

*onTime*

# VIDEOTEX, VIEWDATA & TELETEXT

A TRANSCRIPT  
OF THE  
ONLINE CONFERENCE  
ON VIDEOTEX,  
VIEWDATA  
AND TELETEXT

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**Videotex, Viewdata, Teletext**

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## Introduction & Preface

The use of the ubiquitous TV set as an information display and interactive personal electronic communication device will bring dramatic changes to the way in which we conduct our day-to-day lives. The effect will at first be most apparent in business with the easy availability of computer-stored information and the ability to send and receive mail electronically. The effect will then become apparent in the home with the TV set gradually enhancing its primary role of entertainment device to incorporate information acquisition, computer-aided education and electronic message transmission.

This book comprises written back-up to the presentations given at Viewdata '80 - The First World Conference on Viewdata, Videotex and Teletext.

To ensure that the preprints are as up-to-date as possible, the authors have supplied them to us in camera-ready form which does not allow for editing and for this reason we would ask for your understanding with some of the overseas papers where English is not the author's native language. In order that we could include as many of the pre-prints as possible, they appear in random order.



# Biographies

Authors of the papers contained in this book have been invited to send biographies of themselves to be included in this section. Those which we have received are listed below.

M H Aston has been associated with Prestel since its inception, particularly in the educational field. He is educational Prestel consultant to the Council for Educational Technology for the United Kingdom and Deputy Director of the Advisory Unit for Computer Based Education at Hatfield, Hertfordshire.

O Bärklund graduated from the University of Helsinki in 1973 when he gained his M.Sc. degree in computer science. After working in the Computer Science Dept. in the University he joined Softplan in 1974. Since 1975 he has been assigned to videotex research and development within Softplan and has been responsible for the software development in the Telset and Mistel projects.

Sir John Barran is head of the Central Office of Information's Viewdata Unit which he helped to set up three years ago. He is also Chairman of the UK Government's Inter-departmental Working Party on Viewdata and, as such, is involved in co-ordinating the activities of all Government Departments in this new medium. In addition, he is a member of the Council of the Association of Viewdata Information Providers (AVIP); and Chairman of their International Committee. He also sits on the British Post Office's committees for Information Providers and Market Research.

Sam Berkman is a Project Manager in AT&T's Residence Marketing Department and has just completed a Videotex Concept Trial. He is responsible for the guidance of the development of new residence products through introduction and for the management of the Videotex Concept Trial. He has been with AT&T Marketing for three years, and had been with Western Electric Company the previous three years. Prior to his marketing positions, Sam held numerous Western Electric assignments in Engineering and Manufacturing Operations.

Gregor Bochmann received the Diploma in physics from the University of Munich in 1968 and a Ph.D. from McGill University, Montreal in 1971. He has worked in the areas of programming languages and compiler design, communication protocols and software engineering. He is currently Associate Professor in the Département d'Informatique et de Recherche Opérationnelle, University of Montreal. His present work is aimed at design methods for communication protocols and distributed systems. At present, a project on databases for Videotex applications is underway at Montreal University.

Peter Bowers joined the TVOntario organisation at the end of 1967, when it was still in its formative stages. Initially as Chief Engineer and latterly as General Manager of Operations, he participated in the development of the organisation to its present state, where it broadcasts educational programs 5500 hours per year on the 9-station television network in Ontario. Most recently TVOntario has launched two significant field trials under his direction. He graduated from the University of Toronto in 1956 in Engineering Physics and in 1972 acquired an MBA from York University.

Herbert Bown studied at Memorial University in St. John's and Nova Scotia Technical College in Halifax, where he received his Bachelor and Masters Degrees in Electrical Engineers. He joined the Defence Research Telecommunications Establishment and remained with them when it became the Department of Communications in 1969. He is Director of Data Systems R&D and Telidon Program of the Department of Communications. As Manager of the Image Communications Program, he was responsible for the Research and Development activities which resulted in the Telidon concept. He is a member of ACM, IEEE, CIPS and APEO.

Roy Bright is well known in the UK and overseas for his long association with the British Post Office. During his BPO career he worked extensively in the field of data communications including Packet Switching (EPSS). In the early 1970's he began his major involvement with Viewdata and laid the foundations for today's commercial and policy strategy for Prestel; first as Project Sponsor then as Commercial Manager for the world's first viewdata trials. During the late 70's he was responsible for the successful series of collaborations between the BPO and Administrations in West Germany, Holland and elsewhere. In late 1979 he joined the French Administration to establish a new subsidiary whose aims are to promote international participation in the French Telematique programme.

Stephen Castell obtained his B.Sc. in Maths, Physics and Psychology from London University and his M.Sc. and Ph.D. in Maths from Nottingham University. He began his career in industry as Applied Mathematician at British Aluminium Company Ltd. His last appointment before starting to run his own business was a Group Management Services Manager for merchant bankers Bremar Holdings Ltd. In November 1978 he founded Castell Computer & Systems Telecommunications Ltd and co-founded Infolex Services Ltd.

Avinash Chitnis received the B.Sc.(Eng.) Honours degree and the ACGI diploma from Imperial College, London. He subsequently became head of the facsimile group at the British Post Office Research Department and was the section head at Xerox Research (UK) Ltd. He joined Bell-Northern Research Ltd Ottawa, Canada, in 1976, where he is now the manager of the Videotex System Planning group. He also represents BNR at CCITT meetings of videotex. He is a chartered engineer and a member of the IEE, as well as a member of the Association of Professional Engineers of Ontario, Canada.

Dr Walter Ciciora is Manager of Video Processing, Advanced Development at Zenith Radio Corporation in Glenview, Illinois. He holds a Ph.D. in Electrical Engineering from Illinois Institute of Technology, awarded in June 1969. His M.S. and B.S. are also from ITT. He has an MBA from the University of Chicago awarded in 1979. He is a senior member of the IEEE and also a member of the SMPTE, AES, Tau Beta Pi, and Beta Gamma Sigma. He has been awarded four patents and has several pending.

Maria Cioni received an honours and master's degree from the University of Calgary in 1969 and 70. She earned her doctorate in 1974. As Policy Advisor to the Executive Director of the Canadian Radio Television-Telecommunications Commission from 1975-78, she conducted studies into such matters as Federal/Provincial responsibilities under the Broadcast Act, advocacy advertising, advertising aimed at children and the impact of cable and satellite transmission on Canadian broadcasting. In 1978 she authored a study on the history of multi-lingual broadcasting in Canada. She joined the Department of Communications in 1978 and is currently Manager of Liaison for the Telidon Project at the Ontario Educational Communications Authority.



Keith Clarke studied Electrical Engineering at the University of Bradford and Computing Science at Imperial College. In 1964 he joined the Technical Support Unit of the Treasury. In 1970 he joined the computing division of the Post Office Research Centre and was responsible for computer graphics and computer aided design. He assisted Sam Fedida in drafting his original Viewdata specification and as the project grew, gradually devoted more of his time to this project. By 1975 his section was concerned entirely with Viewdata research and in 1978 he became Head of the Viewdata Division.

Roger Cooke graduated in Electrical Engineering and has a Ph.D. for work on microwave antennas. He continued work in this area on joining STL but more recently has taken charge of STL's Data Terminal Technology Department and is responsible for various business terminal developments.

Jose Costa received the Industrial Engineering (Electronics) degree from the Universidad Politecnica de Barcelona, Spain, in 1971, and the M.A.Sc. degree in electrical engineering from the University of Toronto, Canada, in 1973. During 1977-1978 he held a fellowship in the Canadian Department of Communications, Ottawa, doing research on future communication services. He joined Bell-Northern Research Ltd, Ottawa, Canada, in 1978, where he has been working on new services planning. He is a member of the Institute of Electrical and Electronics Engineering (IEEE).

Jim Courtney has spent 20 years in the Travel and Leisure Industry covering the whole spectrum of the business from retailing, overseas tour operating to domestic tourism, holding sales and marketing managerial responsibilities with Lep Travel, 4-S Travel, Hightime Holidays, Strand Hotels and Ellerman Sunflight. He was one of the founder members of Holiday U.K., the tourist board-backed domestic tour operators and travel agents marketing consortium. In 1979 he formed his own marketing and P.R. consultancy specialising in the Travel and Leisure Industry - Videotel - Courtney Sears Marketing Ltd.

Michael Davis works with Baric Computing Services Ltd in their Viewdata Department as a Consultant. He was educated at Clifton College and Harvard Business School. He was a National Service Communications Officer in the West Indies and Central America and worked in the paper and car industry before becoming Managing Director of one of the largest Packaging Companies in the U.K. He has been in the Data Processing industry for the last 5 years and joined Baric's Viewdata team soon after Baric became an Umbrella IP on Prestel and is specialising in the Travel Industry.

M Y Gates graduated in Physics and Mathematics from London University and is currently working in the field of new technology applied to printing and publishing, with special responsibility for Viewdata. Her previous work has included the development of a computer based information service for the paper, printing and packaging industries and the introduction of an on-line database.

Jean Guillermin is an engineer who graduated from the Ecole Polytechnique and Ecole Nationale Supérieure des Télécommunications. He has a Master's degree from Harvard University. He was a research engineer in radio and television acoustics at the ORTF (formerly the Office of French Radio & Television), where he launched the automation program for the entire transmitting network. As Regional Director of Télédiffusion de France from 1975-78 in Lyons, he was in charge of operational and implementation management within the Center-East part of France. He was appointed President and General Manager of SOFRATEV (Société Française d'Etudes et Réalisations d'Equipements de Radiodiffusion et de Télévision) in October 1978. He is chairman of the board of SOFRATEV and of Antiope Videotex Systems Inc. (SOFRATEV's U.S. subsidiary) in Washington D.C. He is a member of the Managing Committee of CCETT in Rennes.

Hartford Gunn is the senior Vice President and Manager of KCET, the member station of the Public Broadcasting Service in Los Angeles. He has served in American public broadcasting for the past twenty-eight years. From 1970 to 1976 he was the first President of the Public Broadcasting Service. He holds an MBA degree from Harvard (1951) as well as an A.B. from Harvard (1948) and a B.S. from the Merchant Marine Academy at King's Point (1948). He joined KCET in 1980 to concentrate on its local station efforts. He will explore how KCET might expand its services through the use of other telecommunications media.

Gregory Harper has been a producer of television documentaries for WGHB in Boston and of syndicated television game shows in the U.S. He has been conducting research on teletext for the past two years, specializing in its educational uses and in the problems of teletext interfaces with computers. He is an active participant in the Electronic Industries Association's Committee on Teletext, acting as liaison with the international standards organizations. He is now a consultant on teletext.

Gerald Haslam is Director of Videotex Service of Southam Inc., a large Canadian publishing and communications company. He is President of VISPAC (Videotex Information Service Provider's Association of Canada) and Treasurer of IVIPA (International Videotex Information Provider's Association). A former broadcaster and newspaper editor, he is a member of the board of directors of Infomart, the national videotex service and electronic publishing enterprise of Southam Inc. and Torstar Corporation.

John Hedger joined London Weekend Television in 1974. He has been part of the ORACLE team since the commencement of the project and has since been closely involved with the development of all aspect of broadcast teletext. He now holds the post of System Co-ordinator and has special responsibility for the development of subtitling, telesoftware and related new technology.

Fred Heys graduated in Electrical Engineering and spent several years in data processing and operational research. He then joined STC's Marketing Directorate to work on a variety of new business projects, one of which is viewdata.

Ryoichi Inoue graduated from Tokyo Institute of Technology in 1959. From 1974 to 1975 he was engaged in developmental research on the Video Response System VRS at Engineering Bureau of NTT. From 1976-78 he was engaged in developmental research on telecommunication systems at the Tokyo Telecommunications Bureau of NTT. He is now engaged in planning and promoting the CAPTAIN system experimental project at the CAPTAIN Research and Development Center.

Takao Kumamoto graduated from Keio University, Tokyo, in 1964. From 1971-1973 he was concerned with the planning of computer industry policy at the Ministry of International Trade and Industry. Up to 1978 he was engaged in developmental research on a data communication system at the Data Communication Bureau and Yokosuka Electrical Communication Laboratory of NTT. He is responsible for the planning and development of CAPTAIN system at the Engineering Bureau of NTT.

Nobo Kurushima graduated from the School of Science and Engineering, Waseda University in 1951. He joined the Yomiuri Shimbun in 1950 and has been working as Chief Electronics Engineer, Office of the President of the Yomiuri Shimbun since 1975.



Jon Maslin has worked as a production controller in the printing industry and subsequently in the information department at Pira providing information services to the printing industry. These have included computer-based information collection and dissemination activities, newsletters and product reviews. Latterly he has been responsible for developing and evaluating information and training services on viewdata for industry.

Jean-Paul Maury graduated from Ecole Polytechnique in 1962 and Ecole Nationale Supérieure des Télécommunications in 1967. He joined the Centre National d'Etudes des Télécommunications in 1968 where he worked in the field of network planning and management. From 1973 to 1978 he has been in charge of the intertoll network and numbering plan at the General Directorate of Telecommunications. He is now Director of the Electronic Directory Project for the French P.T.T.

Pat Montague was Assistant Production Manager at the Manchester Evening News for six years from 1965. In 1971 he joined Lancashire Colour Printers as Assistant to the Managing Director. A year later he was appointed Director and General Manager of the Birmingham Post and Mail Ltd, a post he held for four years. He became Technical Development Director in 1976, a post he still holds.

Ken Morioka is currently responsible for strategic planning for Voice and Data Communication Networks for Control Data. He began his career in data communications with the Collins Radio Company in 1957, specializing in Data Modem Development. Subsequent activities included security device, data communication system, and large scale message switching system design and implementation. He co-founded Marshall Communications in 1966, which specialized in message switching and large-scale distributed network systems products. Marshall Communications became part of Control Data in 1969, responsible for corporate data communication product development. He served as Vice President and General Manager of this division until his assignment as the executive in charge of corporate product strategy, computer group, prior to his current assignment.

Magda Mourad received her BS and MS in Computer Engineering from Alexandria University, Egypt in 1974 and 77. She is about to present a thesis to obtain her Doctor of Engineering Degree from the Institut National Polytechnique de Grenoble.

C D O'Brien graduated from Carleton University with a Master of Engineering in 1975. When he joined the Communications Research Centre he participated in the development of software and hardware techniques of a number of patents in the image communications area. Mr O'Brien has been one of the prime researchers in the development of Telidon and is presently Program Manager of System Design.

Seiei Ohkoshi received B.Eng. and M.Eng. degrees in electrical engineering from Keio University, Tokyo in 1970 and 1972. He joined the Electrical Communication Laboratories of Nippon Telegraph and Telephone Public Corporation (NTT) in 1972. From 1972-78 he was concerned with the development of electro-mechanical switch and PNP crosspoint arrays. Since 1978 he has been engaged in the development of the CAPTAIN system at the Engineering Bureau of NTT.

Robert Park is a Senior Consultant with the Inter-Bank Research Organisation which is funded by the London and Scottish Clearing Banks to study matters of common interest to them. He has been with IBRO since 1974 and has worked on a wide range of banking issues, specialising on the economics of payment systems, and more recently on how banks might exploit developments in information technology. Before joining IBRO he worked for the Greater London Council, having started his career at the British Steel Corporation.

Douglas Parkhill is currently Assistant Deputy Minister (Research) for the Canadian Department of Communications responsible for Canada's largest government communications R&D activity. He came to the Department in October 1969 from the MITRE Corporation of Bedford, Massachusetts, where he was Head of Satellite Communications Systems Department. He led many major policy and technical activities concerned with communications satellites, computer/communications systems, command and control systems and telecommunications. It was under his general direction that Telidon was developed and he has overall responsibility for this important program. He received his BSc in Electrical Engineering from the University of Toronto in 1949, and an Honorary Doctorate in Engineering from the University of Ottawa in 1971.

Chris Powell graduated from the London School of Economics and went as a trainee to Hobson Bates, where he was Account Executive on Pet Foods and Nabisco. He joined Waseys as Account Supervisor on Gallahers and Quaker. He joined BMPU as Account Manager on Smash. He was appointed to the Board of BMPU in 1972 and became Joint Managing Director in 1975. He is a member of the Training and Education Committee on the Inst. of Practitioners in Advertising.

P J Ruiten joined the Netherlands PTT after completion of his studies at the Institute of Technology, as chief of the Projection Department of local cables. He was later appointed Chief of Installation and Maintenance of telephone equipment in the Rotterdam telephone district. In 1975 he moved to the Employment Conditions and Legal Status Directorate at PTT Headquarters in The Hague. In 1978 he was appointed Project Manager for Viditel.

William Sawchuk studied at the University of Calgary where he obtained his PhD in Physics. Following his graduation he worked as a Research Fellow with the same University. In 1974 he joined the Image Communications Group of DOC as a Research Scientist. He has been active in development of techniques for interactive image communications over narrowband lines. More recently, he has been one of the participants in the development of the Canadian videotex system, Telidon. He is presently Acting Manager of Image Communications.

Ted Sedman is manager of the viewdata group in CAP-CPP's Products Division and is responsible for the development of telesoftware for a range of machines. His first involvement with computers was in the early 60's on applications for high energy physics. In the early 70's he became involved in real time systems including the use of minicomputers in a network for controlling the Concorde fatigue test. He also worked on the early development of commercial application on minicomputers and the use of micros for distributed processing.

Bill Shrimpton spent 9 years from 1960 with IBM in a range of marketing support and management positions. He has been with Logica since 1972 and was appointed a director in 1976. Having been responsible for the company's operations in business systems and consultancy he has for the past 18 months headed the planning of a possible international viewdata service.

Eric Somers received undergraduate and graduate degrees in the College of Communication Arts and Sciences of Michigan State University. He has produced network television programs and has won several awards for advertising and public relations projects involving print and electronic media. He is the author of many articles on communications theory and technology, and currently works in the research and development of microcomputer based electronic communications systems



M Termens gained his degree from Institut National des Sciences Appliquées in 1972 and Master of Business Administration in 1974. He joined the French Administration of Telecommunications in 1975 to participate in different marketing and economic studies in the development of public data communication services. During the last two years he has been Marketing Manager of the French videotex field trial in VELIZI and recently head of commercial relations with the professional market of Télématic.

Harold Toze graduated in Physics and has an M.Sc. in Information Theory and Systems Engineering. He has worked for ITT for 10 years on message switching and other system applications. He is currently responsible for systems programming and D.P. applications at STL.

Dr Troughton joined the BPO as a Technician Apprentice. He obtained a first class honours degree in electrical engineering and subsequently obtained a Ph.D. at University College London. Between 1970 and 1977 he worked on the development of real time computer systems for use in telecommunications equipment and was one of the first users of microprocessors in the UK. In 1977 he moved to a Telephone Area as a Deputy General Manager, returning in 1979 to Prestel Headquarters with responsibility for the introduction and operational aspects of the Prestel service.

Roy Williams graduated from Q.M.C. in Electrical Engineering and has worked for the last 10 years at STL on various data terminals and systems, including electronic mail. He is currently the project engineer on viewdata systems.

Rex Winsbury is Viewdata Director of Fintel Ltd, a joint subsidiary of the Financial Times and Extel, specialising in the publication of business information on viewdata systems worldwide. Previously Features Editor of the Financial Times, he later joined the management of the newspaper to help plan applications of new technology to the editing, typesetting and distribution of the newspaper, and then moved to Fintel. He is the author of several studies of the impact of computer technology on the press and of 'The Electronic Bookstall'.

Kimikazu Yasuda graduated from Tokyo University in 1958. He entered the Ministry of Posts and Telecommunications in 1958 and from 1977-79 was a counsellor of telecommunications of the Ministry. He has been a director of communications policy division of the Ministry since 1979.

Rolf Zimmermann studied Electrical Engineering at the Technical University of Aachen receiving a Ph.D. degree on automatic recognition of handwritten characters. He joined Dornier System in 1973 where he is now head of the Systems Engineering Department. His personal interest is focussed on display development, man-machine communications and interactive information systems.

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