessed and recorded; accountability for expenditure is strict. Where local education authorities and their colleges have been unable or unwilling to meet such

requirements, the MSC has always been prepared to turn to private training agencies. Since educational expenditure has been generally restricted in the 1980s most local education authorities and their colleges have wanted access to YTS funds. They have been compelled to develop the tightly costed, methodical approach which the MSC has demanded. They have also been compelled to become more entrepreneurial and collaborative, negotiating with employers, trade unions and all kinds of educational establishments to deliver effective schemes.

(ii) The Technical and Vocational Educational Initiative

The Government announced the Technical and Vocational Educational Initiative in 1982 as a scheme to be administered by the MSC. The TVEI is an even greater mould-breaker than the YTS because it moves directly into the secondary schools. The YTS focuses on school leavers; the TVEI is directed at those still at school. The purpose of the TVEI was and is to improve the technical and vocational education of fourteen to eighteen year olds and to link it more effectively to the needs of employment.

TVEI pupils devote twenty five per cent of their timetable to learning and work experience programmes approved by the MSC. Certain national criteria are laid down but otherwise schemes are expected to vary according to local circumstances and wishes, although all schemes have to secure MSC approval.

TVEI schemes are for both boys and girls and are meant to serve pupils of all abilities. Where a school operates a scheme only a proportion of the pupils join it. Often there is over subscription for the places available. The 1985 White paper Education and Training for Young People, Cmnd. 9482, noted that TVEI schemes in operation ranged in focus 'from agriculture and catering to computer studies, office technology and design technology'. All schemes start by providing a broad general education (but with a strong technical component) but become more and more vocationally specialised over the four years of their operation. Since many pupils leave school at sixteen, TVEI schemes are often in practice divided into two two-year sections.

Local education authorities, schools and colleges were invited in 1982 to submit proposals to be considered for approval as TVEI pilot projects. The first were to operate from September 1983. Approved schemes attracted government funding. Even so the response was slow. Indeed downright hostility was expressed in some quarters. Nevertheless by 1984 sixty-two projects had commenced and this had become one hundred and three by 1987.

In the 1986 White Paper Working Together - Education and Training, Cmnd.9823, the Government announced its decision to extend the TVEI pilots into a national scheme from September 1987. The White paper also explained that:

> "It is the Government's wish that every education authority should take part [original italics] in this significant new development and, in order to secure this, the 18 authorities not yet involved in TVEI will be invited to participate, initially on the basis of a contribution from the Government of up to £1 million to cover a preparatory stage of 3 years, to be followed by full involvement."

Despite the foot-dragging of some local education authorities, the impact of TVEI has been substantial. It has extended the MSC's hard headed approach, and its contractual principles, to secondary schools. Local education authorities, schools and colleges have had to sacrifice some autonomy to meet TVEI requirements. Schools have been compelled to link up with other schools and with colleges of further education to produce satisfactory schemes. They have been compelled to combine work experience with study and to involve employers more than ever before with education. They have been compelled to modify the subject based approach of the school curriculum. Systematic monitoring of pupils, the allocation of resources to meet long term objectives and a rethinking of staff development and training have all been a consequence of TVEI.

Nigel Collins claims that the experience of TVEI highlighted two problems in particular -- the incoherence of non advanced further education and the weakness of in-service training and education for teachers (INSET). [10]. The latter problem was tackled by the introduction of TVEI-related in service training (TRIST), yet another MSC scheme. As with the others, local education authorities had to apply for TRIST funding and to meet tight criteria and cash limits. From 1987 INSET for TVEI was transferred to the Department of Education and Science but it has emulated the MSC in its intrusive demands. Through TVEI the MSC 'unlocked the secondary school curriculum'. [11].

(iii) Other MSC initiatives

YTS and TVEI were the most notable MSC programmes but there were other initiatives either directly launched by the MSC or inspired by its style.

In 1985 the Government introduced a Certificate of Pre-Vocational Education (CPVE) building upon an earlier MSC Unified Vocational Preparation (UVP) of 1976. The CPVE is a one year course offered in schools and colleges of further education for sixteen year olds who have neither a clear vocational aim nor academic objectives. CPVE courses have a general educational element, as well as inculcating practical skills and involving work experience. [12]

In 1986 the Government announced the establishment of a National Council for Vocational Qualifications (NCVQ) to bring vocational qualifications within a new national framework and to ensure standards of competence. [13]

(b) DES Initiatives

While the MSC was 'terrorising' education, the DES was also addressing its attention to the poor educational achievements of British young people, as measured by international comparisons. DES reforms have been principally directed at qualifications, school government and, most notably, the curriculum.

In the first category the DES introduced the General

Certificate of Secondary Education (GCSE) from September 1986 in place of the old CSE and GCE 'O' levels. It was designed to test competence in practical skills as well as knowledge and to apply to children of a wide range of ability. The GCSE is the object of much controversy. Many see it as reducing educational standards.[14] There is certainly a case for restoring GCE 'O' levels to run in tandem with the GCSE for those with academic aptitudes.

In the second category there has been a series of measures to widen the discretion and flexibility of individual schools. School governing bodies were transformed by greater parental representation and wider responsibilities. Local management schemes were made mandatory under which schools were to draw up, and be accountable for, their own budgets. Also schools were allowed, provided they obtained the support of the parents, to apply to the Secretary of State for permission to opt out altogether from local authority control. Schools which successfully opt out are then directly grant aided by the Government (grant maintained schools).

It is the third category of reform, DES involvement with the school curriculum, which is perhaps the most significant. From the ending of the 'payment by results' era in the late nineteenth century, the Government had traditionally removed itself from the school curriculum. Famously, as a result of the 1944 Butler Act, publicly maintained schools had only one subject prescribed by law - religious education. Of course the DES devoted much effort to advising, encouraging and stimulating on curriculum matters but not to prescribing. Partly because the DES increasingly found this unsatisfactory and partly because of the example set by the MSC, the DES abandoned this self denying ordinance in the 1980s.

In the White Paper Better Schools Cmnd.9469, published in March 1985, the Government explained that it would seek broad agreement with its 'partners in the education service' on the objectives and content of the school curriculum. Nevertheless it made plain that it wanted a curriculum that was broad,

balanced, relevant and differentiated according to pupils' abilities and aptitudes. Three years later these tentative proposals had become a mandatory national curriculum imposed on local authority schools by the Education Reform Act 1988 together with compulsory testing of pupils according to national criteria at the ages of seven, eleven, fourteen and sixteen. The national curriculum is to be phased in gradually and will not be in full operation for children between 5 and 16 until 1996. The introduction of a national curriculum has aroused widespread misgivings, not least from right-wing critics; according to Anthony O'Hear, "The fact is that a national curriculum is in essence a socialist measure." [15]

The purpose of these changes was to raise standards, to widen parental choice, to reduce the domination of teachers and administrators in the education service, and to improve flexibility - for instance transfers between schools - by a degree of national standardisation and testing. The DES was also, however, concerned, like the MSC, to bridge the gap between school and employment and to rectify the neglect of training or vocational education in schools.

(c) Other initiatives

Although the DES and DE have been the main authors of educational change in the 1980s there have been others.

The Department of Trade and Industry financed a project to put a computer in every school and it maintains an industry-education unit to monitor and encourage school-industry links. It was also responsible for Industry Year 1986 which set out to encourage education-industry links through local committees of businessmen and professionals. It was as a result of Industry Year that the King's School Grantham, for instance, established its centre for industrial studies.

Some initiatives have come from industry itself or from independent charitable bodies. For instance Young Enterprise, a charitable trust, seeks to spread the enterprise culture in schools through the establishment of miniature companies.

Another charitable trust, Education 2000, seeks to create patterns of educational practice which would equip people with the ability to cope with continuous change. Starting in Letchworth but now with projects in several parts of Britain it places particular emphasis on school-community links, on developing co-operative and communicative skills and on information technologies. Firms like BP through its Link programme spend £200,000 annually promoting contacts with schools. ESSO has paid particular attention to work-shadowing programmes for both sixth formers and their teachers. [16] Organisations like Business in the Community and the School Curriculum Industry Partnership, funded by industry, seek to establish close and reciprocal relations between schools and industry. Business in the Community, on the personal initiative of the Prince of Wales, suggested the introduction of 'compact' schemes, as operated in the USA notably in Boston. Under these employers guarantee jobs to pupils who achieve agreed standards. The first British venture was a compact in London involving the Whitbread Company and ILEA. Compact schemes are now funded and promoted by the Department of Employment.

Several schools have been pioneers in their own right. For instance Garth Hill School in Bracknell under the dynamic leadership of Mr Stanley Goodchild (subsequently Director of Education for Berkshire), raised £3m of sponsorship from industry for what had previously been a declining comprehensive school. The excellence of the education which Garth Hill provided even changed the recruiting policies of some local firms. Similarly Frankley Community High School in Hereford and Worcester under its headmaster Mr Matthew Andrews developed what was virtually a miniature industrial estate linked to the school -- the Pathways Project. A CBI survey in 1988 showed that 63% of schools had regular links with businesses, but only 46% of businesses had links with schools. [17]

Not all these initiatives have been wholly successful. Compact schemes have not been as effective as hoped. Local education authorities have sometimes exploited YTS arrangements to charge higher fees for their college courses. There are some

doubts among employers about CPVE. Nevertheless all these initiatives together add up to a considerable measure of reform; and some were clearly successful. The CTC programme was launched in the context of a ferment of educational change.

3

Origins of the City Technology College concept

The idea of a new kind of school with a distinct curriculum was in the first place stimulated by the TVEI experiment. TVEI schemes were generally assessed to be successful. [18] It was therefore an obvious step to consider whether whole schools might not offer TVEI-type curriculums -- a good general education but with a technological emphasis and with increasing attention paid in later years to vocational skills and the bridge to the world of employment. The debt to TVEI is openly acknowledged in A New Choice of School: "What is required is a programme which builds upon the lessons of the Technical and Vocational Education Initiative and of successful secondary schools generally".

A second source for the idea was American magnet schools. These are schools which concentrate on developing special expertise in various fields, whose example thereby benefits the whole education system. Magnet schools attracted increasing attention in the DES in the 1980s. In 1986 for instance the Secretary of State for Education visited the USA to inspect, among other things, magnet schools. So it was an easy step to consider in the British context the establishment of schools with a special excellence in technological and vocational education.

Why, however, consider the establishment of a new kind of school to achieve these objectives, outside the direct control of local government? It seems that DES ministers came to believe that some local education authorities (LEAs) were a bar to educational improvement. Their reactions to TVEI was seen as an instance. In Better Schools it is noted:

> "The Government is encouraged by the enthusiastic co-operation of LEAs, schools and colleges in the TVEI and looks forward to the outcome of this important initiative".

It is clear, however, that while some LEAs, schools and

colleges did cooperate enthusiastically others were indifferent, grudging or hostile. Only with the enormous effort of the TVEI extension have most local education authorities at long last become involved, and not all with equal eagerness.

Some local education authorities were seen as exhibiting rigid, politically partisan or even educationally destructive attitudes. Reluctance to become involved in the TVEI, was thought to be due in some cases to a dogmatic opposition to any measures introduced by a Conservative government or even to an underlying hostility to industry. Similarly, the introduction of bogus subjects like peace studies and world studies in some LEAs was apparently motivated by ideological not educational objectives. In January 1986, the Centre for Policy Studies employment conference at the House of Lords, involving fifty leading industrialists, recommended to the Prime Minister and Lord Young, both of whom were present, that a hundred secondary technical schools be established independent of local government and funded directly by the DES. [19]

Proposals that the Government sponsor the establishment of a new kind of technical and vocational school were first floated within the DES during Sir Keith (later Lord) Joseph's term as Secretary of State. The key paper was prepared by Mr Robert Dunn MP, Minister of State, in February, 1986; the model suggested somewhat resembled that of the American magnet school.

When Mr Kenneth Baker took over as Secretary of State later that same year he decided that the new kind of school would have to be independent of local government, that part of the capital costs should be provided by commerce and industry, and that the schools should all have inner-city locations to help regenerate these areas of deprivation. He also wanted each of the new schools to be in some measure the result of local community initiative and therefore to be a focus of community pride and involvement. In incorporating all these elements the eventual scheme was therefore a unique creature.

4

Distinctive features of CTCs

As set out in the Secretary of State's address to the CBI's Education and Training Group on 14 October, 1986 and in the DES booklet City Technology Colleges: A New Choice of School published at the same time, CTCs were set apart from any other type of secondary school in Britain. They were unique in four main ways: in their status, in their funding, in their curriculum and in their location.

Status was their most unusual feature and the key to so much of the success that has followed. Each CTC was to be a registered independent school controlled and managed by its own promoters. Yet no fees were to be charged. Instead each CTC was to offer free education to about a thousand pupils between the ages of eleven and eighteen. CTCs were thus explicitly excluded from local government control -- yet at the same time made part of the publicly provided education system.

Their funding was linked to this unique status. It was to come partly from the promoters (from industry, commerce, educational trusts, charities etc.) and partly from the Government. A distinction was made between capital and revenue costs in A New Choice of School:-

> "The Secretary of State will expect promoters to meet the cost of buildings and equipment or to contribute a substantial part of those costs. The Secretary of State will pay the CTCs' running costs in accordance with the number of pupils, at a level of assistance per pupil comparable with what is provided by LEAs for maintained schools serving similar catchment areas."

The CTC curriculum was to be distinctive in several respects. Although broad, it was to place more emphasis on science and technology than the average comprehensive school and was to be unusually directive especially for pupils in their fourth and fifth years of secondary education. Post sixteen

education -- and it was expected that most pupils would stay on into the sixth form -- would be unusually varied, with both academic and vocational courses allowing for many different levels of attainment. Vocational instruction was to loom large and work experience was to form an integral part of the education. Finally it was expected that the school day and the school term would be longer than the minimum required by law and longer than the practice in most local education authorities. To demonstrate all this 'An Illustrative Curriculum' was set out as an Annex to A New Choice of School.

The location of CTCs in inner city areas -- twenty possible ones were suggested in A New Choice of School -- was another distinctive feature of the pilot programme. In effect this was to serve mainly social rather than educational objectives: i.e. inner city regeneration. Each school was to have an inner city catchment area of about five thousand secondary-age children, from which it would draw its own one thousand. Parents were expected to become deeply involved with each CTC and their children's education and to commit themselves to keeping their children at school beyond sixteen.

5

The CTC programme

The Secretary of State's October 1986 announcement was of a pilot programme of twenty CTCs. A New Choice of School indicated possible locations but these were not mandatory. It was indeed yet another distinctive feature of the programme that each CTC was essentially the product of local initiative. The DES never imposed a CTC unbidden on any town. The DES acted where local promoters submitted proposals for a CTC and only then if the scheme was considered satisfactory.

Speed of response varied. Promoters in Solihull and Nottingham were quickest off the mark. Interested people in both towns came together to prepare proposals almost as soon as the announcement was made. Major sponsors for CTC projects in both towns came forward too -- Hansons and Lucas Industries for Solihull, Mr Harry Djanogly of the Nottingham Manufacturing Company and Boots plc for Nottingham. Solihull was one of the few urban local education authorities controlled by a sympathetic Conservative group. The CTC promoters were able to acquire a redundant school in the north of the borough which, after refurbishment, opened as Kingshurst CTC in September 1988. Solihull is a prosperous suburban borough and A New Choice of School had indicated that Handsworth, a run down inner city area, was the most appropriate location for a CTC in the Birmingham conurbation. Nevertheless Kingshurst is on the edge of the borough and its catchment area includes considerable areas of deprivation in eastern Birmingham. The CTC promoters in Nottingham were faced with an unsympathetic local education authority, Labour-controlled Nottinghamshire, and were unable to obtain a redundant school. Eventually they located a five and a half acre inner city site and, with DES approval, built a completely new CTC. It opened in September 1989.

The Nottingham and Solihull projects were thus soon under way. The Government was keen for others to follow suit. Accordingly, in February, 1987 a City Technology Colleges Trust was established with the approval of the Secretary of State for

Education and Science under the chairmanship of Mr (later Sir) Cyril Taylor. Its purpose was to encourage and assist other CTC sponsors to come forward, and to act as an umbrella organisation. Individual CTCs were to remain autonomous institutions controlled by their own registered charitable trusts or non-profit making companies and directly accountable to the Secretary of State for the expenditure of public funds. The central CTC Trust was however able to establish a data bank on CTC policy and practice, to provide advice on legal, commercial and financial matters and to co-ordinate certain activities like staff development as well as to find sponsors and sites. The CTC Trust has a small full time staff under the chairman and in 1989 appointed as Chief Executive Mrs Susan Fey, formerly head of Morley College. By 1989 Sir Cyril Taylor was able to announce that sponsorship for the pilot programme was secure. Some two hundred and fifteen companies, foundations and individuals had pledged £44 million for the twenty CTC schemes agreed by the DES. This sum is the largest private sector contribution ever made to a publicly funded education programme.

Like Nottingham, the Middlesbrough CTC also opened in 1989. Five more, in Bradford, Gateshead, Selhurst, Croydon and Dartford are due to open in 1990. Other CTCs have been announced for Glasgow, Telford, Derby, Corby, Bermondsey, Lewisham, Brighton and Swindon. Sites are not settled for all the others but they are expected to open by 1991.

6

Stretching the concept of CTCs

It is said that the Spitfire was such a excellent aircraft partly because the design had significant 'stretch' capacity which allowed it to accommodate different engines and armament and thus to serve a multitude of roles. Ultimately twenty-four different Marks of Spitfire were produced. One of the features of the CTC programme, even though it is in its very early years, is the way in which the original concept has shown it can be stretched.

Thus the original idea that CTCs should be secondary schools for pupils between the ages of eleven and eighteen is stretched by those who propose that they also become involved in adult education. Djanogly CTC Nottingham, for instance, has plans for extensive provision of courses for parents of pupils and for other adults in the community. The intention is that this CTC should become a community school not only in the sense of being a focus of community pride and involvement but also in that its facilities, equipment and teaching staff should serve the educational needs of others besides its own pupils. Of course this wider provision has to be undertaken on a well thought out basis if the CTC is not to be overwhelmed. Nevertheless the intention is that the school be a busy one from early in the morning to late at night, seven days a week for fifty weeks a year. Similarly the Dartford CTC is to have in its grounds a new community centre to provide educational and recreational facilities for both children and adults. It will be called the Wellcome Community Centre, after its sponsor the Wellcome Foundation.

The original idea that CTCs be new schools has been challenged. It was expected that CTCs would take over redundant school buildings, or possibly convert other buildings or build completely new. In any event the CTC was to be a new entity with new staff and pupils. Yet some CTC proposals involve transforming existing schools with existing staff and pupils into CTCs. Thus the Haberdashers' Aske's Hatcham schools, twin comprehensives in

Lewisham, are to become a CTC in 1991 -- on the initiative of the charitable Haberdashers' Company. The decision was controversial and was opposed by ILEA and some parents, especially of the girls' school. A combined vote of parents in June 1989 approved the scheme. [20] Similarly Bacon's School in Bermondsey, a Church of England comprehensive school in London's Docklands, is to become a CTC on the initiative of the Southwark Diocesan Board of Education. Again the scheme has divided the parents. [21].

Even the original idea that CTCs be independent schools has been challenged. Several local education authorities have expressed an interest in establishing their own CTCs. The most advanced with its plans is Kent which plans to turn the Geoffrey Chaucer School in Canterbury into a thirteen hundred pupil Kent Technology College, with the assistance of industry, from September 1990.

The original idea of a technologically biased curriculum is being modified and broadened in a number of ways. For instance Kenneth Baker expressed the view in his CBI address in October 1986, that CTCs were not well suited to children wishing to study two foreign languages.

> "The school timetable is not infinitely elastic. Pupils who show an aptitude for a second foreign language or for subjects such as music, drama and art may have to pursue these subjects, up to the age of 16, outside the normal working day." [22]

Yet some CTCs are placing considerable emphasis on language instruction with plans for Russian, Arabic and Japanese as well as West European languages. They are also developing strong links with schools in Israel, the Soviet Union, Spain and elsewhere.

Of course CTCs retain the technological emphasis. Their curriculum for eleven to thirteen year olds is invariably 50% science, technology and mathematics and this rises to 60% for fourteen and fifteen year olds. Yet the longer school day and term opens possibilities for teaching languages too. Moreover

the technological bias is also modified in some cases by the objectives of a given CTC. For instance the The City College for the Technology of the Arts, Selhurst is to be a CTC linked to the performing arts and the entertainment industry. The main sponsor is to be the British Phonographic Industry. Although it will focus on technology associated with the arts much of its provision cannot but be artistic. For instance, its brochures suggest that Judi Dench and Wayne Sleep will share their experience with pupils -- artistes as they are, not technologists.

Incidentally the BRIT CTC in Selhurst will also depart from the original CTC model in having a catchment area embracing the whole of London and in recruiting pupils at thirteen, not eleven, years old.

This stretching of the CTC concept is entirely laudable: proof that it is not an educational straitjacket. It also spreads the influence of CTC ideas more widely -- which is excellent because the purpose of the programme is not just to open twenty new schools, but to have an impact on the education system generally, to be a catalyst for change.

7

Innovations by CTCs

Even without stretching the original concept CTCs are developing a host of innovations -- in school government, staff arrangements, relations with industry, links with the community and, of course, the curriculum. And this is with only three CTCs operating.

For instance, Djanogly has devised a form of school government unlike any other school in the public or private sector. This CTC has a board of trustees (roughly equivalent to shareholders in a commercial firm), a board of governors (rather like the directors of a company) and a college council (a forum of consultation and advice for representatives of staff, parents, pupils, industry and the community). The governors, unlike the usual school governing body, are actively involved and meet frequently to determine policy. The trustees and college council meet less frequently to receive reports from the governors and in the former case to take ultimate financial responsibility and in the latter to be a source of ideas and suggestions.

Djanogly also has unusual management arrangements. There are two deputy principals under the principal, one for curriculum and community and one for finance and administration. The latter is broadly equivalent to a bursar in an independent school but has higher status and wider responsibility. Under the deputy principals there are four faculty directors with responsibilities that overlap traditional disciplinary boundaries -- maths, science and technology; student services and business links; heritage and communications; and expressive arts. The staff have contracts which forbid strikes, but are allowed ten days during the academic year for staff development and ten for community service. The academic year consists of five eight-week terms, no half term holidays but instead four two-week and one four-week holiday between terms.

Relations with industry and commerce are one of the most

important concerns of CTCs; and they are responsible for several innovations in this field. CTCs receive sponsorship funds from industry and commerce -- indeed this is a condition of their establishment -- but all CTCs have sought to go beyond a solely financial relationship. They have wanted to develop close but flexible links covering a variety of activities for mutual benefit. CTCs are extending arrangements for industrial experience, for both staff and pupils. Such schemes are not new, but have usually been confined to senior pupils and involved only short spells in industry or commerce. CTC arrangements tend to start with younger pupils, extend over longer periods and also involve teaching staff. One firm for instance has offered six-month placements to CTC staff. Moreover it is not just a question of CTC personnel going into industry and commerce; there is a reverse flow, too. CTCs are pioneering ways of recruiting industrial and commercial personnel for temporary and permanent assignments. For instance, the first head of the Centre for Industrial Studies in Djanogly was a senior executive from the CEGB.

This Centre for Industrial Studies is itself a pioneering venture. It was set up with the aid of the Friends of Nottingham's CTC, a voluntary association of local and national companies, and is designed to be the focus of interchanges between the school and the industrial community. It will develop a data bank on schemes for industry-education co-operation, new courses for promoting 'industrial literacy', and for acquainting industrialists with educational developments. It will also provide career guidance to CTC pupils.

It is rather too early to discuss curricular innovations, especially since some of the most original are expected to be in the post sixteen curriculum and there are as yet few pupils of this age in CTCs. Nevertheless it is clear that sixth form provision in CTCs will be very diverse indeed. Not just GCE A levels and perhaps the International Baccalaureate (for academic high flyers) and CPVE (for the less academic) but City & Guilds courses and, most notably, BTEC. The Secretary of State was pressed hard to permit CTCs to offer BTEC National Certificate

courses -- previously restricted to further education colleges. In allowing CTCs to offer BTEC courses the Secretary of State felt obliged to give similar permission to other schools which could demonstrate the capacity to offer BTEC courses effectively. Here is an early example of CTCs benefiting other schools.

CTC innovations have also had an influence on other schools by example and by stimulating competition. Nottinghamshire set up its own organisation to promote school-industry links in imitation of Djanogly. Similarly in Solihull, Kingshurst CTC has provoked a response from the borough's schools, over questions of communicating with the public. The education correspondent of the Independent, Peter Wilby, a hostile critic of CTCs, admitted:

> "If nothing else, the CTC in Solihull has persuaded neighbouring state (sic) schools to raise their marketing profile. Five of them, including Simon Digby and Park Hall, have distributed 50,000 copies of a pamphlet proclaiming that 'we shall put people before technology'". [23].

8

Criticisms of CTCs

The CTC programme is a particularly controversial one and has been assailed from both the left and the right of the political spectrum. It has also aroused the ire of many local education authorities, educational administrators, teachers and their unions. Of course much of this opposition comes from entrenched educational interests which feel threatened or bypassed. Nevertheless not all criticism can be discounted on such grounds, and some comes from more surprising quarters, for instance sections of the business and industrial community.

The first criticism is that the CTC programme is superfluous because other reforms were sufficient to tackle the problems of British education outlined above. This criticism has a modicum of validity in that the CTC programme would have had even greater impact if launched, say, in 1979 or 1980. Since it followed a number of reforms, especially TVEI, critics can claim that schools were already adopting CTC type methods when the programme was launched. For instance Peter Wilby has pointed out that Park Hall comprehensive school in Solihull had already developed strong school-industry links, in particular with the Land Rover company, before Kingshurst CTC was opened two miles way. [24] Park Hall offers a school leaving certificate in management science to its sixth formers jointly designed, taught and assessed with Land Rover. Similarly the Kings School, Grantham had established its Centre for Industrial Studies as a result of Industry Year, before Djanogly CTC, just thirty miles away, was opened. While such examples are true enough the deduction that CTCs are therefore superfluous fails on several grounds.

To begin with, the evidence suggests that most schools did not respond as promptly and imaginatively as these two did to TVEI and other reforms. Indeed in some cases it may be that the announcement of a CTC project was the spur to schools in any given area to take the need for reform seriously. In any case this criticism implies that CTCs are doing nothing unique -- and even with only three CTCs in operation this is challengeable. It

would be hard to find outside CTCs, say, three-tier schemes of government, no strike contacts for staff or a post sixteen curriculum ranging from CPVE and City & Guilds, through BTEC to GCE A levels and the International Baccalaureate. One does not even, however, have to point to wholly novel features of CTCs in order to justify them. Their greatest merit lies in their combination of characteristics. Other schools may have a strong technological orientation, or a powerful link with industry or some other CTC feature; but none has the whole bundle.

A second commonly made criticism of CTCs is that they have been allocated an unfair share of government funds compared to other public sector schools, which has deprived other schools or at least created a division between privileged and unprivileged schools. It is this kind of argument which may have dissuaded firms like ICI and GEC from sponsoring CTCs. They apparently wanted to help a wide span of schools, not a privileged minority.

While it is true that CTCs have attracted substantial government funds, this criticism is particularly misconceived.

To begin with, no other school was deprived of funds to finance the CTCs. The Secretary of State negotiated additional funding for this programme from the Treasury rather than diverting monies from some other part of the education service. And CTCs are not treated exceptionally generously. According to the Public Expenditure White Paper (Cm. 612 1989) planned public expenditure on CTCs is £135m to 1991-92. The bulk of this will, however, be on capital expenditure -- the building and equipping of schools. To open a score of thousand-pupil, high technology, secondary schools would have cost this sort of sum or more, even if they had been local government schools. When it comes to revenue expenditure CTCs receive a recurrent grant from the DES equivalent to expenditure by local education authorities on secondary schools of similar size and circumstances. CTCs also of course receive funds from industry, commerce and other private sources but it is open to any schools to supplement their income in this way. Indeed CTC promoters hope that their example will encourage other schools to seek such funding, and thereby

increase the total resources available to education.

It is important that CTCs should not receive special financial privileges. If they are to be a catalyst and example for the whole education system it must be on the sort of financial basis on which most public sector schools operate. Obviously since CTCs are at present new schools, occupying new or refurbished buildings and using new equipment this gives them an advantage over existing schools with older buildings and equipment. But this advantage will fade over the years. And to deny an opportunity to some children because it cannot be extended to all is a recipe for immobilism.

Critics who claim that CTCs are specially favoured are thus wrong save in the sense that any new educational institution needs considerable capital outlay to start up and then for a time has the advantage of novelty. Some of these critics reply to this by arguing that the £135m of public expenditure should have been distributed to all existing schools. But this would have vitiated the point of the exercise, namely to try a new approach to educational problems by establishing schools with a unique bundle of characteristics. In any case the £135m would have spread thinly over nearly five thousand publicly maintained secondary schools. (Also remember the separate programmes like TVEI for existing schools.)

An associated criticism, and a somewhat more valid one, is that the DES over-estimated the amount of private sponsorship money it could raise. The Secretary of State did not specify amounts or percentages which sponsors would be required to find; nevertheless in A New Choice of School he expected 'promoters to meet the cost of buildings and equipment or to contribute a substantial part of these costs'. This appears to imply that promoters should meet all or a high proportion of capital costs: an expectation which has not been realised, partly because some major firms like ICI and GEC refused to be involved. In some cases it has seemed easier to arouse the interest of successful entrepreneurs in CTCs -- Djanogly, Hanson, Vardy -- than large, long established corporations. At present private sponsorship

amounts to about a third of the total capital cost of the programme to 1992. Nevertheless £44m is a very substantial sum of money to be raised privately for education; and sponsors include such prominent companies as British Steel, Boots, British Gypsum, W. H. Smith, Lucas and BAT Industries.

Critics also claim that the novelty of CTCs will give them an unfair advantage when it comes to recruiting staff and pupils; and that, since teachers of mathematics, science and technology are in short supply CTC appointments will deprive other schools. As to pupils, CTCs will, it is suggested, leave the problem cases to local government comprehensives.

Such criticism too is wide of the mark. Certainly CTCs have had no difficulty in recruiting teaching staff, despite the hostility of some teachers' unions, despite the no strike contracts and despite the longer day and term. Nevertheless CTCs have been careful to appoint a proportion of young, inexperienced, newly qualified, teachers who after some years in CTCs may well move on to serve in other parts of the education system. Moreover, CTCs are also actively pursuing ways of widening the field of recruitment to bring in people from industry and commerce who are not qualified teachers. For certain posts it may not be necessary for them to become qualified. For others CTCs might pursue the Government's licensed teacher scheme, a version of which has been outstandingly successful in New Jersey, USA. [25]

Again, as to recruitment of pupils, CTCs have had no shortage of applications. Nevertheless they have been careful to recruit children from a wide range of ability, and a disproportionate number of the less academically able. Since Britain's particular educational problem is the failure to educate the average and below average child as effectively as other countries, CTCs must show that they can succeed in this area. It is true that CTCs expect some undertaking from the parents of their pupils to keep them in education beyond the age of sixteen -- at which critics say that children with uninterested and unsupportive parents will therefore all end up in local government schools. CTCs respond to

this challenge, by seeking to involve parents who might normally take small interest in their children's education.

Finally in this group of criticisms, it is argued that CTCs exacerbate the difficulties of existing inner city schools by taking away a proportion of children at a time when rolls are already falling. It is true that the cohort of eleven year olds is getting smaller in most inner city areas and that in consequence threat of closure already hangs over some inner city comprehensive schools. Nevertheless this is a poor reason for opposing CTCs. It can always be argued that it is the wrong time for some desirable reform. If school rolls were expanding no doubt we should hear that the financial needs of existing schools ought to preclude the launching of a CTC programme.

In any case CTC catchment areas are carefully drawn large in order to spread their impact widely over inner city areas. Again, if local education authorities were prepared to co-operate with CTC promoters -- too many are not -- a CTC could be linked to school reorganisation plans necessitated by falling rolls.

The criticisms considered so far have come in the main from the political Left. They have formed the basis of the repeated attacks on the CTC programme made by Labour education spokesman, Jack Straw MP. [26]. As Lawrence Denholm, Deputy Principal of Djanogly CTC has put it, Jack Straw's objections:-

> "....seem insuperable only if you share the premises on which they're based: that LEAs are the sole legitimate providers of free secondary education. That unless everyone can have it at once, no-one must have it at all. That an LEA owns the children in its catchment, and has the sole right to decide on their disposal. That those who choose alternatives to that service in some way abrogate their status in the LEA fiefdom. That all comprehensive schools are well run and equally good. That only the wealthy and well informed are entitled to a genuine choice in educating their children -- whether by paying fees and bus fares or exploiting inside knowledge of the way the system

works. That it is acceptable to use other people's children as educational missionaries". [27].

Far more profound criticisms of CTCs have come from the political Right. One of the most notable is by Professor Anthony O'Hear. He fears that, in a CTC, technology will become an end in itself and drive out liberal values. Thus the abler CTC pupils might become technology crazed professionals.

> "....even if, strictly speaking, technology is neutral between various ends and styles, technology does generate its own imperatives....our urban landscapes have been and are continuing to be despoiled by architects and planners obsessed with their computer designs and building techniques."

The less able might become merely industrial job fodder, fitted:

> "....for little more than middle ability jobs in industry and computing. These Bob Cratchits of the future will then be tied to their computer screens for the rest of their lives, without even the Victorian clerk's pride in his handwriting." [28].

If true such charges would be a powerful indictment of CTCs -- but they are not. Obviously a school which places particular emphasis upon its technological curriculum runs some risk of neglecting liberal, artistic and human values but all the CTCs have appreciated this. All are concerned to provide a broad not a narrow education. All are concerned to make high quality provision in the arts and humanities. Moreover, there are CTCs with explicitly artistic orientation (Selhurst CTC) or Christian orientation (Gateshead CTC) or Steiner 'whole child' orientation (Brighton CTC). [29]

In any case Anthony O'Hear's argument contains a false antithesis -- that technology and wider values are somehow incompatible. By this logic technologically advanced countries

would be culturally Philistine. This is manifestly absurd. Japan and West Germany are the two most technologically successful countries of the last two or three decades but both have over the same period made major contributions to the arts -- Japan in novels and films especially, West Germany in these areas and also in music.

The assumption that it is constricting for someone to pursue a middle ranking technologist's job in industry or commerce is equally fallacious. There is no reason why such a person should not take a pride in his work especially if his ability has been stretched to equip him adequately for such a post.Indeed it may be that the pride which middle ranking German technologists apparently take in their work, and the prestige they enjoy, helps to explain Germany's economic success. In any case technologists, whether British or German, do not spend the whole of their lives at work. George Steiner has argued that technology may indeed be uplifting. "It does not require great spiritual accomplishment to put a vase of beautiful flowers on the table, for Nature has provided them. But to construct even a simple machine does require spiritual activity" [30] This turns Anthony O'Hear's argument on its head.

9

An assessment of potentialities and perils

The most important feature of CTCs is their autonomous status. Each CTC is the responsibility of its own charitable trust or non profit making company and is directly accountable to the Secretary of State for the expenditure of public funds.

This status has allowed CTCs the freedom and flexibility of short chains of command. Many of the CTC innovations described above could not have been effected so quickly, or indeed been effected at all, if CTCs had been part of the local government sector. Nevertheless the very introduction of CTCs and the challenge they present has concentrated the minds of local education authority administrators and politicians. A breeze (at least) of change is blowing through some local government schools for which CTCs are partly responsible.

The second most important feature of CTCs is their explicit link with industry and commerce. Of course, as has been stressed, many other schools in both the independent and publicly maintained sectors have developed close relations with industry or commerce. CTCs are, however, different because their very existence is predicated on the support of local industry and commerce. A CTC project cannot come into being unless promoters can demonstrate such support. From the start therefore CTCs have had to think hard about their relations with industry and commerce, and some of their most useful innovations have been in this field (e.g. staff secondments). The relationship has always been far more intricate than merely financial.

New schools with such characteristics have enormous potential both in themselves and in their wider influence. Nevertheless they also face perils and it would be appropriate to consider these first. The perils are essentially those of two extremes, neophilia or homeostasis -- change for the sake of change, or a return to the status quo.

Save for neophiliacs, innovation is not <u>per se</u> desirable.

Indeed if, like the author, one believes that a philosophically conservative approach to human affairs is the most humane, civilised and effective, innovation must be treated with caution. Conservative thinkers from Edmund Burke to Michael Oakeshott have argued that change in human affairs is necessary but always carries a cost and so must be undertaken with great care. Conservative change has two characteristics: it is remedial rather than utopian and it is gradual rather than radical. For a conservative, change must always be addressed at rectifying some obvious problem not at pursuing some fantasy of perfection. And for a conservative the change must be sufficient only to redress the problem. Change for the sake of change is pernicious, and severe harm is likely when it is radical.

CTCs can clearly fit the model of conservative change. The problems of British education are grave. CTCs are designed to show how to remedy them. Nevertheless CTCs' autonomy does carry with it the danger of innovative zeal. All CTC changes from the longer school day to the curricular emphasis on science, mathematics and technology must be justified on the grounds that they tackle some specific educational problem. (The justification advanced by Kingshurst CTC Solihull for its proposal to drop the provision of GCE 'A' levels, is unconvincing. [31])

The problems of British education are as much the failure to do basic things well as the failure to adapt to a changing world. Countries like West Germany, France and Japan with which Britain compares badly have essentially conservative education systems. It may well be that Britain was too ready to change its public education in the 1950s and 1960s. It will be excellent if, say, every CTC pupil is equipped with wider technological awareness; it will be a disaster if this is achieved at the expense of sound numeracy and literacy.

The alternative danger is that CTCs will slip back into the status quo. This might happen because they are staffed to such a great extent by teachers who were educated, trained and experienced in the current education system. Most of them qualified as teachers in the 1960s and 1970s. Of course many

conscientious and effective teachers started their careers then. Nevertheless educational shibboleths of those decades contributed much to the present problems of British education.

Many applied for CTC teaching posts. Let us hope that the selection processes identified those who were able to look at the problems of educating inner city children -- especially those of average and below average ability -- with fresh eyes. It is not however easy to break away from long established backgrounds, and challenge assumptions which may not even be explicit. CTCs must consider developing their own teacher training programme.

If CTCs came to concentrate on, say, producing the top industrial managers and commercial high flyers they would have failed. Yet it would be only too easy for teachers to find this the most exciting and worthwhile task. CTCs must 'add value' to youngsters of all abilities so that they can pursue worthwhile and demanding careers at all levels in industry, commerce, public administration, the professions: in every walk of life.

If these alternative perils are avoided the potential of CTCs is very bright indeed. With the freedom of action they enjoy, with the opportunities and facilities open to them, with the business links they have forged, they could do more for education than anything since the 1944 Butler Act. They have the chance to show the way to tackle some of the most deep seated problems of British education. What better?

Perhaps most subtly and powerfully CTCs could help to change some unfortunate attitudes to education in Britain. Secondary schools, for instance, have been traditionally seen as a separate and somewhat closed world inhabited by pupils, teachers, cleaners and caretakers -- and occasionally parents. CTCs will break down the ramparts concealing this world. Their close and varied links with industry and commerce will integrate secondary education with the world of employment. Their provision of educational and recreational facilities for adults and other children will integrate secondary education with the surrounding community. Their fast developing ties with other countries will

add an international dimension to education. CTCs will foster the view that education is an active player on the social and economic stage -- not some quite separate part. Of course some schools pursued an open door policy long before the CTC programme but, by their very character, CTCs must foster the view that education should be integrated, not isolated.

The implications of such an altered view are wide ranging -- from the design of buildings and the attitudes of staff to the divide between education and training. Djanogly CTC for instance has buildings, and is run in ways, most unlike those of a traditional school. (It is far more like institutions outside school.) Similarly the staff of Djanogly CTC are encouraged to be accessible not just to parents but to the wider community. The divide between education and training is one to which all CTCs are addressing themselves. This concern is not confined to CTCs. The then Secretaries of State for Employment and Education, Messrs Fowler and MacGregor, announced in late 1989 a joint initiative to close the gap between academic and vocational qualifications for post-sixteen year olds.[32] Nevertheless CTCs, with their freedom, their flexibility and their integrationist philosophy could well produce practical solutions to such problems.

10

Policy implications for the Government

The first implication for the Government is that the CTC programme must be well and systematically monitored. Much of the purpose of the programme will be lost if it is simply assumed that the lessons of the CTC experiment will somehow percolate through to policy makers of its own accord. The CTC pilot programme will be worthwhile only if it is part of a defined model. CTCs must be required to report regularly to the Government -- not just on the expenditure of public funds, but on their educational goals and processes. In particular the Government must seek explanations for failures to achieve objectives. As Sir Geoffrey Vickers points out, good policy decisions emerge from an examination of the gap between the actual and the intended. [33]. The performance of CTCs and the implications of that performance must be continuously assessed.

The second implication is that this assessment must lead to policy decisions. For instance, one of the goals of CTCs is to ensure that a high proportion of young people stay on for post sixteen education. If this objective is not met, explanations must be sought and remedial action instituted.

Sir Joseph Pope, (former Vice Chancellor of Aston University and Managing Director of TecQuipment Ltd), a trustee of Djanogly CTC, has suggested that financial considerations might lead many youngsters to leave the CTC at sixteen. Child allowance is £7.50 per week, YTS is £29 per week and wages in employment might be £80 per week for a seventeen year old. Continuing at the CTC will involve considerable sacrifice for the youngster and his or her family. Sir Joseph has suggested that a £2,000 means tested bursary for the maintenance of such youngsters might be paid -- perhaps half by the Government and half by the eventual employer. No doubt the Chancellor would blench at the implications of such a scheme on public expenditure. Nor might it be popular with industry -- although it might be set against corporation tax. Nevertheless such implications may have to be considered.

The third implication is about the future of CTCs themselves.

In September 1989 there were suggestions in the press that the CTC programme had been curtailed because no further projects had been planned beyond the pilot programme. As so often, the press were wrong. [34] There was never any intention to go beyond the original twenty until their achievements could be evaluated. The Secretary of State felt compelled to restate the position at the Conservative Party Annual Conference, "Twenty were promised and twenty there shall be."

So the pilot programme must be given a while to yield its lessons. Then, if CTCs are seen to be a conspicuous success the Government must consider the ways to institute a further CTC programme. Dr Dan Sharon, formerly Technical Director of ORT and since September 1989 Director General of the Israeli Ministry of Education, has drawn attention to Professor Prais' proposal that two thousand CTCs be opened in Britain. [35]. If CTCs do prove themselves this might well be desirable (even if the cost per school to the public exchequer might have to be less than for the initial twenty). There is another possibility. CTCs are already trying to develop flexible ways of collaborating with public and private sector schools, colleges and other institutions. It may be possible for the benefits of CTC experience to be channelled into the education system through such arrangements, thereby avoiding any major expansion in the numbers of CTCs. In any event it is important that the pilot programme be completed, with a recognition that the Government may well need to add to it.

Experience suggests, nowhere more than in Britain, that good education is most likely to be produced where there is diversity of provision, wide parental choice and open competition between schools. Local government schools, independent schools, grant maintained schools and CTCs could all contribute to this mosaic.

APPENDIX 1

1. Kingshurst CTC, Solihull
Sponsors: Hansons, Lucas Industries and fifty others
opened September 1988.

2 Djanogly CTC, Nottingham
Sponsors: Mr Harry Djanogly, Boots, W H Smith, Marks & Spencers, British Gypsum, Melton Medes and others
opened September 1989.

3 Macmillan CTC, Middlesbrough
Sponsors: BAT Industries, British Steel, Davy McKee and others
opened September 1989.

4. Bradford CTC
Sponsors: Dixons and others
due to open September 1990.

5 Emmanuel CTC, Gateshead
Sponsors: Reg Vardy Ltd., John Laing plc, the Argyll Group.
due to open September 1990.

6 City College for the Technology of the Arts, Selhurst
Sponsors: British Phonographic Industries
due to open September 1990.

7 Leigh CTC, Dartford
Sponsors: Mr Geoffrey Leigh, Wellcome Foundation
due to open September 1990.

8 Michael Faraday CTC, Brighton
Sponsors: Rudolph Steiner Foundation and others
former RC Fitzherbert school
due to open September 1991.

9 Glasgow CTC
Sponsors: Trust House Forte
due to open September 1991.

10 Harris CTC, Croydon
Sponsors: Philip & Pauline Harris Charitable Trust and Mr David Lewis
due to open September 1990.

11 Swindon CTC
Sponsors: W H Smith
no opening date yet.

12 Telford CTC
Sponsors: the Mercers' Foundation and Tarmac
due to open September 1991.

13 Lewisham CTC
Sponsors: Haberdashers' Aske's Charitable Trust
conversion of existing comprehensives
due to open September 1991.

14 Bacon's CTC,Bermondsey
Sponsors: Southwark Diocesan Board of Education and Philip and Pauline Harris Charitable Trust
Conversion of existing Church of England comprehensive
Due to open September 1991.

15 CTC sponsored by Wolfson Foundation
no site announced yet.

16 Corby CTC
Sponsors: Hugh de Capell Brooke and others
Due to open September 1991

Details of projects 17 to 20 not yet announced.

Appendix II

Tentative Criteria for judging the successes of CTCs

Criteria for judging the success of CTCs fall into two obvious categories - objective and subjective criteria. The former would be based on hard evidence, the latter based on surveys of opinions. The following are some suggested criteria of both types.

(a) Subjective

(i) survey of pupil attitudes to their CTC experience say at 16 and again at leaving age

(ii) survey of teacher attitudes to their CTC experience say after one year and after each subsequent year

(iii) survey of employers' attitudes to the utility of links with CTCs

(iv) survey of employers' attitudes on experience of ex-CTC pupils as employees

(v) perhaps survey of police and health authorities on the impact of ctcs in inner city areas.

(b) Objective

(i) percentage of CTC pupils staying on beyond 16 or transferring to another educational institution with the approval of the CTC

(ii) percentage of teachers experiencing work experience of one month or more over each two year period

(iii) percentage of pupils experiencing work experience of two weeks or more per annum

(iv) analysis of qualifications of CTC pupils on leaving school

(v) percentage of ex-CTC pupils unemployed one year after leaving school

(vi) number of staff brought into teaching by CTCs from outside the teaching profession

(vii) percentage of school hours during which CTC equipment lies idle

(viii) amount of private sponsorship raised by CTCs including central Trust

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4. Prais & Wagner, 1986, op.cit.

5. S. J. Prais "Vocational Qualifications of the Labour Force in Britain and Germany" in National Institute Economic Review No. 98, November 1981.

6. John Rae "A way of broadening horizons in an age of high technology" in the Independent, 18 November 1988.

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10. Ibid.

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14. See, for instance, Stuart Sexton (ed) GCSE: A Critical Analysis, Education Unit Paper 5/88, Institute of Economic Affairs, November 1988.

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