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Judith Jeffcoate, *Multimedia in Practice - Technology and Applications*, BCS Practitioner Series, Prentice-Hall International, 1995. ISBN: 0-13-123324-6. £24.95.

Ray Welland concludes his editorial preface to this book with the sentence: 'If you want to find out what multimedia is and what it has to offer this is an excellent place to start'. The comment reflects the major strength of this book, which does provide an excellent starting place for anyone wanting to learn more about multimedia. The author explains what multimedia is today and the technology involved, gives example applications, and projects current trends forward to explore the use of multimedia in the future. She clearly states the perceived audience for the text as 'business managers and project leaders who need to introduce multimedia technology into their applications'. A guide to using the text is provided: Parts I and III are suitable for readers with no technical knowledge; Part II requires familiarity with computer architecture, and Part IV is most suitable for managers planning a multimedia project. These guidelines are useful, but the text as a whole will appeal to anyone who has an interest in learning about multimedia. Technical knowledge is advantageous in some sections, but the author takes time to explain clearly, and uses examples to illustrate points.

The book is very well structured. The author provides an excellent summary of the content in the preface. This clarity of structure continues throughout the text; for example, each chapter begins with a brief outline of its contents and concludes with a summary and references.

Multimedia is a subject engulfed by acronyms and, to prevent confusion, the author provides a detailed glossary which at times proves to be very useful. A bibliography and a full index are further resources which the reader can draw upon.

Part I, 'Multimedia Today', begins by painting a scenario of a modern family using new technology in their everyday lives, then projects the same family into the year 2001, highlighting the role technology may play in their lives in the future.

Part II, 'Technology', deals with the complex areas that make up multimedia, and is the most technical section of the book, dealing with different platforms, development tools, storage methods and the components that make up a truly multimedia application such as images, audio and video. The chapters focusing on the different media are divided into sections describing applications, capture, compression and standards, as well as detailing information specific to each medium. A history of the media is provided, enabling the reader to see, for example, how standards have evolved. This technique of placing information within its historical context is used throughout the book, and is vital for a reader who may be coming to the topic for the first time.

Part III returns to the theme with which the book began: 'Applications'. It focuses on present use and future trends. Again the author places the use of multimedia in its historical context: the early use of multimedia was largely for off-line training and education using interactive videodisk and standalone players.

Chapters in this section detail multimedia uses in training and education, kiosks, image processing, the office and the home. The author draws on real world examples.

Part IV, 'The Impact of Multimedia', highlights other issues that are important in the development of applications, discusses the human-computer interface, tackles legal issues, and identifies steps forward in computing that will influence the development process such as collaborative computing and object-oriented design.

The author says in the preface that she faced a complex task in writing the book 'because multimedia is not a single technology'. The technology and applications are explained well, and recent research is used effectively to highlight present and future trends. However, a reader looking for greater detail on a topic will have to explore other texts. I would nevertheless recommend this book to anyone interested in, or already involved in, multimedia. It is such a diverse area that we can all benefit from what this book provides: an insight into the parts that make up the whole.

Julia Little, University of Wales, Aberystwyth

David Boud, *Enhancing Learning Through Self-Assessment*, London, Kogan Page, 1995. ISBN: 0-7494-1368-9. 247 pages, paperback, £19.95.

At the heart of learning technology is a complex web of ideas on learning; how teachers assess it and how learners can influence it. David Boud's book provides us with a rich source of inspiration that should influence any learning technologist.

Central to education and training is a need to ensure that students benefit from their time engaged in education and what we think of as learning. After an effective class, learners can do and say things they could not have done before. They feel they know something – and they are aware of their learning. We have only a slender conception of the mysteries of consciousness of performance at present. How is it that we are conscious of what we know, and how is it possible to influence our knowing or not knowing? Often when learners or trainees are asked 'What did you learn from such and such an intervention?', they can only answer 'Nothing!'. To the courseware designer this is a cruel attack. The careful design of screens, the consultation with experts and the attention to

the latest multimedia techniques will lead to knowing and an awareness of knowing. Not only will the learner know, but others will, through assessment, be able to judge the intervention as effective. Sadly, this does not always occur. Although we have a very effective examination and assessment system in education and training, designers often feel that assessment is not for them. Assessment is external to the process of design. Assessment smacks of formal education – schools, Key Stages, Highers and A Levels: the external artefacts of a quality control system that we all have to suffer.

Boud's book addresses issues of assessment and examination, not from the outside – the observer's view – but from the learner's point of view. Learning is a self-regulating process. Admittedly, learners do not always see it in this way. Often they feel the only function of education is to get them to the examination room so that they can display their ignorance. Learning technology must address this problem, and this book is an essential guide to the way we can produce more effective and efficient learning experiences.

At the heart of Boud's excellent survey of ideas on self-assessment is reflection or auto-monitoring. Good learners are aware of what they know and how they come to know. Learners who fail not only seem unaware of what it is they should know, but what they can do about it. Boud has provided evidence and stories to give designers plenty of thought. The book is not a single narrative but a number of multiple perspectives on self-assessment.

Boud can speak with authority: he has been writing about reflection on learning for many years. Currently he holds the position of Head of the School of Adult and Language Education in the University of Technology in Sydney. He worked in the UK in the 1970s, and after a sojourn in Perth, moved to the University of New South Wales where he developed ideas in staff development. He is a Fellow of the Society for Research into Higher Education and 'weel kent' across higher education.

The book consists of 17 chapters. In seven of these, Boud is ably assisted by other practitioners and experts in higher education. The book not only provides the theory and research – with an extensive bibliography – but also good examples of how the ideas are put into practice. Boud has divided the book into four parts. After 'Theory and Examples', Part

III makes compelling reading as it deals with issues relating to the effect of self-assessment on formal examination processes. The final section considers, in a down-to-earth way, the practical implications for self-assessment. Here, I would like to have seen more attention to the way courseware designers – learning technologists – can make a positive impact on learning. Too often I feel that designers are over-concerned with presentation. They know about networking and multimedia, but there is a ‘correctness’ about shying away from assessment. Orthodox design seems to avoid assessment as it is ‘other-centred’: something that the system will do to the learner. If only we could build into courseware, and other instruction, opportunities for learners to reflect on their competencies, we would be making a significant contribution to success in life-long learning. One simple example should suffice. Feedback on performance is essential for reflection to occur. Feedback has been shown to have a significant influence on the attitudes of learners to instruction. Boud provides an excellent checklist on offering feedback, and although the advice is general and global, if designers were to read this and to do something about it, learners would be better able to reflect on and influence their own learning. Boud says: ‘Be timely; be realistic; be specific; be descriptive; be non-judgmental; be diligent’ – all things that good designers should be.

Often the best advice we can get comes from an unexpected quarter. If we feel that assessment is only to do with authority and quality control, we miss an important opportunity. Self-assessment is at the heart of learners owning the ability to influence their own success. Designers should thus read and pay attention to David Boud in this excellent book. He is an acknowledged master of putting difficult ideas in straightforward terms. Acquire this book and make use of it.

Ray McAleese, Heriot-Watt University

Ian McGill and Liz Beaty, *Action Learning*, London, Kogan Page, 1995. ISBN: 0-7494-1534-7. Second edition, 274 pages, softback, £19.95.

This guide sets out to provide a practical approach to action learning. Aimed at readers seeking to develop their personal learning through participation in action learning groups, as well as those wishing to introduce the process into a wider educational programme.

The underpinning principles upon which action learning is based are discussed in sufficient detail to provide a basic grounding, but the main strength of the guide lies in its focus on the successful practical implementation of action learning sets. This includes not only guidelines for implementing an introductory workshop, but also for the range of skills required by set members to enable them to participate effectively as action learners. The authors aim to demystify action learning, and reveal its strengths as a method of personal learning and development.

The book is divided into three sections. In the first, the focus is on the meaning of the term *action learning*, and the presentation of an understanding of what it is to be an action learner. This is then developed in the second section, which looks at effective set membership and the types of skills needed to ensure that the individual is able to participate fully in the action-learning process. The final section places action learning in a number of professional and educational settings, and shows how it can be used to enhance personal development and learning in those contexts.

In Part I, action learning is described by the authors as the ‘process of learning and reflection that happens with the support of a group or “set” of colleagues working with real problems with the intention of getting things done’. In Chapter 2, action learning and the role of the action-learning set are defined, with particular emphasis on the importance of the relationship between action and reflection. Action learning is based on the principles of Kolb’s experiential learning cycle, which embodies the idea that systematic reflection on prior experiences can help in the generation of future ideas, plans and actions. A useful distinction is made between action learning and action research in order to avoid any potential confusion between the two approaches, given that both are closely aligned with models of experiential learning. Chapter 3 describes how an action-learning set is formed, and how it works at a structural or organizational level, setting the scene for the two following chapters which describe in detail what it means to be a set member and a set facilitator. The concluding chapter in this section is an examination of different types of action learning.

In Part II, consideration is given to the way in which action learning can be introduced to potential participants. This section is very much

about getting action-learning sets underway, and a large part of it is devoted to presentation of a format for an introductory workshop. This includes a schedule and a set of suitable supporting activities. The remainder of this section describes the interpersonal and learning skills required by set members, which will enable them to participate fully in the activities of the group, and for the set to function effectively.

The final part of the book looks at the potential of action learning in the settings of continuing professional development, management development and higher education. The concluding chapter in this section addresses the potential contribution of action learning to individual, organizational and social change.

In the final chapter of the book, the authors express a concern that by writing a how-to text, they run the risk of being too prescriptive and of presenting a definitive approach to action learning. This is not the case. What they do present is a clear exposition of the underlying philosophy of action learning, with a sense of the boundaries within which it can be shown to work effectively. The book presents action learning in a clear and logical way, with a good balance between attention to the underlying principles and the practicalities of being a set member and/or facilitator. This book is thus a valuable resource, which will be useful to a wide range of readers, from those interested in finding out a little more about what action learning offers, to those seeking more practical guidance in the facilitation of, or participation in, an action-learning set. The authors convey not only a genuine belief in and commitment to action learning, but also an enthusiasm for the contribution it can make to personal development and learning. It is clear that this book is written by two people who care about action learning, and who wish to share the insights gained from their own professional practice with a much wider community.

Susan Fowell, University of Sheffield

Higher Education 1998 Transformed by Learning Technology, edited by Joyce Martin, Jonathan Darby and Bengt Kjoellestroem, published jointly by CTISS Publications (CTI Support Service, University of Oxford) and the Swedish Council for the Renewal of Undergraduate Education, University of Lund, 1994. ISBN: 0-9513896-6-1. Softback.

Although the art of prophecy is problematic; time tells whether our view of the future has been rooted in the present. The art of prophecy is problematic because most seers are on a hiding to nothing. We live in a time of change, and merely predicting that change will come about is a truism. The issues of interest are the rate of change, its nature and the vehicles by which it arrives on our doorstep (or gets lost *en route*). Those involved in the promotion of IT and other forms of resource-based learning are frequently driven by evangelical zeal, and are often at a loss to understand why their enthusiasm for all things digital is not shared by others as they proclaim their millenarian visions. On the one hand, technophiles tend to dismiss sceptics as Luddites and dinosaurs, while those of a more moderate disposition simply assume that training is the panacea for those poor myopic souls whose narrow conceptual horizons condemn them to a sequestered life in the technological void. Both sides, paradoxically, usually view the digitization of the world as inevitable. The only question is how long the resistance can be maintained.

This book is a brave attempt to operationalize a view of the future. How well does it do it? Unfortunately, not well. Even though its scope is specific, comparisons with Negroponte's *Being Digital*, and even Bill Gates's view of *The Road Ahead*, are inevitable. Both those books were written by people with a serious vision (which we may or may not share), but, by way of contrast, *Higher Education 1998* is less a vision of what life will be like on the campus two years from the millennium than a series of mechanistic extrapolations. In other words, it has been assumed by the contributors (and certainly the editors) that we will be doing much as we do now, only more rapidly and with better technology: more work at home, sandwich-style study, extensive use of email, and a centralized network providing communications and learning resources. The change conceived is, from both an academic and organizational perspective, incremental rather than qualitative.

The event from which this book derives was the first (and perhaps last) international CTI jamboree. The Computers in Teaching Initiative had been set up in the UK in 1985 by the then universities' Computer Board, to promote the use of computers in university teaching. The first of two phases centred on the funding of 139 software development projects, many of which

quickly sank without trace. In the second phase, it was recognized that software did not implement itself, so human beings were funded to operate in academic disciplines through a dissemination network of (currently 24) CTI subject-based centres, most of which were established in 1989 and which remain in place. Since they began, all CTI centres have published journals and newsletters, undertaken reviews of courseware, provided an advice service, visited departments within their disciplinary constituency, and organized workshops and conferences.

There have been two attempts to establish the CTI model beyond the UK: in Eire and Sweden. Of the former we know little. Prospective founder members of the Swedish CTI attended the UK CTI 1992 Spring forum in Stirling; and in the following year a joint conference was held in Lund for members of the UK CTI and colleagues from Sweden keen to establish a similar organization in their country. The theme of the conference was a futuristic one: 'Higher Education 1998 Transformed by Learning Technology'. A scenario was set out, and the question asked: 'How did we get from there (1993) to here (1998)?'. The conference took the form of formal papers by invited speakers, case studies, and participant-work in small groups looking at various problems. The fruits of all are represented in the proceedings published here. The task for the conference delegates was to undertake a retrospective look 'back' over five years and to analyse the processes that marked the changes posited to be in place. At the time of publication of this review, we are now more than halfway 'there'. So with the benefit of partial hindsight it is possible to begin to assess how accurate were the original vision and the integrated analysis.

Learning technology is not just perceived by its proponents as being an application in search of a solution. It has much loftier ambitions: nothing less than cultural change. Inherent in this assumption is the view that because the adoption of information technology has already brought about a considerable degree of change in society generally, linking together higher education and computers generates an inexorable facility for widespread change in universities. Unfortunately, IT zealots seem remarkably naive as to just how much de facto opposition there is to the use of computers within teaching contexts in higher education. Granted, there is little likelihood of midnight

raids by modern-day torch-bearing Luddites bent on physical destruction of computers, but that probably has more to do with the fact that most of them do not know where the bulk of computers are kept. Most of the 'opposition' seem quite content to do nothing; given that only a small (though growing) section of the lecturing community has come around to the idea of using IT in teaching. This suggests that the status quo says more about those doing the promoting than those being addressed. Many lecturers teach IT, rather fewer teach with it.

I was disappointed to find the book unconvincing, lacking in sedulous argument, conceptually disjointed, badly written in some parts and simply execrable in others. This is not to impugn the editors for the variable quality of the writing, although the imperious constraints of a publishing deadline no doubt occasioned hasty editing in some sections of the work. The chapters hang very loosely together all too typically in edited works these days. The worst example is of the final case study on interactive visual electromagnetics, leading straight into the section reporting on the outcome of small-group discussions, without any signposting for the reader to prepare him or her for what is to come, as shown by the first sentence of the next chapter: 'There was a consensus in the group that . . .'. Anyone who missed the second paper, which set the stage, would be totally confused. Even those who do not use hypermedia do not necessarily start at Chapter 1 and read books in an invariable linear sequence.

If the key to rooting the future in the present is dependent on international co-operation, all will come to naught. Both the Irish and Swedish CTIs have failed to take off. A recent survey showed that, except in one CTI centre, no active co-operation now exists beyond the exchange of journals. The UK CTI centres have some sense of history, and many of their papers do provide an introspective temporal perspective on developments. Unfortunately, many of the Swedish papers are simply descriptive snapshots of the 'look what we are doing' variety. More importantly, the book fails to take into account the two insuperable obstacles to change: the combined lack of funds, and the erroneous assumption endemic in both the Swedish and US contingents that once the technology is in place, everyone and his dog will flock to make use of it. This is a myth, and many of us who were there were rather surprised to learn that many (but not quite all) of the Swedes could not

believe that there was a widespread degree of resistance in higher education. Neither could they grasp something we knew only too well in the UK: the absence of a common will to implement the necessary structural and organizational changes in institutions and curricula. Conservatism in academia is so pervasive as to be ubiquitous, even inherent, and the lack of reward to overcome inertia is a vital catalyst; without it, the vision of the future promoted here remains in the future.

Another missed element is the axiom that those who neglect to learn the lessons of history are condemned to repeat them. Very few of the participants here had any sense of past development, something being mirrored in many TLTP projects. It is almost as if new groups arrive on the scene every two years or so, totally ignorant of what has transpired to date. Beware the IT enthusiast: his/her evangelical fervour automatically seems to block out the past, almost as if the past never existed – only a future to which they strive. Technological upgrades seem to make more than equipment obsolete: there also seems to be a concomitant vaporization of modes of use.

The major flaw is made explicit in the introduction to the final paper: 'Funding and technical obstacles were not allowed to affect the group's discussions, so the picture that emerged [. . .] was the perfect scenario for the student in 1998 – sufficient finance was available and all technical problems were resolvable'. Worse is to follow: '[. . .] it is important that there is a sound IT strategy led by computer services within all institutions.' And we are not done yet: 'The university's administration will also make use of IT for it will help overcome scheduling difficulties created by the increase in student numbers.' With flawed thinking like that, no wonder nothing substantial emerged.

The future remains open. Next, please.

John Castleford, University of Leicester

Jim Sterne, *World Wide Web Marketing*, New York, Wiley, 1996. ISBN: 0-471-12843-0. 331 pages, softback, £15.95.

This is the best book I have read on using the World Wide Web (the Web) as a marketing device. It is profusely illustrated with sample Web pages, and it ranges from discussions of detailed issues on layout, buttons, and graphic

design, to measuring your impact, establishing your criteria, and making your site fun. Even if you use the book just to get an overview of the variety of information sources on the Web and how people have used it for different aims, it is well worth looking at. And if you are particularly interested in promotion, marketing or other related value-added services, you probably need go no further than this book.

There are 14 chapters. They cover a very good general introduction to the Internet, and then focus on the Web. The author looks at graphics, feedback, interactivity, value-added marketing, gaining attention, measuring success, starting points and, finally, adds a very interesting chapter which looks towards the future and discusses where the Web might be in a year or two.

The author claims that the book is written by a marketer for marketers. I am sure that is true, but there is also a lot of useful information that a non-marketer will get from it, and it will be a very good index against which to judge marketers' advice. Anyone who has a Web site which is essentially providing information will have plenty of indices against which to judge that site. And the book will provide a good way of seeing through marketers' recommendations and establishing your own objectives (as well as of borrowing ideas).

Sterne puts some very interesting information in his appendices. He gives a run-down on a range of discussion groups all to do with marketing, including academic marketing. He then lists a whole range of marketing-oriented Web sites that he recommends, and finishes the book with a useful index which takes you through most of the sites he has mentioned, the companies, the concepts and so forth.

Even though the Web is doubling in size every 53 days and is changing radically as it grows, this book is still up to date, and has a large amount of valuable data. All the way through we get the distinct impression that Sterne knows what he is talking about. His style is straightforward and, what is more, every page is displayed from Netscape Navigator on a Macintosh (the fact that the book, so very much focusing on business, uses a Macintosh as the delivery engine, appealed to me!).

If I have a criticism, it is that in describing pages which are displayed, Sterne sometimes states the obvious, and there is the occasional over-use of

exclamation marks. But on the whole, this is a well-written and attractive book, and oversized to allow for the large use of graphics. Indeed, if you do not want to listen to Sterne's own account, just by looking in detail at the illustrations, you can get a fairly clear idea of the range of uses of the Web, and some of the clever ideas which have been picked up by a range of large and small companies.

I suppose I can sum up the book by quoting the final paragraph: 'So go surf the Web. Assemble a team. Read some books. Get some tools. Write a style guide. Get started. Get started soon. It will be much harder to catch up later'. The book is a good and fast read.

Nigel Paine, Chief Executive, Scottish Council for Educational Technology

Fred T. Hofstetter, *Multimedia Literacy*, New York, McGraw-Hill, 1995. ISBN: 0-07-911956-5. 360 pages, paperback, plus CD-ROM, £20.42.

This book is published as an A4-size (American) edition with an accompanying CD-ROM. The disc is intended for use on MPC (Multimedia Personal Computer)-compliant systems. The 40 chapters that make up the book are organized into seven basic parts. Of these, the first four (chapters 1 to 17) are devoted to understanding multimedia, a survey of its applications, selecting suitable hardware, and looking at imminent and long-term future developments. The remaining three parts (comprising chapters 18 to 40) each present a hands-on tutorial using the various software resources presented on the CD-ROM. These tutorials cover multimedia tools and techniques, developing a simple multimedia application, and creating advanced multimedia packages. The chapters begin with a statement of objectives which specify what readers should be able to achieve on completion of their associated study units. Apart from those in Part 6, every chapter includes a set of exercises which provide various opportunities for involvement in hands-on activities using the CD-ROM.

The 'theory' section of the book (Parts 1 to 4) includes introductory chapters that deal with the various MPC specifications, a multimedia object taxonomy, and descriptions of various application areas such as education, entertainment, business and industry, government and medicine. The sections that deal with corporate training, just-in-time training, medical training

and education are particularly interesting, and relevant to those involved in the pedagogic aspects of computer use. Subsequent chapters in this section deal with a variety of different topics including application development packages (PowerPoint, Harvard Graphics, ToolBook, PODIUM - see below -, Authorware Professional and Quest), competing multimedia standards ('multi-multimedia'), multimedia PC components, checklists for buying a multimedia computer, and how to configure MPC systems. Some thought is also given to possible future developments in these areas and the legal issues that multimedia technologies create. The book therefore considers recent developments in electronic publishing, the impact of the information superhighway, virtual reality and emerging technologies. Various societal issues associated with multimedia (and the Internet) are also discussed. Throughout the theory part of the book, the author makes frequent references to demonstration material contained on the CD-ROM. Thus, after reading about a topic, system or package, you can follow up these references and use demonstration versions of the software discussed in the text.

The hands-on section of the book is based on the use of a multimedia authoring tool called PODIUM. This tool is available for purchase from the University of Delaware, but a cut-down version of the system is supplied on the CD-ROM for use with the tutorials. The first eight of these tutorials (chapters 18 to 25, which make up Part 5 of the book) deal with the use of screen-based text, simple graphics (based on bitmap images), triggering events, waveform audio, CD audio clip-making, MIDI sequencing, digital video recording, and videodisc clip-making. For those who are new to multimedia techniques, the practical activities embedded in these chapters would serve as a useful means of developing the necessary background skills. In Part 6 (chapters 26 through 30), the tutorials lead readers in a step-by-step fashion through the development of a simple multimedia application that deals with the history of flight. The essential steps involve creating a pictorial menu (using images of aeroplanes taken from the CD-ROM), and linking these to related multimedia information (again taken from the CD-ROM). The ten chapters that make up the final part of the book are used to illustrate the stages involved in creating a more advanced multimedia application. The case study that is chosen deals with the

use of various information-superhighway services such as ftp, telnet, gophers and news feeders. Within this section, readers are taken through the steps involved in creating the basic package using PODIUM. A bill-board metaphor is used as the basis for the end-user interface; this is also used for linking in the various Internet resources that are called upon.

I found this book exciting and easy to read (it contains a multitude of useful illustrations, all of which are in colour and of an extremely high quality). The book is very readable for two reasons: first, because it does not delve too deeply into the highly technical detail of multimedia; and second, because it gives comprehensive explanations of all the steps involved in undertaking multimedia development tasks. Because it uses a friendly hands-on environment for teaching, this book would undoubtedly make a useful starting point for those who are computer literate and want to find out more about creating and publishing multimedia learning resources.

Although the book can be read independently of its CD-ROM, the latter certainly adds value to the learning experience. The polymedia approach to publishing (paper and CD-ROM) taken here is, not surprisingly, becoming an increasingly popular way of providing active learning experiences.

Philip Barker, University of Teesside

J. Brown, R. Earnshaw, M. Jern and J. Vince, *Visualization - Using Computer Graphics to Explore and Present Information*, New York, Wiley, 1995. ISBN: 0-471-12991-7. 287 pages, paperback, plus CD-ROM, £35.00.

To paraphrase the authors' own words: the publication is a non-technical guide which provides a brief background on the field of visualization - the use of computer graphics to explore and present information. It is intended for IT professionals who need to evaluate or implement a computer-graphics or visualization facility.

The nine chapters lead the reader from an introduction to the concepts of visualization, through the commercial possibilities of its use, the range of currently available hardware and software and a number of case studies, to a cautious vision of likely developments in the near future. Throughout, there are screen-shots of visualization applications in use and

references to specific software producers and their products.

Chapter 1 gives a brief and rather spasmodic history of the ideas behind visualization, starting with mankind's first use of maps and mentioning the discovery of X-rays on its way to bringing in computer graphics and virtual reality.

Chapter 2 discusses the global markets for visualization applications in Computer Aided Design, Geographical Information Systems and Visual Data Analysis. Estimates of the current size of the markets and their likely growth are given as quotes from various commercial sources. The chapter continues with a brief discussion of the issues to be addressed by a company entering the field. Comparisons are made between custom and off-the-shelf software, in-house development and outsourcing, and the adoption of ISO versus *de facto* standards.

The third chapter covers the range of possibilities of computer-generated images and the ways they can be produced. Methods of creating visualizations from subroutine and object libraries, from fourth-generation languages and from visual programming tools are catalogued. The whole range of visualization output is covered, from 2-D charts and graphs to animated, rendered, 3-D models. Important concepts are introduced - viewports, interpolation, contours, iso-surfaces, vector field visualization and geometric modelling, but, in common with the rest of the book, the descriptions are superficial, concentrating on breadth of coverage rather than detailed explanation.

In chapters four and seven, the concepts introduced are revisited in terms of particular application fields. Software requirements for Computer Aided Design, Finite Element Analysis, Computational Fluid Dynamics, Geographical Information Systems and Mathematical Visualization are analysed in Chapter 4, and suitable visualization products for these fields are listed. There is also a discussion of typical hardware platforms from PCs to supercomputers, and of image-related output peripherals. Chapter 4 concludes with a Buyer's Guide, a table showing the features of a number of current visualization and graphics products (for those interested, a more comprehensive list is given in the November 1995 edition of *IEEE Spectrum*). Over 20 short

visualization case studies are described in Chapter 7. The rationale for using visualization techniques is given in each case, and sometimes the software and hardware used is mentioned, but there is no other technical detail.

The other two chapters in the book contain an uncharacteristically detailed section on the use of colour and a history of GUIs, with some explanation of the structure of X-Windows and Motif, and a description of the Internet.

The accompanying CD-ROM contains digitized copies of all the images in the text, some of the tables, and 16 QuickTime movies showing visualization in action. None of these are explicitly referred to in the text, but they are organized into directories which match the chapters of the book. The CD is dual-format, readable by PCs and by Apple Macintoshes.

There are two viewers included: Adobe Acrobat (although the Buyer's Guide is the only document in this format), and Apple QuickTime for viewing the digitized videoclips. The images and figures from the book are stored in TIFF format, and no viewer is provided for them. TIFF viewers are readily available, and are built into some word processors, but it does seem rather inconsiderate not to provide a way of looking at the bulk of the content of the CD (had the images been stored in JPEG format, they could have been seen with the supplied QuickTime viewer). The images and movies are drawn from commercial visualization examples. The movies, many with sound, are mostly publicity or demonstration material produced by large corporations, and show very slick examples of high-quality computer graphics. It is questionable whether digitized video is the best medium to use for these examples, but I suspect that the novelty value of a book with an accompanying CD-ROM is still enough to override such practical considerations. Nevertheless, distributing a video tape with the book would be a better way to experience the high quality of state-of-the-art visualization. The quality would be much better, and the examples could more easily be shown to a large audience. Of course, there are reasons for using CD instead; they are cheaper to produce than video tapes, more compact, and only one version is needed to cover the main formats. I felt, though, that the authors have not made the best use of the possibilities of the CD-ROM medium. They could have included demonstration versions of visualization software, some of

which the manufacturers are falling over themselves to give away, or simple simulations to illustrate some of the concepts introduced: visual programming, choice of colour in visualization design, and 'walking through' data, for example. They have missed the opportunity to convey the sensation of interacting directly with data, which is surely the biggest selling point for visualization tools.

As for possible use of the book in education, it is too light on detail to be used as a visualization or computer-graphics textbook. It may have a place, however, as a primer for students who are about to embark on visualization or multimedia projects. The publication's broad taxonomy of applications and the state-of-the-art examples it provides may inspire them to explore more widely the possibilities of the field.

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Andrew Bradbury, *Successful Presentation Skills*, London, Kogan Page, 1995. ISBN: 0-7494-1749-8. 107 pages, paperback, £6.99.

This book is a new addition to the well-known Kogan Page series of guides for business managers, 'Better Management Skills'. Like all books in the series, the intention is to provide a practical but comprehensive coverage of the area in a readily accessible and easily read form. Since effective presentation, the topic of this particular book, is informed by a wide range of quite complex material, including studies of communication theory, learning styles, body language, visualization, and memory, the author has had a particular challenge. Readers need to be able to understand enough of the theoretical ideas that justify the suggestions, and to see these in an integrated framework to gain confidence for implementation. Hence, within a text of just over 100 pages, there are 14 very short chapters, each one covering a range of different ideas leading to practical suggestions. The book begins with two basic messages: that everyone in business should realize the importance of presentation for success, and that everyone can learn how to make a successful presentation. In the following chapters, the author suggests how this may be achieved.

'How we communicate' includes a repeat of the message that needs to be repeated so many times – the importance of non-verbal signals

(93%) to verbal content (7%) in presentations. Systematic ways of building up confidence are outlined in the next two chapters. Later chapters deal with objectives, structure and organization. The critical thing to identify is the objective. Once this is clarified, the appropriate structure and organization can be decided. The chapter on knowing your audience stresses the importance of putting the customer first. Here, the treatment of learning styles may be cursory, but is sufficient to stress the need to consider them in both the preparation of material and how questions are to be handled.

There are two chapters on fitting the words to the presentation frame. The first deals with how many points you can hope to cover within given time-slots, and offers advice on how to adapt materials. The second emphasizes the importance of the conclusion. Presenters often pay a great deal of attention to their introduction, but neglect the need to provide a good ending.

A following chapter deals with the critical first 60 seconds of a presentation. A joke? A question? An anecdote? What helps? What does not help? This topic provides a useful way into the two chapters that deal with visual aids. The first of these reviews the advantages and disadvantages of chalkboards, whiteboards, flipcharts, overhead-projector transparencies, slides, computer-based displays, video and film. This is followed by a brief treatment on designing effective visual aids.

A welcome chapter on the setting up of display facilities provides a reminder to the presenter not to forget to consider the arrangements for the audience as well. As in all the chapters, there are useful tips: for example on how to deal with situations where you have a large number of seats and only a small audience, and when and where to have refreshments served.

Why, when and how to deal with questioners and hecklers is the subject of the next chapter. This topic not always covered in texts on presentational skills, yet it can be one of the aspects of a presentation about which the novice presenter is most nervous.

The final chapter looks at personal presentation, and once again the message is the importance of paying attention to how you say what you want to say as well as what you want to say.

The whole text is written in a very lively manner

with ample use of boxes, bullet points, review questions, lists of key ideas, tips and mnemonics. I particularly liked PANIC, when called on to make an unexpected presentation. PANIC unpacks most helpfully as Purpose, Audience, Need, Information, Communication. Sometimes, however, the reader may feel the need of a further glossary. The instruction to 'indicate whether batteries are included' translates into letting your audience know what their follow-up action or success criterion will be. Such examples illustrate how the book is intended for a business readership. This point does raise some minor concerns. First, such a readership may readily accept the 'sound byte' approach, but not all readers will. Snappy headings are used over-abundantly not only for chapter headings but for sections within chapters, and for some readers, such a treatment may jar. Secondly, some academic readers may wince at the summary treatment of their particular area of academic interest. There is a brief basic bibliography appended.

But the skills of effective communication are common to business and academic presentations. This book contains many helpful practical suggestions on presentation which are relevant to readers who present research papers, lead seminars, give lectures and run workshops. And it must be admitted that although there is currently a lot of emphasis on communication skills in the academic field, the presentation of the subject matter, if addressed at all in the standard course texts, tends to concentrate on written reports. This book can help to fill the gap.

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J. Ceserani and P. Greatwood, *Innovation and Creativity*, London, Kogan Page, 1995. ISBN: 0-7494-1593-2. 192 pages, paperback, £12.95.

This is one of the Kogan Page 'Fast-track MBA' series which aims to present core subjects from a typical MBA syllabus in a lively and accessible way. The claim is that the series provides texts that have a 'practical, action-oriented style which involves the reader in self-assessment and participation'. The intended readership is managers wanting either to refresh or further to develop their capabilities, or those actually undertaking study for an MBA – who should find that the series provides a solid grounding in the subjects to be covered. At the

outset, the book states that it is 'not a book', but rather a prompt to a journey of exploration. Indeed, the reader is encouraged to read the main sections in any order.

Part 1 introduces the 'toolkit'. Some analysis of the importance and extent of innovation in business is reported. For example, some 80% of US companies say that innovation is very important to their business (though no evidence is offered of the situation in other countries). Only 4% of these companies say that they are good at innovation. Sales, profits, and market share were all found to be improved in innovative companies. The advice which follows is an attempt to encourage forms of thinking which may lead to innovation. It often does this by phrases such as 'you are creative'; 'you are an innovator'; 'take this thought into yourself'. Albert Einstein is quoted several times. There are also many short examples of ways in which new thinking has led to product innovation. There are maps and diagrams, some of which are superfluous. There is helpful advice on how to run meetings in order that unconventional or even silly suggestions can be considered without participants feeling uncomfortable or threatened. A structure for creative problem-solving is then proposed.

Part 2 purports to demonstrate a map of the territory of innovation. However, it differs from Part 1 only in some details. One of these lies in considering the participants in a meeting as a cast of Jungian characters, though it is doubtful whether the descriptions accurately mirror Jung's theory of psychological types. The level of subtlety introduced clouds any practical benefits: I tried viewing a (real) problem from several of these angles and found the distinctions impossible to apply.

Part 3 is entitled 'The Author is You', which means that after being told that creativity is like sex, there follows 30 pages of simple questions with blank boxes for the answers.

In attempting to teach creative thinking, this book has several flaws. It is a slim volume with many pages that convey very little information. For those who require structure, it does not offer a coherent and systematic methodology; indeed it confuses by a plethora of simplistic examples backed up by gimmicky phrases. Many are entertaining, some are useful, but taken as a whole there is little of substance. It is not 'not a book'. It is simply a book which is not academic: it appears to be written for

people in a hurry, and who are not prepared to concentrate on gaining a deeper understanding of the subject. It has surface but no depth. Perhaps people studying for an MBA are like that, but I doubt it. The authors have a background in training business personnel using these techniques. Perhaps this is the book's main deficit: in direct face-to-face training, trainees may be led to gain an understanding – through several differing exercises – of a more ideational and playful form of thinking which may lead to innovation. In the hands of a skilled trainer, these disparate threads can be pulled together. In this book the threads are left hanging. It is strange that though the text often uses examples based on manufacturing industry, it neglects the use of those who are skilled (and talented) in creative thinking, for example industrial designers. Now that really would be innovative.

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Julie Cotton, *The Theory of Assessment: an Introduction*, London, Kogan Page, 1995. ISBN: 0-7494-1709-9. 160 pages, paperback, £14-95.

Towards the end of this book, the author Julie Cotton advises assessors to be 'positive first'; and like much of the practical advice contained in *The Theory of Assessment*, I propose to take it. The book provides much valuable practical advice on how to construct effective and suitable modes of assessment; but as a discussion of the theory of assessment, it is frankly disappointing. To some degree this criticism arises directly from one of the book's greatest strengths. The author describes the book as 'an introductory book with suggestions for activities to help you apply the theory to your work'; and this is exactly what it is. The difficulty, if it is one, is that it is stronger on application than theory.

For example, in the introduction the author writes: 'Assessment is not a bolt-on extra to teaching and training but an integral part of the planning, preparation and delivery. Indeed, good assessment is a consolidating tool within the learning process'. One can only concur; but this remains an assertion rather than a developed theoretical position. Nonetheless, it is one of the fundamental assumptions of the book, and much of what is valuable in the book arises from it.

The book is divided into 10 chapters each of which covers some issue or issues that arise

from considering the role of assessment in education and training. Each chapter carefully sets out several 'concepts', the development of which is punctuated by short sections that invite readers to 'stop and reflect', or by some 'activity' designed to make readers evaluate their own practice as assessors. Thus at one point in Chapter 2, 'Traditional Methods', the reader is asked to reflect on the question: 'Do you think that regular assessment encouraged or discouraged your progress during formal study?'; and later to perform the following activity: 'The next time you set an "end" test paper, write it in the form of a structured paper with a clear marking scheme and write a student feedback form. Check to make sure that the learners get better feedback from this experiment.' Pursuing these strategies as a reader may not exactly lead one to theorize one's modes of assessment, but it can certainly provide a fruitful way of reflecting upon them.

Chapters 1 to 6 consider a range of testing strategies and methodologies, including various forms of objective, standardized, and psychometric tests. In general, the discussions are most fruitful when dealing with modes of assessment that do not invite open-ended answers. There is comparatively little consideration given to the theoretical or indeed practical issues that arise in assessing, for example, open-ended essay-type questions. Of course, much of the general discussion of such issues as 'Reliability and Validity' (Chapter 6) applies equally to open-ended examination situations and more closed objective testing. Furthermore, since many readers of *ALT-J* are likely to be involved in some form of computer-aided learning where open-ended assessment is notoriously difficult anyway, this concentration on more closed forms of examination and testing is by no means a serious fault. For example, Chapter 5, 'Statistics and Records', provides an eminently readable and helpful introduction to the intelligent use of statistical analysis within an assessment situation. Certainly, there is much there that could be used by CAL/CBT developers to help them devise intelligible modes of representing data gathered about student performance in computer-based learning environments. Similarly, much of Cotton's practical advice about how to devise various forms of tests applies equally to

computer-based and paper-based modes of assessment. However, given the current interest in computer-based assessment, viz. the recent edition of *Active Learning* devoted to the subject, it is somewhat disappointing that Cotton only gives it a single page of consideration.

The book has a strong bias towards 'competency-based learning'. The subject is introduced in Chapter 3, and much of what follows seems to accept that this is the most appropriate form of assessment. Again one is inclined to concur, but the arguments in favour might have been more strongly developed. For example, in Chapters 7 and 8 which deal with external and internal verification respectively, the author accepts the NVQ approach as an example of good practice. At the very least, this is a contentious claim, but it is not debated as such. No doubt this is partly because of the author's considerable expertise in the field of NVQs, but it also appears to be partly a function of her acceptance of the competence-based model. Nonetheless, for those readers involved in developing or teaching within the NVQ framework, these two chapters should prove invaluable. Indeed, for anyone interested in NVQ, the whole book is a valuable introduction.

The final two chapters, 'Trends in Assessment' and 'Self-evaluation and Appraisal' are the least interesting in the book, and seem, after the detailed analysis of NVQ, to come as something of an afterthought. Even the proposed 'activity' with which the book closes falls somewhat flat even though one could not argue with the appositeness of ending this book with the words: 'Write your own appraisal form as self-evaluation. What better to finish this book than to fill in this form for yourself to start your own system of self-evaluation!'

One final criticism that is in no way the responsibility of the author. The book did not survive the process of review. When I was just over half way through, pages began to fall out. This is not what one expects from a publisher as respectable as Kogan Page or from a book priced at £14.95.

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