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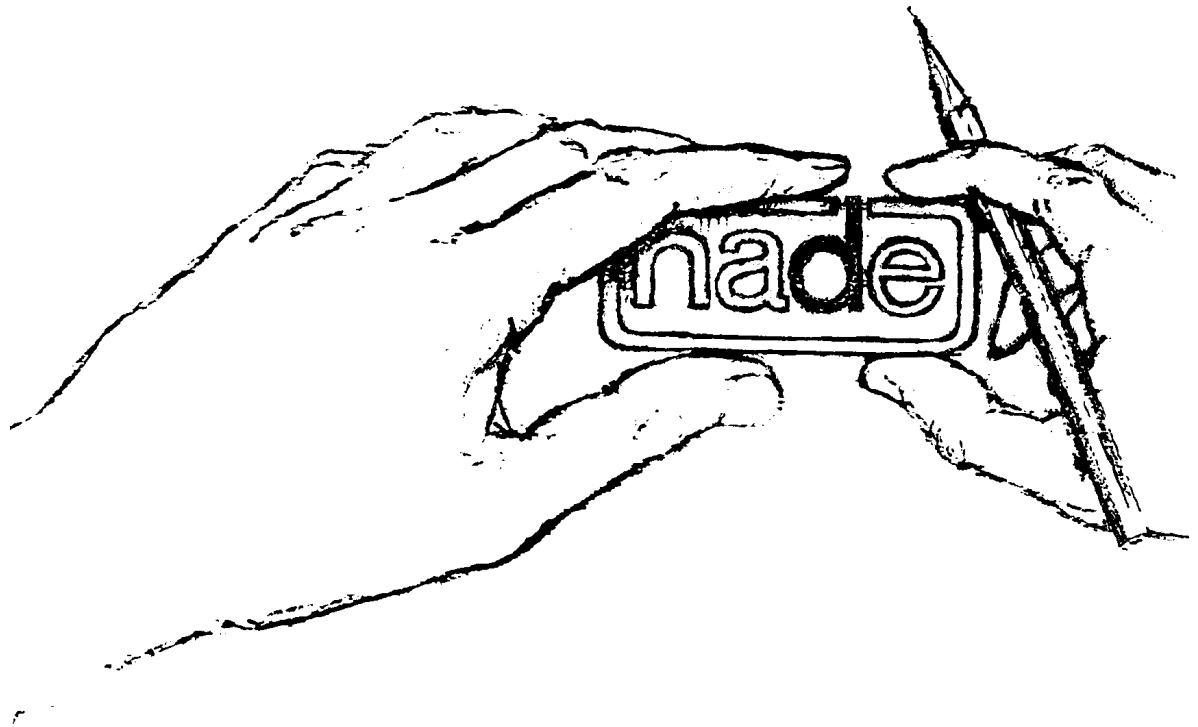
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The Journal of
The National Association for Design Education

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Editorial

Richard Molyneux/Nigel Zanker

‘Better to keep your mouth shut and appear stupid, than to open it and remove all doubt.’

Mark Twain, in another context, neatly displayed a perennial fear among aspiring editorialists and contributors. I now look back to some of the hesitancies that I felt (and write about) nearly a year ago and wonder why I felt it was so difficult. With the encouragement of savants such as Phil Roberts and David Buchan, the latter a former editor, we have now brought into being four editions of ‘The Journal’, roughly two and a half months between issues and those of you who have advised, suggested and contributed must be particularly thanked. We would ask, though - is the way ‘The Journal’ is shaping up what an enlarging membership would wish to see, read and react to? Can a balance be struck between significant, possibly refereed, papers on the one hand and an informative supply of everyday things in teaching and learning on the other? We would like to think that this could be the case and will try to work towards such co-existence in a momentous year.

My first task should be to wish a speedy return to health for John Reeve, our Treasurer, who is experiencing disabling back problems, and to Harry Ward; I thought until yesterday that I should be doing the same for Francis Zanker, General Secretary, but Nigel now assures me that he is fully recovered after a rather tender time in hospital and is riding his motorcycle everywhere again, a sure sign of his return to health. We welcome Brian McGonagle, Chief Verifier in Art and Design GNVQ for the RS A, to membership and hope that teaching and learning within GNVQ and NVQ may be of increasing significance in our columns next year.

David Buchan must now have achieved that status of regular columnist and he is once again in pole position this month (this is not especial favour, he just happens to be there quicker than anyone else!), In his contribution, David looks closely at the meanings of ‘aesthetic’ and how judgement relates to objects, the world of work, the environment and the capacity to design - a wide-ranging view on what has become a wide-ranging issue.

Several of our members were involved in the IDATER Conference at Loughborough at the end of August. We carry this month a short report on the Conference (the proceeding are available from the University) and, from Eddie Norman and Phil Roberts, the call for papers for August 2000. A particular concern of Conference was the often diffuse and sometimes repetitious nature of research in the field; it was decided that it would be helpful to development, nationally and internationally, if a ‘Map’ or ‘Maps’ could be designed (by a process of consultation) to show what future research is needed or desirable. After an introduction (page 10) we publish Phil Roberts’ paper to Conference on that topic in full and ask for members’ responses over the next few months, either to Phil or to myself.

Many of you will know that Ken Baynes, a long standing member of NADE and certainly one of my gurus in a half working life spent in teaching, is now involved as Executive Director of the Gallery of the Future Project, based in the East Midlands. In this role, he is particularly concerned with the increasing dynamism of the arts at the end of the 20th century and the changes that may be required in art and design education in order to respond. On page 15, we summarise progress to date and follow that with the defining paper that Ken

gave to the Headmasters' Conference in April, in which he discusses many of the key changes and values, as he sees them, which will demand response from schools, colleges and (ultimately) universities.

A parallel organisation to ours is the Building Experiences Trust, whose Director, Adrian Willis, is currently in contact concerning a feature within 'The Journal' in January. A letter, from Alan Howarth, Minister for the Arts, highlights the concern which is felt by government that certain areas that are now central to the quality of life, such as communications and the built environment, are not sufficiently featured in the preparation of young people for life. One should perhaps say amen to that; I have noticed over many years that fundamental teaching concerning the built environment is a wonderful preparation for all kinds of art, design and technological activity, particularly at the 16-19 age range. It may be true that this is an area where both NADE and the Building Experiences Trust have a valuable, and possibly joint, role to play; it is interesting to observe that such efforts could well prefigure the work of the new Commission for Architecture and the Built Environment (CABE), where a main aim is to encourage schools, colleges and communities to become involved in the practice of architecture, voicing opinions and perceived requirements about the buildings and surroundings in which they live and work. A manifested concern for the built environment can lead to other material benefits, particularly social ones intrinsic to better citizenship, an area which is of course to be included in the National Curriculum.

The Royal Society for the encouragement of Arts, Manufactures and Commerce (our old friend the RSA) recently published an extraordinary and radical report on the advantage of context-based education (one suspects, though, that many of us have been here before). A short review is included and we are hoping that someone can be found who could provide a proper critique for, January issue. Copies of 'Opening Minds; Education for the 21st Century' can be obtained from the RSA on 0171-930-5115 or (fax) 0171-839-5805, price £7.50 including postage, unless of course you can persuade their education section that you are indeed a bona fide researcher, or reviewer.

I shall be attending the 14th Annual Seminar and Awards of AQA (Assessment and Qualifications Alliance) on your behalf on the 30th November, where the Secretary of State for Education and Employment, David Blunkett; will be giving the Keynote address. Although it will be obviously interesting to report this, in some ways my attention is more focused on the second speaker, Helen Vandevelde. As you may know, she is a leading writer and authority on the future of work - sometimes described as potentially the Charles Handy of the 21st Century - and it will be instructive to see to what extent her ideas chime with those of the authors of the report above, whose ideas are described briefly on page 26 of the issue.

Last Friday, I was speaking to Ray Awcock, Customer Relations Officer at the London Business Design Centre, regarding plans for Young Designers 2000. Our conversation shed interesting light on the difficulties now faced by graduating students and, indeed, undergraduates in finding information and guidance on courses, work placements and the professional world of design itself. Ray reckons that the BDC fields some twelve to fifteen queries per week in these areas; they are very helpful but it is not really their scene. As if to prove the point, a young South African MA Interior Design turned up seeking information while we were speaking! This lends, I think, yet more force to the article on student progression which featured in the last 'Journal'; Maybe NADE should now take a closer look at a situation which seems to have deteriorated since the Design Council left the field.

Last time we ran a short feature on the complexities of copyright and plagiarism. A topical reminder of this is the recent decision by Apple Computer to file a lawsuit against iMachines, a privately held US company with Korean investors. Apple's action seeks to prevent iMachines from distributing its eOne computer, a Wintel machine, on the grounds that it copies the 'distinctive look' of the iMac, with its built-in monitor and translucent styling. Historically, the US courts have not extended trademark protection readily to design, but now they have begun to grant protection on the grounds that 'novel' industrial design can communicate a distinctive idea or image. For example, one court recently held that a watch by Gucci in the shape of a large 'G' could be protected, because it communicated an idea and was not merely shaped in that way for utilitarian purposes. To return to Apple, the question in the dispute will be whether the iMac has a legally protected 'trade dress'. Nearer to home, a large British-based telecommunications company is in the process of taking an East Midlands service provider to court for using a specific shade of fluorescent orange in its corporate image, claiming that this was already their intellectual property by precept. One wonders where it will all end - not many designers will profit, for sure, but the legal eagles should be lining their nests most profitably.

Best wishes to all of you for your last Christmas of the century and for your Millennium.

Membership and Contributing

On Membership Subscriptions for 1999

NADE subscriptions are £12 (Ordinary Membership), £20 (Institutional Membership) and £6 (Student Membership). A NADE Membership application form, for new or rejoining members, may be enclosed with the Journal. Existing members should have received an invoice for renewal.

On Contributing to the Journal

Our aim is to publish four issues of the NADE Journal a year. This is only possible if material is submitted for consideration. Some suggestions as to the nature of contributions include:

- 'scholarly' or 'academic' articles relating to member's interests - research or otherwise;
- views on educational issues, including reform, change and polemic;
- comments, including reviews about educational resources;
- letters to the editors;
- examples of curriculum practice and innovation;
- forthcoming events that may be of interest to members (but please remember the three month gap between each issue);
- news from, and about, members (i.e. recent appointments, achievements);
- comments on articles in 'The Journal';

Collaborative authorship is acceptable, especially where members feel unsure or inexperienced about writing for publication. First drafts, or just initial ideas, are acceptable for development purposes.. There is help, advice and experience available to provide assistance in editing drafts and notes into publishable material.

Contributions are welcome from both members and non-members of NADE. For articles please consider sending an abstract, to either address below, for discussion before submitting the final material.

All materials for the Journal should, preferably, be submitted in disc form. Either IBM PC/compatible or Apple Mac disc formats are acceptable provided text is saved in Word' or ASCII format (text only or RTF).

All correspondence relating to 'The Journal' should be sent to either:

Nigel Zanker, Department of Design and Technology, Loughborough University,
Loughborough, Leics, LE1 1 3TU

or

Richard Molyneux, 28 Shepherds Walk, Hassocks, West Sussex BN6 8EB

The Aesthetic Dimension: An exploration into objects, work and environment

David Buchan

What is passed off as design is often not much more than skin deep. The object that fails to deliver the promise of its outward, and immediately visible appearance, forfeits our trust when we recognise it for the fake that it is.

This is not to say that appearance is of no account; it is simply to restate that, in designing, the meeting of purpose within human moral and social consideration must be the overarching aim. Further than this, it can be claimed that, in consideration of the human user, aesthetic quality is a necessary and integral part of function and that functional efficiency is a necessary and integral part of the aesthetic dimension.

The misconception that design is simply added-on seductive appearance remains as common now as it ever was and cosmetic presentation for short-term commercial advantage is widely practised. Outward, unintegrated, often extravagant, 'styling' is applied to furniture, household appliances and manufactured articles of every kind in the name of design. Indeed it seems to be considered sufficient simply to apply the *word* 'style', or perhaps 'sport', to the rear end of a car in order to imbue, mantra-like, the vehicle and, derivatively, its owner, with the implied characteristic. A 'bit of fun' perhaps but, whilst not wishing to appear to be a Puritan killjoy, recourse to such built-in graffiti as a substitute for real quality (fun included, if that is intended) has to be regarded as facile.

If it is to retain lasting appreciation and value, any individual artefact must be an interrelated combination of cost, aesthetic quality and appropriate functional effectiveness. This is a holistic amalgam in a well-designed object and a far from simple balancing act of constraints. If the sensibilities of the human user are seriously to be taken into account it cannot be assumed that adherence to the doctrine 'form follows function' will necessarily result in an aesthetically pleasing outcome - *unless aesthetic qualities are thought of as essential to function*.

Efficiency in use is, in itself, an aesthetic experience - it appeals to the senses - and the feeling of quality in an artefact is at its highest when efficiency is integral with appropriate visual and tactile quality. A superbly engineered, massively powerful, beam engine is aesthetically satisfying to watch. The sheer smoothness and rhythm of its movement and the well-timed action of mechanically operated valves give it a kind of presence. The beam itself, however, in order to function smoothly, needs only to be balanced and for its bearings to be accurately machined. The rest of the beam could be crudely finished and barren of those evidences of good workmanship - fine casting and finishing, contrast of the beautifully-polished with the painted surfaces and of brass with steel - and still work. Its operator and its maker require it to be otherwise. The aesthetic qualities of its working efficiency and those of its finish need to be appropriate *to the aesthetic needs of the operator* as well as to each other and the purpose they serve.

Aesthetic satisfaction is experienced in using a smoothly functioning car gearbox without having to see it working. Aesthetic quality is much more than visual or tactile and that of mechanical functioning can be experienced remotely. Moreover, aesthetic satisfaction can derive from a well-designed interface between driver and gearbox. Indeed, an ergonomically designed gear lever (or any other kind of handle) by its form, appearance and textures, by *inviting* its use is aesthetically pleasing and establishes an efficient link between human user and machine by aesthetic as well as mechanical means. The machine becomes part of the user and the efficiency of the combination depends upon the efficiency, the user's sense of that efficiency and other aesthetic qualities of the link.

In good design then, full efficiency in relation to human use *requires* aesthetic quality - the two are interrelated and mutually enhancing. 'User friendliness' makes for satisfaction, hence efficiency, in the interrelationship between man and artefact.

Compatibility of artefact with human user is enhanced by other aesthetic qualities. A witty piece of economically efficient design delights. It pleases because, like a well chosen word or phrase, enjoyment derives from the simplicity, the artfulness or the concept, for their own sake.

Further, there is environmental credit, as well as satisfaction, in the knowledge that low environmental cost has been incurred - in terms of recycleability, economical use of materials, low atmospheric, acoustic, or visual pollution associated with the functioning of the object or, indeed, with the processes employed in its manufacture.

'No *artefact* is an island unto itself.'* Each is, in its production and in the period of its direct involvement with mankind, its maker and its user, an influence for good or ill, satisfaction or encumbrance (* with apologies to John Donne). What makes buildings, their interiors and their collective effect (and affect) in towns, cities and villages, pleasurable, environmentally kind and efficient in use?

That which applies to product and craft design applies on a larger, and much more manifest scale, to the built environment at large - from housing developments which may so neglect human sensibilities as to make life miserable for the occupants, to uplifting, even inspiring, use of materials and space. The same integrated qualities apply here as to the smaller objects amongst which we live. Social aspects are an important part; relationships (as reflected, for example, in policies), spaces (ambience and visual extent), scale (physical size in relation to the human body and viewpoint) and environmental consequences (land use and economical use of materials).

Consider how an environment may be designed so as positively to increase the likelihood that those who work in it will be happy - hence more productive - or, in the case of a school or college, more conducive to learning and development. To the question of priority: 'happiness for the workers' or 'increased productivity', the answer must be that both are important and interdependent. Yet a leap of faith is required for a manufacturer to believe that, in genuinely providing the former, he will secure the latter.

The efficiency of an enterprise, like the efficiency of smaller artefacts, depends upon the successful integration of human nature with the machineries of production including policies, systems as well as colleagues. As with other efficient artefacts, interfaces amongst human operators and between human operators and machines - including those concerned with communications - must make for fluency and ease of operation. Human sensibility and efficient productivity must be seen as mutually enhancing.

Viewed separately, worker happiness is apt to be interpreted with paternalistic bias. 'More productivity from the happy worker', is dangerously like 'more milk from the contented cow', a cow, that is, which has been provided with conditions for 'contentment' not so much for its own sake as for the sake of the dairyman who owns it.

Similarly, the board of a corporation, intent upon growth, might decide to adopt a 'benevolent' policy towards its workforce by providing housing and family incentives in and around the workplace - even shops and recreation facilities - security, social clubs, special holiday arrangements - schools perhaps? Such arrangements would keep the workers in place and their families fit and healthy. Such a paternalistic approach, superficially kindly, is nevertheless, that of the dairyman. One might go so far as to say that, in some instances of factory owner altruism, comfort and security have been given in exchange for life - a Faustian commitment.

Human requirements for happiness at work will depend upon a complex and democratic design for working and leisure conditions, amongst them control of one's own life and the freedom to move on without fear of loss.

Ideally the member of a team ought to be there because he wants to be there and a design for working life ought to be possible without recourse to the paternalistic model. The physical, technical, ambient and spatial design needs to knit with the social, psychological and educational one (staff development, suiting personnel to service to the enterprise - and interaction amongst individuals) in order to achieve work satisfaction *and hence* enhanced production.

In turn, enhanced production, especially if shared through close staff involvement and, each, their personal interest in success, plays an important role in work satisfaction. Again, considering for the moment the industrial or educational enterprise as a holistically designed object, all factors integrate and are mutually supportive and enhancing.

Involvement of staff in policy and awareness of what transpires in the workplace are important in avoiding barriers between production, administration and management. The means of humane production are all of these things - some physical and some psychological. Individuals' awareness of their particular contribution to an enterprise is important in this respect. For example architectural design in a factory would include the matching of areas to the particular work to be carried out in them. In ensuring transparency (in a broad sense) of the nature and sequence of operations to ease production flow, such provision would, whilst enhancing working efficiency, also ensure that those involved in the process can see the importance of their place in it as well as that of their colleagues. Together with staff intercommunication and involvement in policy, individual contribution might thus be seen to be valued. Social and recreational organisations are probably best seen as opportunities for staff initiatives and sharing of leisure interests.

Considerations in designing are often thought of as 'constraints'. Yet 'constraint' ought not to mean enforcement, confinement and limitation. The aim is not to enforce limitation of one consideration over another if it can be avoided, the challenge is to 'pay *both* Peter and Paul'.

To return to the gearbox: the concealed machine and its, by modern standards, only slightly remote operation. Micro-electronic devices in which 'intelligent' mini computers operate machines and where, in some cases and with smaller instruments, interfaces are larger than the machines they operate, mean that further problems are imposed upon the designer. In others, in particular larger manufacturing and assembly equipment, the operator interface is likely to be remotely-operated via VDUs with menus, *images* of control buttons and slides, numerical readouts, animated diagrams and graphs - an area where the 'mouse' has proved an invaluable interface tool. There is nothing new perhaps about diagrammatic information - dials and gauges. There *is* something new about the effect on relationships in workplaces where operators will find themselves working with members of a team with whom they have no contact apart from a name, or an image on a screen. In the case of some operators, direct contact with materials and tools - as well with colleagues - will be further reduced. Colleagues are also likely to be reduced in number.

A paradigmatic shift, reminiscent of that which occurred during the years leading to the 20th century, is taking place as we approach the 21st. Each has been concerned to come to terms with new techniques in industry and their effect upon those working in it; the depersonalising effects of industries and their social consequences.

Today's shift can go further. In designing himself, man designs his habitat. Environment is more than the home and its furnishings and appliances and more than the workplace, immediate society, nations or even continents. It is global.

What, then, about Spaceship Earth'?

It has been clear for many years that man's self design and his adaptation *of* environment as well as *to* environment needs to change.

In general the points made in terms of design relating to the areas of action - home, workplace and immediate locality - serve as means of pointing out the place of aesthetic and 'working' aspects of design in progressively widening contexts, and they apply globally.

They apply not least in aesthetic quality of life - the affect of environment as we modify it - and its bearing upon human sensibilities, the human need to participate and the need to be a valued part of the wider community. It must offer scope for creative contribution and expression *within the context of the natural world*. As Evelyn Waugh put it ('Decline and Fall') '...almost all crime is due to the repressed desire for aesthetic expression.'

Human activity will need to be viewed as part of global health, more in a spirit of working alongside and in tune with nature and less in a spirit of destructive avarice. Economies and competitive business enterprises, which need perpetual growth in order to survive in terms of their own frame, contribute to failure to survive in the wider global context of which they are apart.

Technical means of monitoring the state of the world in almost every aspect continue to improve as do means of disseminating the information they discover.

World awareness of potential future consequences of current practices prompts a boost and a stocktaking. Capacity to design - the universal human capacity to bring about change - takes different forms motivated by different intentions; some pro- and some anti-social. Conceptions of what constitutes acceptable action, in and on the world, are changing but greater acceptance of greater change is needed. Just as urgent as the recognition of need is the need for the political will and the socio-economic machinery to meet it.

As an Association concerned with design education, and considering that both education and design are concerned with change, the message we must continue to press is that design education in its wider sense must be at the heart of education at every level.

Towards a Practitioners' Research Agenda

Phil Roberts

Designing 'Maps' to Guide Research and Development

The paper that follows, 'An Invitation', was produced for the 1999 IDATER Conference, held at Loughborough University from 23rd to 25th August 1999. IDATER is about research and development in the field of Design Education and is international in its scope. A central focus is (what we in the UK refer to as) 'The Design and Technology Curriculum' and its associated practices. The Conference is also particularly concerned to view research and development from the point of view of the educational practitioner; it is specifically geared to develop teachers' and lecturers' design and technology knowledge and understanding, together with their teaching and learning.

This year, Conference decided that it would be most helpful to the development of Design and Technology, both nationally and internationally, to try to arrive at a 'map' of what research is needed.

This is therefore a further invitation (riding on the back of IDATER's) to teachers and lecturers to advise us:

- What in Design and Technology do we need to know more about?
- What needs researching, because we don't really know whether what we do is well-founded (or merely, 'what we all know')?
- What are your research priorities?
- What are the most pressing topics, questions and issues that researchers might most usefully work on for the benefit of teachers and lecturers?

Your suggestions would be very welcome. There are no need for essays: the bare bones would be sufficient. Send your suggestions please,, so that we can publicise a summary in 'The Journal', to Richard Molyneux or Nigel Zanker; both addresses are on the Membership and Contributing page.

An Invitation

- 1 The object of IDATER is to contribute to and raise the level of the professional 'running conversation' about design education. (The term 'design education' is used as a hold-all, to encompass the range of terminology and curriculum subject titles that is used internationally.) A 'running conversation' is the essential means by which knowledge and understanding of design phenomena and of designing are increased and enhanced, and, for IDATER, the curriculum and pedagogy. Participation in the 'conversation' is a necessary condition towards such development. The 'conversation' needs a Research & Development map and agenda: both are incomplete.

This invitation is offered as a first step towards reviewing both, and, consequently, developing further the professional conversation.

- 2 Everyone - infant or adult - engages in the intentional activity we refer to as 'designing'. In this general sense, 'designing' refers to acting in and on the world; to bringing about some required change in the world (or, in the educational context, in ourselves); to achieving our ends by the agency of designing.

Some adults are, also, members of professional communities of practitioners (e.g., architects, industrial designers, teachers, town planners) whose practices, at the highest level of commonality, are related by their being grounded in design and its activities. This is, then, an all-encompassing range of participants.

Because we are all immersed in the subject matter of design, and because the capacity for design is a fundamental human capacity, the development of the design capacity is a proper part of general education. Attention to design phenomena and to designing is a similarly necessary part of the education and training of those professional practitioners whose work is grounded in the field of design. We all engage in designing irrespective of its presence (and our attendance) in formal education: 'everyone is a designer' provides the first arena of design activity. In formal education, we attend to the development of design ability throughout the period of statutory schooling: statutory education is the second arena; and the formal education of particular specialist groups of (especially) practitioners attends to the development of knowledge and understanding of and competence in design and designing, (in the third arena). Notice that design and designing are addressed in all three arenas. Notice, too, other things.

The three have significant dis-similarities; the 'same' terminology of design does not necessarily transfer from one arena into another; the 'same' activities in professional designing and in general education do not serve the same functions, nor the same purposes. Hence, conflation of the three arenas (when speaking of designing) is something to be avoided, or at the least, to be wary of. The unexamined notion, too, that a context-specific conception of would-be educative activity can be sensibly transferred from the curriculum of the professional practitioner's education to the curriculum of pupils in general education is surely mistaken. The unexamined notion that a particular model of artefact-achieving provides the core model for general education is surely to mistake a low-level and particular instance for the high-level and general case (as well as to fail to distinguish between artefacts as ends in themselves and . the making of things as (incidental) means towards educative ends). On the international scale, the notion that

one country's not-necessarily-very-well-founded curricular arrangements can provide a model for the circumstances of a quite different society is surely wrong, based on naive notions of transferability and an ill-considered ethical position.

3 As long ago as the 1970s, Bruce Archer drew attention to the taxonomy of Design:

'...a discipline needs a language, a taxonomy, and a metrology. (. . .) where are the tools of language, taxonomy and metrology capable of handling the central issues of Design ...? (...) The taxonomy of Design (. . .) is a hotch-potch of classifications drawn from many other disciplines or sub-disciplines, and having no underlying structure at all. The metrology of Design is almost totally deficient in the techniques of comparing and ordering important, non-quantifiable qualities like usefulness, convenience, ethics and style.'

Taking the organisation of other, more-developed disciplines as a model, Professor Archer suggested a framework for a knowledge base in Design:

- 0 *design technology*: the study of the phenomena to be taken into account within a given area of design application;
- 1 *design praxiology*: the study of the design techniques, skills and judgement applied in a given area;
- 2 *design language*: the study of the vocabulary, syntax and media for recording, devising, assessing and expressing design ideas in a given area;
- 3 *design taxonomy*: the study of classification of design phenomena;
- 4 *design metrology*: the study of the measurement of design phenomena, with special emphasis on the means for ordering or comparing non-quantifiable phenomena;
- 5 *design axiology*: the study of goodness or value in design phenomena, with special regard to the relations between technical, economic, moral and aesthetic values;
- 6 *design philosophy*: the study of the language of discourse on moral principles in design;
- 7 *design epistemology*: the study of the nature and validity of ways of knowing, believing and feeling in design;
- 8 *design history*: the study of what is the case, and how things came to be the way they are, in the design area;
- 9 *design pedagogy*: the study of the principles and practice of education in the design area.

- 4 Such an organising framework could make more coherent the diverse contributions offered by researchers, scholars, and practitioners working in numerous disciplines and research communities. Its usage might also enable greater coherence to be made between the different, intentions (and outcomes) of those working within general classes of research activity.

Consider the following five classes:

- 1 *fundamental research*: that is, systematic investigation directed towards acquisition of new knowledge, the establishment of principles, or the formulation of defensible explanations;
 - 2 *applied research*: that is, systematic investigation directed towards the exploration of the implications or consequences of the application of fundamental principles in particular situations;
 - 3 *action research*: that is, systematic and reflective activity, carried out by practitioners and grounded in their experience, directed towards the resolution of practitioners' problems; or towards the acquisition of information as grounds for decision and action;
 - 4 *pedagogical research*: that is, systematic enquiry/activity directed towards the greater understanding of curriculum, principles and practices of teaching and learning, skill acquisition and performance assessment;
 - 5 *studio research*: that is, systematic investigation through art and design action, calculated to capture and expose ideas and information having testable validity within and beyond the work(s) in which they are embodied.
- 5 Given that IDATER is concerned with the design curriculum and its associated pedagogy, practitioners (which, it is to be taken as read, encompasses teachers, working in whatever level) have a major role to play. Action research and pedagogical research, particularly, are the most generally accessible to practitioners.

Leaving IDATER aside for a moment, two (and perhaps three) main trends are discernible in the analyses carried out by design curriculum reformers on the past 15 or so years in the U.K. The first has stressed the need to institutionalise the whole process of (what would be) continuous review and development of their practices by practitioners, and seeks to explore what would be the reality of such a 'steady change state'. The second has sought to confirm and develop professional responsibility for 'bottom-up change' (as distinct from merely accepting 'add-on', and incidentally unachievable, 'top-down' impositions). The two are sides of the same coin. (The third trend, even more radical and ambitious, would wish to see the gap between the policy- and decision-makers' level and the practitioners' level lessened so that more-realistic policies might be formulated in the first place.) (In connection with these trends, see para 6, below.)

Both trends can be seen, in part, as the practitioners' response to the absence of an adequate infrastructure for broad-based planned innovation and change, and to the absence of a practitioners' research tradition (or, running professional conversation). Implicitly, both aspire to contribute towards a theory of design curriculum and design pedagogy that would be grounded in practice: a practitioners' theory. That, too, is radical (and not all practitioners wish for such responsibility).

- 6 It might be useful to draw attention to another factor. It is obviously necessary that public education be dealt with at the level of policy and strategy. But irrespective of that, the essential design research agenda - and, by extension, the design educational research agenda - is the perennial research agenda. It is to do with the nature of the design capacity; with the development of design ability, sensibility, awareness; with the phenomena with which we treat when we are 'designing'; with the relations between these and, further, with teaching and learning.

But the introduction of national curricula does not necessarily change that - although it certainly adds to it. What the introduction of national curricula typically introduces, are problems deriving from the requirement of implementation. That is, problems arise precisely from the demands to achieve specified end-states of policy ('The pupils will be able to do (this, that, and the other)'). The imperatives of the implementation of policy do not necessarily coincide with the imperatives of fundamental research, nor even of applied operational research and development. But the top-down introduction of essentially prescriptive curricula brings into being a range of issues which arise directly from the requirement of implementation; and the 'transfer' of one country's plans 'into' another country brings yet another range of issues.

It is the implementation requirement that has perhaps the greatest potential for hindering progress in fundamental and scholarly research (as well as operational research and development activity). It is easy to accept that the process of working towards policy objectives may throw light on fundamental issues. But the essential focus of *implementation* is not on enquiry into and the analysis of fundamentally problematic phenomena: it is on implementation; and implementation is a condition in which the perennial research agenda may remain untouched. This is not surprising the receivers of policy- the practitioners in the field - are 'merely' required to implement policy objectives. Never mind that the policy may beg the philosophical and operational questions: the object of implementation is a match with specified objectives, not the questioning of the well-foundedness of policy. Moreover, even were the distinctions between problems located in a fundamental research agenda and those which arise from the required implementation of policy more frequently distinguished and less rarely conflated, it is not as simple even as that: policies are predicated on ideology.

Public policy and ideology may have an obvious connection but are rarely explicitly distinguished. Even more rarely is the ideological basis of much public policy made clear. Research projects which may be established to support the implementation of policy are also obliged (if they wish to continue) to work within the ideological framework.

On this view, the introduction of (any) national design-related curriculum can perhaps most usefully be understood as an episode in the continuing cultural evolution of design

in education and society. *The implementation of an ideologically-loaded policy does not necessarily diminish, or remove, or resolve any of the perennial and fundamental design research agenda.*

Indeed, there is always the possibility that the introduction of any putative 'reform' may burden further that research agenda. That some development work may intersect with research, both in its process and in its subject matter, serves to illustrate this proposition rather than to alter it. The nature and logics of research activity and the nature and logics of the implementing of public policy are different. Research agenda and research enquiries are based on the absence of certainty and, typically, begin from an inadequate knowledge base. Much public policy displays, in contrast, an absence of doubt.

- 7 First, having in mind Professor Archer's framework for a knowledge base in Design, we can move to a starting point for, no doubt, numerous future research agenda for IDATER participants. Most of IDATER's research agenda, however, are likely to be focussed on design pedagogy, praxiology, technology, and epistemology. Hence, ranging between the perennial and the context- and time-dependent questions:

- 1 *What is the nature of the design capacity and its functioning? (That is, the capacity that is necessarily engaged when treating with design phenomena.) Or: How is it possible to design (or take action in and on the world) at all?*
- 2 *What are the distinctive natures of design phenomena with which professional designing, designerly, and design-educational activities treat? (That is, typically and distinctively, the real-world problematic states-of-affairs; (and noting that the activities of designing cannot be disconnected from the objects of their agents' attention).)*
- 3 *What (and whose) developmental 'stages', needs, attributes, aspirations, hope, and values are to be attended to when engaged in learning-through-designing?*

And, to the more context - and time-dependent questions:

- 4 *How is the design capacity developed (i.e., towards design ability) through deliberately organised activity, or learning-through-designing? (That is, what do we need to know and understand better about the nature of the curriculum and its associated pedagogy?)*
- 5 *What knowledge, competence, intellectual and personal qualities, attitudes, and values would be appropriate to being at ease with the conditions of the 21st century, and can be developed through design-educational activities?*
- 6 *What cultural, societal, economic, ideological, political, technological, (and other) contexts, dimensions, and factors require consideration of their present and future effects and influences?*
- 7 *What effects do the diversity and, essentially, the constraining factors of educational (and other) institutions have on 5, above?*

- 8 And now, the invitation is to suggest the general and the specific questions; the sets of questions; the topics; the problematic complexes of issues; the specific agenda that, being enquired into systematically, would provide some clothing for the taxonomic skeleton as well as contribute to the development of the curriculum and pedagogy.

When thinking of such matters, consider, too, which can be well, or best, addressed by practitioners-as-researchers (of whatever kind and in whatever field of practice); consider the distinctions (where they exist) between research and development, and the different classes of research; consider which matters can be best, or only, addressed by researchers and scholars (and practitioners) in other disciplinary fields: they can offer, at least, insights of value; and consider which can be best, or only, addressed through collaborative efforts in research, scholarship, and development.

From the contributions received during and after IDATER 99 we shall endeavour to produce a map (or, even, sets of maps), and an agenda (or, even, a range of general and specific agenda) for distribution to IDATER and beyond.

The Gallery of the Future Project

A dedicated creative centre for the 21st century

Ken Baynes

The Gallery of the Future, whose Executive Director is Professor Ken Baynes, is a major national arts project which, for a change, is located outside London. It certainly draws strength from the co-operative efforts of a number of East Midlands authorities, institutions and individuals and has its epicentre at Loughborough University.

The Gallery chiefly concerns itself with the proposition that arts education, (which of course includes a healthy chunk of design in our terms) can address the needs of young people to be creative, self-motivated and thereby confident in expression, by means of a curriculum (perhaps lifelong in extension) which prepares them for a modern world of mass-communication, linked with information and learning technology. 1998 was its first full year of activity when, amongst other ventures, it completed a successful creative programme involving community arts projects in Charnwood; a series of grants and bursaries were also given to artists who came to the Loughborough Campus to work in new technologies.

The next waymark in the successful development of the project is a major exhibition which will be held at the Royal College of Art, Kensington Gore, in September next year. This forms part of the SPARKS Festival orchestrated by the British Association for the Advancement of Science. The show itself will go on tour to Loughborough by the autumn of 2000 and then conclude its rim in Edinburgh.

In its full realisation, the Project will be particularly focused on the 'Creative Centre', which is dedicated to an ongoing, multicultural programme of artistic work and exhibitions. Wider public access to the Project will be partly through the Internet and partly through travelling 'pods' (a combination of exhibit and information kiosk). Art, combined with new technology, will thus be brought decisively into traditional arts venues and also into new settings entirely, such as rural communities, workplaces and transport 'hubs'. Throughout, schools and colleges will feature strongly in the strategy.

On the 27th of April this year, Ken Baynes gave an address to The Headmaster's Conference, held at Oakham School, Rutland. The content of his paper begins on the following page; copies have been sent to Government agencies and other policy-making bodies with an interest in the arts. It is a very thoughtful contribution to the ongoing debate on the need for, and sustenance of, creativity in education; Ken makes clear that it also forms the basis for the education policy of the Gallery of the Future.

- If you have views on this paper and would like to share them with the author, he may be contacted at:

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New Directions in Arts Education

A Paper for The Headmaster's Conference, 27 April 1999

The arts at the end of the 20th Century are dynamic: they are playing an increasingly important role in the life of individuals and the structuring of society. But they are also changing dramatically. It is my argument that arts education will need to change practice to match.

The aim here is to discuss some of the key changes and values that will require a response from schools. Where do we look for evidence of these changes? Can we say what they are? I believe that we can. There are specific themes or directions now current in the arts which are likely to continue into the future.

In the main they stem from the dynamism created by the interaction between art, technology and social change.

Art as a Product

I'd like to begin by highlighting a change that provides the essential context for all the others. The Twentieth Century has seen the full emergence of a new relationship between artists and the public. This is the relatively new phenomenon of art manufactured as a product. There is now a huge demand for popular film, TV, music and books. The demand is supplied by a multi-billion pound group of industries. These are the companies and institutions that make up what the Government has now labelled 'the creative industries'. They are an integral part of the network of enterprises that have been shaped by modern capitalism. Like other forms of 'manufacturing' they depend on technology, mass production and marketing.

According to the distinguished historian, Eric Hobsbawm¹ it is these products of popular taste and entertainment that have shaped the culture of the Twentieth Century. It is they, as much as *avant garde* theatre or painting, that have created new forms and ideas. In his view, they have literally provided us with many of the shared thoughts and feelings through which we interpret our personal and communal lives.

Creative Industries

In Britain these 'creative industries' have grown into a formidable economic force. A Government survey² published this year (1999) shows that they account for revenues approaching £60bn and employ more than 1.4 million people. The value of their exports is said to be £7.5bn. In 1995 their contribution to the economy net of inputs - that is the 'value added' - was £25bn or 4 per cent of gross domestic product. This made them a bigger contributor to the economy than any other sector of manufacturing.

¹ Eric Hobsbawm, *Age of Extremes: The Short Twentieth Century 1914 - 1991* London, Michael Joseph, 1994

² Department for Culture, Media and Sport, *Creative Industries: Mapping Document* London, DCMS, nd

The Report emphasises that, unlike many other sectors, the creative industries continue to benefit from high growth rates and expanding global markets. The reasons for this growth are significant for education. They demonstrate the argument that the world of art is now thoroughly engaged with technological and social change. Two reasons are given:

- The communications revolution, increasing bandwidth and the advent of digital networks are creating global markets, multiplying outlets and increasing consumer demand.
- As incomes and literacy levels rise throughout the developing world, so does the audience for English language content and consumers of British innovations and design.

Technology has provided the new medium but it is artists, designers, musicians, writers and many other creative people who provide the content.

One of the characteristics of these creative industries is that they absorb talent like a sponge. They depend on a constant stream of young people with energy and fresh ideas. Without this influx they are dead.

Multi-Media

The creative industries use and develop a new 'language' of the arts. This is, in fact, a combination of traditional art forms into 'multi-media'. Film and TV, the century's most characteristic and universal art forms, bring together language, music, vision and movement through space and time. This way of telling a story or communicating information is now well-understood even by five year olds, who follow sophisticated cutting and film editing with the greatest of ease. The multi-media language has become the Century's medium of choice and through desktop publishing and the Internet is becoming accessible for direct creative use by more and more people.

A further characteristic is huge output. With this goes the most extraordinary range of quality between products, which are of the highest possible artistic standard and those which are frighteningly bad. It is here that the most telling criticism of popular culture can be found. It is said that serving mass demand leads inevitably to work which appeals to the lowest common denominator.

That this is not *inevitable* is shown by the best work. It is also important to recognise that there is not just one homogeneous mass market. The market is segmented by age, interest, social class, economic status and - most important of all - personal tastes and interests. The mass media have not only been agents for 'dumbing down'. They have also introduced millions of people to ideas, interests and experiences that in the past were confined to a small elite group with wealth and power.

What is true is that the consumers of the arts and design now exercise tremendous power in the market place. Unfortunately this power is not always well-informed.

Raising The Level Of Demand

When I worked as education advisor to the Royal Fine Art Commission, the Chairman, Lord St John of Fawsley, used to insist on the importance of 'raising the level of demand'. This is a key idea for the future, particularly for schools. It won't do simply to introduce young

people to the range of traditional art forms: we also need to equip them to take part in the vital business of shaping and enjoying the broad popular culture of their own time.

The buzz words at the Arts Council these days are: 'audience development'. But this does not quite capture it. 'Raising the standard of demand' is something much more interactive. It means better and more widespread knowledge and understanding, of course, but it also implies direct personal involvement in the life of the arts and design. It means participation.

For example: being a patron; arguing for good buildings; going to a fashion show; supporting a local band; playing an instrument; running your own home page on the Internet; commissioning a piece of sculpture for your garden; turning off a rotten TV programme and writing a letter of complaint...In short, being actively engaged rather than simply a consumer.

The Role of Schools

What do schools need to do to come to grips with this new relationship between the arts and the public?

Nearly thirty years ago, education responded to changes in architecture, planning, marketing and manufacture by introducing something called 'design education'. The aim was to make the school experience more relevant to the reality of society and so to the needs of young people. Much good practice came from this development. The challenge now is to make a further move forward and to fully embrace multi-media and the new technologies as a central focus for the arts curriculum.

This goes well beyond the boundaries of the traditional segmented curriculum. Science as well as the arts use and contribute to the new 'audio visual' language. The style and structure of English itself is subtly changed by being more and more often seen or heard alongside other elements: with music for example, or moving pictures, on a computer screen, or in exhibits.

Critical Understanding

The original proposition with design education was that the best way to learn about designing was by designing. This is a familiar approach in the arts: learning by doing. But over the years there has been a move to give more weight to critical understanding and this is highly relevant to 'raising the level of demand'.

At best, this has itself involved active learning. For example, in work based on the Art and the Built Environment project, young people are encouraged to study buildings in the local environment. To gather information, they use drawing, photography, interviews and writing; to convey their ideas they make books or videos, create exhibitions, make models and often suggest environmental improvements.

In performance arts, the text or the score or the choreography is the starting point. The necessity to understand it better is built into the act of performing and presenting it.

Learning to be 'literate' in the new technologies will mean a similar degree of active involvement in the multi-media 'language'. The learning approach to new technology will grow logically out of well-established ideas and approaches in the arts.

An innovative attempt to embrace the new media will put arts education alongside science at the centre of any curriculum designed for the modern world. But there are other very important influences and issues that arts education will need to respond to.

Growth in Traditional Arts and Crafts

The first presents a fascinating contrast to the push of mass culture and new media. It is the growth of involvement in what might be called 'traditional' arts and craft activities. More than seven hundred thousand people enjoyed the Monet exhibition. Visiting historic houses is more popular than going to football matches. Millennium year will see an outbreak of amateur festivals, bell ringing, pageants, fetes and carnivals. Wonderful grass roots stuff that deserves continued nurturing into the next century, but which will grow anyway because people enjoy it.

There is a continuing and expanding demand for people with traditional art and craft skills. Partly this is a matter of conservation and restoration but skilled figurative sculptors, for example, are also in demand in film, TV and theme parks. Drawing remains the fundamental skill used by animators and visualisers even when they also rely on computer aided drafting.

In a study³ that Loughborough University recently completed for the Crafts Council, we identified an extraordinary range of craft and design-based activities carried out by people as an integral part of their ordinary lives. A large segment of this is made up of cooking, gardening and do-it-yourself. Ironically these are exactly the sort of practical activities that have low status in education. Yet they are the ones where the mass of people use their own creativity to shape their personal lives and life style.

Education tries very hard to prepare young people for the worlds of work and academia. It may well be that in the future we need also to pay more attention to the development of skills for social and family life. There are signs that these are becoming a priority for Government and indeed parents. The contribution of the arts and design to recreation and family life are going to be central to this. The crafts associated with home-making, whether for families or individuals, need to be rediscovered by schools and given the status they deserve.

Re-Engineering Design Education

A second, closely related issue, is that although the word 'design' now appears twice in National Curriculum titles (Art and Design; Design and Technology) the focus on design as a creative activity engaged in by all human beings has become blurred. As a result, two of the most important areas of design activity are badly or inadequately dealt with: architecture and planning; and communication design.

Communication design is clearly central to being able to use and understand multi-media. Architecture and planning provide an extraordinarily vivid way of viewing issues of citizenship. Shaping the future built environment is an acid test of a community's values and beliefs.

³ *NADE Journal* No 3, April 1999. Ken Baynes, Krysia Brochocka, Phil Roberts, John Tyers, Francis Zanker. *Learning through Making*. Further information is available from Loughborough University, Department of Design and Technology, Loughborough, LEU 3TU

Re-engineering design education so that it provides a creative forum for realistic problem solving in relation to the future would provide young people with a valuable tool for social and cultural learning.

Insights from Cognitive Science

The third point is that recent developments in cognitive science and educational psychology have given a new insight into the importance of the arts and practical creativity in the development of children. In the work of trying to understand the operation of the human mind, recent progress has been breathtaking. Biologists have succeeded in identifying the physical locations in the brain of particular kinds of mental activity.

For educationalists, the most important point is that the physical nature of the brain ensures that intelligence and other kinds of understanding can only grow through use and practice. There is a phenomenon called 'canalisation'. This means that the brain is rather like a self-developing network of roads where the roads widen themselves and become more efficient when they are being used by more traffic.

If we wish children to be creative, the implication is that they need the opportunity to behave creatively and not simply to be told that creativity is important. Here the arts have the right models to offer the rest of the curriculum, as well as being able to take the lead in encouraging creativity in their own sphere.

Existential Values

At a rather different level, the arts are a central element in the existential life of children and young people. They are one of the principle vehicles for spiritual, aesthetic and emotional development. Most importantly they are a source of enjoyment and delight.

Involvement in the arts is empowering. For the five year-old the arts provide the essential medium for concrete learning. For the twelve year-old they are the area in which personal tastes, feelings and skills begin to make contact with the wider world of adult standards and values. For the adolescent they are an indispensable part of each individual's resources for discovering a personal identity and questioning what previous generations have done. Adolescence is also the moment when young people begin to discover those directions of thought and work that will shape their lives and careers. The value of the arts in the area of personal development is generally well understood by arts teachers but it is important to be vigilant to preserve it against the pressures of an over-structured curriculum, lack of time and an obsession with league tables and exam results.

Learning Through Making

The fourth point is that arts and design education operates in a way that is distinctive. In the arts, children learn by doing: essentially by making. They work with what can be called 'embodied knowledge'. They may make a play, a pot, a piece of music or a poem. They may make a performance or a critical review. Doing and knowing are totally bound up with each other.

In many areas of the curriculum, the emphasis is not on making or creativity but on knowing. We now talk of a 'knowledge-based' society. Governments have realised that somehow the amount of economic wealth in a society is related to the amount of knowledge in it. Again, this subtly misses the point. The crux for a successful economy is not knowledge itself (though that must be there) but the ability to use knowledge in responding to and shaping change. Unlike the majority of the school curriculum, the emphasis for society has to be on making the future. The arts - and particularly design provide schools with a future-orientated view and this will be more and more important as the curriculum responds to a rapidly changing society.

Making in the arts provides children with a valuable experience that is totally relevant to the whole of life in the modern world. In many areas it involves working with other people. It involves planning ahead, confronting difficult problems of meaning and materials, and reaching an outcome which is real and which can therefore be tested. In the best sense of the word it is applied knowledge and know-how. There is a valid interplay between theory, practice and personal expression, not to be found in many other areas of the curriculum.

To conclude this review of developments in the arts, there are two strongly contrasting points.

Passing on Values

I have emphasised that the arts are engaged with the future. They are personal and creative. They provide young people with a way of challenging the assumptions of their parents and teachers. They are practical and active. However, they are also concerned with tradition. If they challenge values they also pass them on. The arts are constantly being renewed by creative work but these new works do not make work from the past obsolete or irrelevant. It is possible to perform a play written more than two thousand years ago and find it as fresh morally and aesthetically as it always was. Historic buildings continue to carry their architectural magic and provide us with 'embodied knowledge' about structures, engineering, proportion and the use of materials.

Of course, education has always been concerned to pass on the cultural values of the past. But I would argue that it is necessary to do this in a way which is active and which emphasises the linkage between past, present and future.

The past is part of our present identity. One effect of the pace of change has been to increase people's interest in their roots. In the multi-cultural society that is now a reality in urban Britain, young people are making a dramatic transition from one world of ideas to another. They are not simply taking on 'English' values: they are creating something new that is different from their own roots and different from the host culture. The arts are at the centre of this enterprise, representing the traditional past but also providing the medium in which to express and explore new experiences. Just as our own literary tradition has already been immeasurably enlarged by Caribbean,

Indian and African writing in English, so too Britain's artistic resources in other fields, will be enlarged and enriched by this new diversity. The arts bring people together by helping us to understand the value of difference. Schools can respond to and, more importantly, take part in this cultural adventure, which is taking place on their doorstep.

Art and Science move together

Finally, there is the fact that the traditional gap between arts and science is beginning to close. Quite suddenly, discussions about the Two Cultures' have once again come onto the cultural Agenda. Millennium year will see a great international conference organised by the British Association for the Advancement of Science take place at Imperial College in London. This is to be the centrepiece of a festival designed to explore the relationships between art and science. All the South Kensington institutions are taking part: the Victoria and Albert Museum; the Science Museum; the National History Museum and the Royal College of Art. A hundred and fifty years after the Great Exhibition the festival will look again at the Prince Consort's 'big idea' of linking art and science in the interest of creating a better society.

My own institution, the Gallery of the Future based at Loughborough University, will be organising a landmark exhibition for the festival working in conjunction with the Royal College of Art. We will show how artists are making creative use of new technology and how science has provided new imagery and new ideas for artists to work on.

The relationship between arts and science is being actively explored in, for example, cognitive science, computing, medicine and mathematics. The Wellcome Foundation has played a pioneering role in this area by providing awards for artists and scientists to work together. Their Sci-Art project⁴ shows that this kind of partnership works. It has already achieved remarkable results. We are on the threshold of a range of new insights, particularly into mental processes that support creativity and reveal the nature of human intelligence. These will influence our approach to teaching and learning. They will challenge the highly compartmentalised curriculum that has developed over the past thirty years. New cooperation between the arts and science has the potential to be an engine for change in education.

This contribution is an attempt to identify some of the themes and directions that will shape arts and design education in the next century. Part of the dynamism of the situation comes from the fact that the new influences are all in action at the same time. There is synergy between them.

What is striking is that the issues which arts education could now address are in no way peripheral to the main educational Agenda. Arts education, particularly in a new relationship with science and technology, can address the need for creativity, the need for young people to be self motivated and confident, the need for a curriculum that prepares children for the modern world of mass communication and information technology.

⁴ The Wellcome Trust, *Sci-art: Partnerships in Science and Art*. London, The Wellcome Trust, 1998

‘Opening Minds’: Education for the 21st Century

The RSA’s Proposals: An Outline Review

The recently-published report by the RSA appears to reflect the dissatisfaction often expressed by employers and public service organisations that recruits are often slow in learning how to do particular jobs and often do not (have the will to) understand the needs of customers and clients. Some believe that the lack of preparation (as they see it) for the ‘world of work’ can be placed squarely at the doors of schools, colleges and universities and that, in the interests of themselves and of their customers, they must ‘re-educate’ those they take on.

The idea of ‘competencies’ features strongly in the RSA report, perhaps in consequence. This will be hardly new to those of us who have been involved in GNVQ; its espousal here may win smiles of recognition, or grimaces in some cases, from those who were first involved in CPVE some fifteen years ago, particularly as competencies come associated with contexts! One well remembers those large, contextual situations which were designed to comfortably accommodate the various, and varying, skills of a variety of recruited teachers and the massive efforts that were required to familiarise themselves with weak or unfamiliar areas of knowledge, or ‘competence’, and how massively complicated ‘teachers’ were sometimes necessary to ensure survival in uncharted waters.

Competencies should mean ‘the ability to understand and to do’ and, broadly, this is how the RSA defines the word; the authors break relatively new ground by recommending that the curriculum (I think they really mean the National Curriculum) is divided not by subject, but into a ‘range of competencies’. By this stratagem, the argument goes, ‘conventional subject’ such as science, geography or design and technology would no longer be subject in themselves but would be introduced and used illustratively as, for instance, vehicles for gauging competence in managing risk and uncertainty. As it happens, this is (or should be) at the heart of design and technology but it would take some very novel and innovative teaching to make the most of the opportunities (they do exist) within, say, mathematics or English literature. The RSA notes in passing, that teachers are resistant to change; it also notes that the concept demands such fundamental change in the delivery of education that to think in the terms of conventional methods involving classrooms, teachers and pupils would be ‘limiting’

Those now involved in GNVQ would not be surprised to learn that ‘managing risk and uncertainty’ successfully involves judgement by ‘learning outcomes’ such as the ‘ability to seek information and advise from appropriate sources’. Various ‘contexts’ would reveal the nature and extent of risk and uncertainty in changing circumstances. Movement of ideas, flexibility of thought and the management of change, which are not, generally speaking, well taught (if ever) would be at the forefront of the student minds; thus they would be better equipped to cope (post-school or college) with rapid and irreversible shifts in the nature of social and economic volition.

I like many of the ideas and suggest they should be welcomed, after all, only ‘in context’ do many areas of knowledge and opinion begin to reveal their true value. The report appears weak, however, in suggesting how its ideas may be useful and of value on contexts outside

employment or the functional skills associated with the daily round of life and here it may be that there is an association with the ideas expressed by Ken Baynes earlier in this 'Journal'. Roughly speaking, his views on how we may deal with the changing nature of the arts and modes of human expression supplies a vital 'context' which appears missing from this report; it is almost as though its progenitors and our contributor were, as it were looking in through different ends of the same telescope.

If schools, colleges and universities are to avoid becoming largely extensions of a work obsessed, performance criteria driven society then this report demands careful study and response; many of its messages are already contained within the framework of contemporary teaching and learning and we must make sure that we understand their purpose and their value.

The Building Experiences Trust: Helping people understand their surroundings

Richard Molyneux

'The Journal' has recently been in touch with Adrian Willis, Director of the Trust, whose schemes carry practical awareness of our built environment into schools, colleges and the wider community.

In teaching, I found that instilling this perception in my students was often a great contributor to the design work that they subsequently did, whatever form their concepts took. A very large proportion of designing, after all, takes place within the large context of the built environment; our chiefly urban surroundings and the inputs of architects, planners, designers and environmentalists exercise a powerful influence, for good or bad. In this Journal ('New Directions in Art Education' p 22), Ken Baynes makes a very considered point that communications and architecture have an sense become victims within the curriculum, particularly that National part of it, and that increasing interest in the arts would do much to stimulate a change for the better.

Beyond that, and particularly as pupils approach the secondary and tertiary phases of education, the influence of organisations such as the Buildings Experience trust and NADE become increasingly vital and beneficial; both appear to share aspects of a common agenda. The lack of knowledge and of appreciation among students can be sometimes salutary, sometimes frightening; witness my experiences of incoming students strong in their wish to pursue A levels leading to a career in architecture, who could not at the time name any of the primal British architects now working and had very little knowledge of the contemporary scene. When asked, perhaps, to conjure a house from their imagination what emerged was a recognisable version, definitely not a parody, of the contemporary spec, builders plundering of vernacular styles in Britain, the architecture museum created by the four bedroom, two garage executive home of today.

From our contacts, so far it is not quite clear where the trust may stand in terms of an aesthetic policy; this is something where of course we will find out more prior to the envisaged article in January. What we do know however, is that the Trust has acquired a considerate reputation from the manner and success of its teaching; the form it takes would not be unfamiliar to some NADE members. Conventional fashion is eschewed where possible, workshops are hands-on affairs where participants of all kinds experience, in a full context, what exactly it is like to plan, design and build definitive elements of the built environment. Through this participation, the argument goes, there comes enjoyment, a strong sense of participation and also that currently rare commodity, a sense of wonder. By participation also, experience gives the chance of a lasting interest, a new fostering of the ability to appreciate surroundings and the knowledge of how we may best value them, care for them and contribute towards them - a process of taking responsibility by means of a process uncommonly like designing.

It is interesting to note, in this context, how the nature of debate in this area has been changing. The language is changing; where words such as 'renewable', 'energy-efficient', 'solar-powered' and 'intelligent' have been dominant features through the working lives of most of us, there is now a new vocabulary emerging which does not necessarily dispose of what have been convenient educational buzz words in their time but places emphasis on others, such as 'permeable' -the public can pass through it; it is not cut off, thereby unsafe. 'High density' may return, after a publicly-enforced absence of many years; flats are back, but with significant changes and the chance of more outdoor space and living. 'Mixed tenure' and 'mixed-use' are revived; homes, shops, restaurants (maybe even work) are together again, and often on a basis of both private and social ownership.

Not perhaps that you would notice in this particular part of West Sussex; perhaps the trust would like to make a small beginning in 'our' schools and colleges?

IDATER 99 Report

Phil Roberts and Eddie Norman

IDATER 99, the Twelfth International Conference on Design and Technology Educational Research and Curriculum Development, organised by the Department of Design and Technology, took place at Loughborough University from 23-25 August 1999. The Conference is a meeting place for subject leaders from around the world: this year delegates attended from Australia, Brazil, Botswana, Canada, Finland, India, Israel, Malta, Mauritius, Taiwan, The Netherlands and the USA.

The Conference is supported by most of the organisations associated with design and technology education in the UK including the Design Council, the Design Research Society, the Design and Technology Association (DATA), The Engineering Council, the National Association of Advisors and Inspectors of Design and Technology (NAAIDT), the National Association of Teachers of Home Economics and Technology (NATHE) and the National Society for Education in Art and Design (NSEAD). We are particularly grateful to the Engineering Council for sponsoring the development of the IDATER website and to DATA for sponsoring the visit of our overseas speaker - Steve Keirl from the University of South Australia.

Keynote Addresses are regarded as a particular strength of IDATER and this was no exception. The Opening Address was given by Ben Dickey and concerned *Designing the Future*. IDATER was very much looking to the future of both the field and its research base this was a very appropriate start. Steve Keirl's address had the title *As if democracy mattered...* design, technology and citizenship. A difficult subject, but a timely one as the new UK National Curriculum emerges, with parallel developments all around the world. Professor Gunther Kress from the Institute of Education, London University spoke on *Transformation and Design: looking again at children and their shaping of the world*. These were excellent, thought-provoking addresses; their publication will make valuable contributions to the field.

The tradition of the Design Research Society inviting a professional designer to open the final day of the Conference was continued by Joe Tibbetts (Chief Executive of the Icograda Foundation), who discussed *Issues in Creativity*. Joe's controversial standpoint got the day off to a stirring start and we hope to publish excerpts.

In addition to the Keynote Lectures thirty-four refereed papers were presented and there were workshops with Focus on Food, Technology Insight and WISE. Kate Bellingham (President of 'Young Engineers' and a former Tomorrow's World Presenter) was the speaker at the Conference Dinner. TEP organised a presentation of The Big Idea - a new design and technology museum opening in Scotland; there were also many formal and informal discussions

New ventures for IDATER 99 were the introduction of a plenary session, which rounded off the conference and looked to the future, Poetry Corner and songs. Neither of these events had eleven years' development behind them, so there is room for improvement, but they did sufficiently well to be retained for IDATER 2000. The Conference papers were published in the book *IDATER 99* and distributed to delegates during IDATER; copies were sent to all copyright libraries. Copies can be purchased.

IDATER 99 was the first conference following the retirement of Eileen Harvard-Williams and the stepping down of John Smith as Conference Director due to his appointment as Head of Department at Loughborough. These were hard acts to follow, but we are grateful to colleagues who have commented on the smooth transition and, particularly, to Pia Mooi Wormald-Lim for all her hard and very effective work in getting her first conference to run smoothly.