

CDT In Perspective: Technological Division

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Introduction: Lady Parkes

Thank you for welcoming us and putting us in the picture about the University of Salford and assuring us that we are in the right place for this conference today. I do hope that also in the right place will be our products, the students which we send out into the world with A levels in Design and Technology, and I do hope that they will be as welcome in this university as we are today, across the whole curriculum, to continue their studies in higher education. And I hope that you will be able to say this loud and clear when you are talking to us on another occasion.

We are here with a very full programme, and my task as chairman is easy because all the contributors are well-known for their work in the field of CDT, and particularly in curriculum development.

We begin with Professor John Eggleston, who is Head of Department of Education at Warwick University. While he was professor of Education at Keele, he was also Director of the Schools Council Design and Craft Project, and therefore he is absolutely the right person to start us off today at a time when we all need great clarity of sight and thought if we are to make best use of the opportunities that Technology has now that it is one of the subjects in the foundation curriculum. Therefore I look forward to hearing you, John starting us off with 'CDT in Perspective'. Thank you very much.

John Eggleston

No subject currently enjoys more enthusiasm than technology — the warm approval of Ministers and industrialists urges every establishment from infant school to further education college to emphasise it still more strongly in the curriculum.

Yet, as one attends conferences and visits schools one senses a worrying dichotomy in the responses. 1988 will begin with the massed gathering of the Association for Science Education at Nottingham where the conference will be dominated by the well planned efforts of science teachers to develop a vast range of technological activities. The industrial support on offer will be impressive, British Telecom, British Aerospace, British Petroleum, The

Atomic Energy Commission, to name just a few. A week later the Foundation for Science and Technology mounts a prestigious conference at the Royal Society where much attention will be given to the ways in which science teachers might embrace technology more fully.

Yet, a few weeks ago several thousand CDT teachers thronged the National Exhibition Centre to explore how they may teach technology more extensively; today 500 CDT teachers attend this conference for the same purpose. There is almost total overlap in the science and CDT discussions about curriculum content, concepts and strategies. But there is virtually no overlap in population — two discreet sets of teachers exist, albeit often from the same schools.

The problem is pointed up most sharply in two of the forthcoming DES sponsored INSET TV programmes emphasising teaching technology. One set, produced by the BBC, is addressed to science teachers, the other, by Thames, is addressed to CDT teachers. Both are concerned with very similar ranges of problems — but both are addressed to separate audiences.

The result of all this is evident in very many schools. In many there is little dialogue between CDT and science teachers. Although both teach technology they live in separate territories, teach unintegrated timetables and enter their students for different examinations.

One possible outcome is that the scientists, aided by their long enjoyed status in the teaching hierarchy and the strong support of industrial and professional bodies will be able to take over technology and leave the aspiring CDT teachers empty handed. A pointer in this direction may perhaps arise from the Secretary of State's decision not to appoint a separate subject committee for primary school technology, but instead to add a few individuals with technological capabilities to the science committee.

But a far more disturbing prospect is that we may be on the way to having two technologies — high status science technology taught by scientists in their laboratories, and low status practical technology taught by CDT teachers in

their workshops. Such a schism would neatly perpetuate the status division that has bedevilled British industry where, so frequently, the actual tasks of manufacture are seen to be of low status; not to be experienced at first hand by the managers, technologists and designers. The success of our industrial competitors is almost in direct relationship to their success in avoiding such segregation.

We now have a major opportunity to get things together. The national extension of TVEI, the clear identification of technology in the National Curriculum and the educational provisions of Lord Young's White Paper open up the opportunity for science and CDT to work in concert. There can be no more crucial management objective for schools than to ensure that it happens soon.

Q: Can I voice my concern at the Pro-Vice-Chancellor's reference in his opening speech to examination entry requirements to this university.

Mr E. Parker: The point I was making was that we have no particular 'A' level subject requirements for the Information Technology programme. We are not, for example, insisting on Maths, Physics, CDT or Chemistry; we will take a whole range. There is a great opening in the future for higher education courses without specific A level entry requirements.

Prof J. Eggleston: I think the concern of the questioner is not to check whether you are in a situation where perhaps you don't mind a CDT A level, although that in itself is progress, but rather do you value CDT as a positive, attractive, worthwhile 'A' level for the sort of things that you are wanting to teach you undergraduates, and whether you would look for it, and value it, in your admission procedures?

Mr E. Parker: I will partly answer this and then hand over to our Dean of Engineering since it is his particular area. In the present system, we have 'A' levels which are acceptable in a fairly traditional way, and Maths and Physics, certainly in the Engineering area, are required and, additionally, other

subjects are accepted. But the point I was trying to make is that the climate nationally, in higher education and in industry, is moving in the direction of the sort of work that you are doing. As an increasing number of students come along with these qualifications, then indeed we will see an outlet for them in higher education.

Prof G. Carter (Dean of Engineering, Salford University): Before I answer the question, I will admit that I have been involved with 'A' level Engineering Science for twenty years. And that was the first curriculum in this country which actually was able to specify aims and objectives in a technological area. We had very little difficulty in doing that, essentially because we recognised it as a process-based curriculum but in order to sell it, it required content, and that is precisely the type of message that Professor Eggleston has communicated. For credibility, for validity in the present system, school studies will require content, whatever subject they are. We can't pretend that we have a process-based and a process-total curriculum.

Now to change to the attitude of higher education to Engineering Science, which was in fact accepted by all the universities and polytechnics as equivalent to Physics. But the Engineering Professors Conference never promoted it as being preferable. They still don't about CDT. Let's be absolutely clear about that; there is no preference given for an 'A' level in CDT.

There may be one or two places saying yes we prefer it, but not generally around the system. All I can do, like Professor Eggleston, is hope that we get it right, and hope that the momentum and the movement keeps going, because we won't have a three-'A' Level entry system into universities in a few years' time. We will have at least a five-subject type of profile, and we will have to live with it. We should be prepared and want to live with it, because it is a far better type of broad education system than we have had so far.

Within that context, I think that we do have an opportunity for CDT to be seen, not necessarily as a separate subject, but an integrating activity right across the curriculum. There is opportunity in Art and Design to use these skills developed in CDT. There is the scientific knowledge that you determine and derive from Physics and Combined Science, which is important and underpins CDT. Now if, in the schools, we could get team activities in the best area possible for that, in CDT, that is what we need in the school system, and that is what will start persuading higher education to take cognisance of and pay respect to, because it involves the full development of pupils in a wide variety of activities which we will value, because what Edward Parker was saying about this university, and a developing number of universities, that we are no longer just concerned to stuff students full of content, we are about skill development,

capability development and, moreover, adaptability development. We cannot simply, ourselves, think of taking candidates with three sterile 'A' levels which are just points on the road. We have got to be thinking about the future. I think even if now you get the response from higher education — 'No, we don't want CDT' — it is going to change.

Q: Do you think that the proliferation of GCSE syllabuses in Technology and CDT is conducive to a closer relationship between CDT and Science, and if not, how should we cope with the situation?

Prof J. Eggleston: Very briefly, I do not think it is a proliferation. I think it is a rationalisation. After a few years, we will see it as a simplification, as opposed to the chaos of examinations syllabuses around the country, and I only hope that such a rationalisation will in time take us forward to 18 from 16, and provide a base for liaison with Science. I think you have got a lot of the raw material you need if you use it. I do recognise the painful readjustment that has been necessary in many schools and which is still going on. It takes time, but I hope not too long, because one of the problems is that the timescale of education is so much slower than the timescale of politics. We have got to speed up our timescale if we are going to catch up with the political situation in which we find ourselves.

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