

TELEVISION: YESTERDAY TODAY AND TOMORROW

ON
TIMER

OFF
TIMER

POWER

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CHANNEL

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VOLUME

01

A THESIS SUBMITTED TO THE FACULTY OF
HISTORY OF ART AND DESIGN AND
COMPLEMENTARY STUDIES, IN CANDIDACY
FOR THE DEGREE IN BACHELOR OF DESIGN,
DEPARTMENT OF VISUAL COMMUNICATIONS,
MARCH 1988

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Thesis No. 536

TELEVISION: YESTERDAY TODAY AND TOMORROW

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INTRODUCTION

The world in the late 80's is serviced by pictures beaming down from the many satellites in space and through coaxial and fibre optic cable which provides television for millions of viewers.

As the title suggests the main aim of this thesis is to look at Television from its hesitant beginnings in the 1920's to the multimillion dollar extravaganza it is today, both which will lead to the technology of tomorrow.

It will also suggest that cable offers much more than just junk TV ie pay-TV, interactive two-way television, home shopping and security services etc, and that it should be allowed to grow and develop to its full potential to a Broadband Network. Also that Broadcasters need not enter into direct competition with cable and radically change their output of a balanced and original diet of programmes which the viewers like.

In order to do this the opening chapters deal with the history of television, recapturing the excitement and competition which inspired the work of people like John Logie Baird and Vladimir Zworykin. It will go on to trace the development of the world's first public Broadcasting Station - the BBC. This will establish the importance of preserving the nation's Broadcasting networks in the future. Broadcast stations or public service stations such as the BBC - British Broadcasting Corporation which is funded by licence fees, RTE - Radio Telefis Eireann, funded by both fees and advertising and the two commercial stations ITV and Channel 4. They usually offer a balanced programme diet of largely original output which has been geared to a variety of audience categories and has satisfied a certain standard of excellence.

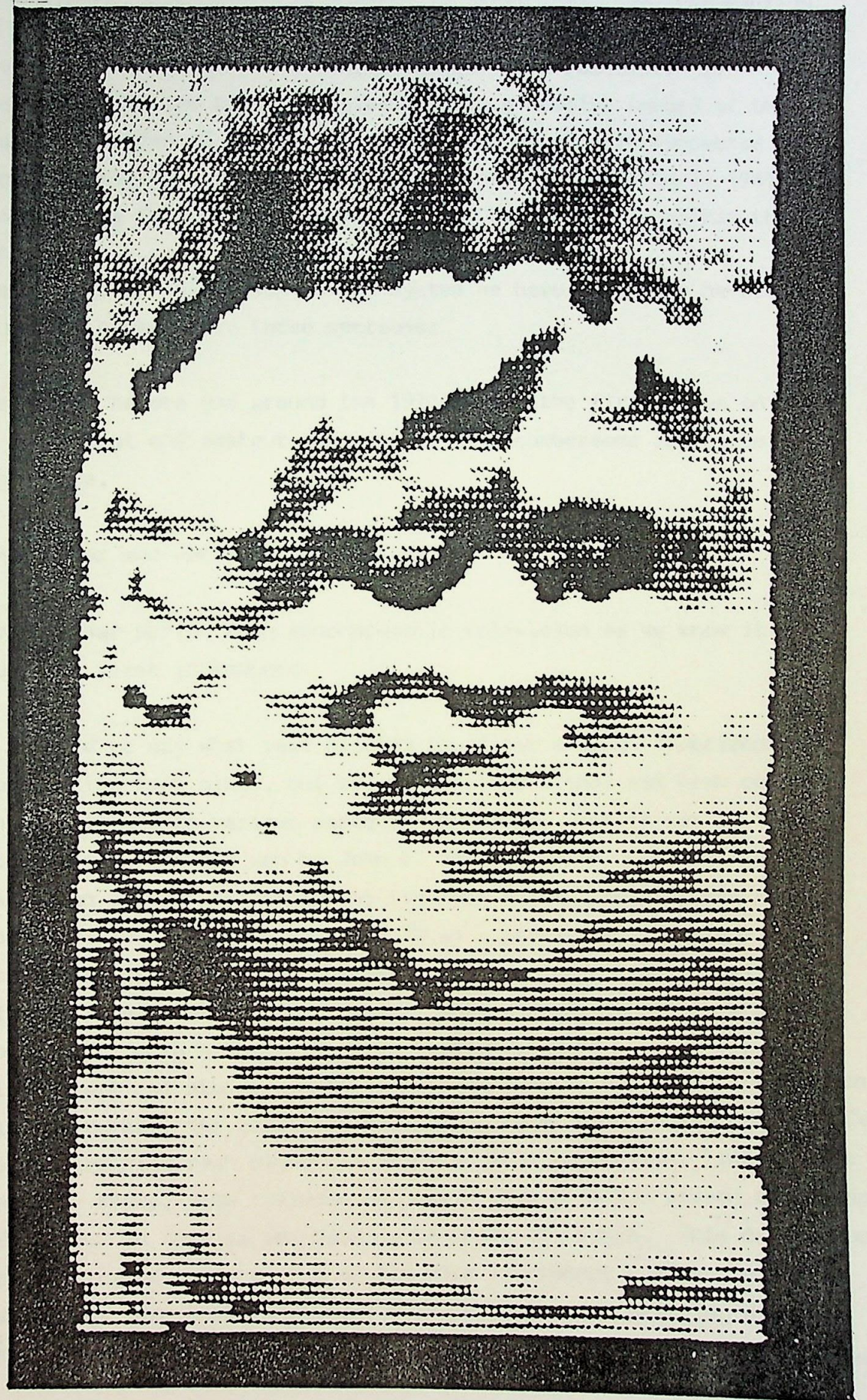
This will lead on to the second race in television to DBS - Direct Broadcasting by Satellite, which began with the launch of Telstar 1 in 1962. It will cover the unique and important impact of "Live" TV from the first walk on the moon to the Iranian Embassy siege in 1980.

Finally it will look at the Television technologies of the future - HDTV, Stereo Broadcasting, Pay-TV etc, and the current revolution in television that cable TV and satellite are bringing, allowing viewers to tune into programmes from around the world as well as giving them an unprecedented number of channels to choose from. In examining Cable TV, this thesis will look at American television networks and cable stations (ie NBC, CNN and HBO) as looking at the US experience of the growth of new systems of

programme distribution is one way to see what satellite and cable might mean for the British Isles.

"Cable Systems" a report on cable broadcasting produced by the Hunt Committee for the British Government in 1982, when serious discussions of cable introduction took place in Britain will also be examined.

Chapter I
The discovery of a new medium



"Television - conversion of a scene in motion with its accompanying sound - into an electrical signal, transmission of the signal, and its reconversion into visible and audible images by a receiver." 27

The history of the birth of television is a complex record of the successful creation of a unified system, made up of interconnected engineering programming and marketing components, completed in 1941, only after many false starts, dead ends and bitter strife within the industry. 3

The origins of television to the system we have today can be better looked at if broken into three sections:

- a. The period before and around the 1920's when the first ideas on TV came about and amateur experiments with cumbersome apparatus took place.
- b. The Pre-War and World War II period.
- c. The Post-War period when monochromatic television as we know it today was first introduced.

It is hard to say what year exactly the first serious experiments in Broadcasting took place, but around the 1920's they had been carried out in Britain and in various parts of the world. But it was in 1925/26 that the race for TV was won by John L. Baird when he gave the first demonstration of true television by transmitting moving pictures in halftones. This became the start of TV as a practical technology.

But long before television became a reality it was established as a tantalising idea. For the most part it remained the territory of French cartoon artists with a taste for entertaining prophesy. In 1881, one of the first practical steps towards television took place - the transmission of still pictures. The important principle, later used in all forms of TV of rapidly scanning each element in a picture in succession, line by line and frame by frame, with reliance on persistence of human vision was proposed by W.E. Sawyer in America and Maurice Leblance of France. This established the possibility of using only a single wire or channel for transmission.

Discoveries were also taking place in Germany. The scanning disc was invented by Paul Nipkow in 1884. He patented a complete television system,

whose most distinctive feature was the spirally apertured rotating disc that provided at both sending and receiving ends a simple and effective method of image scanning.

Another German, K.F. Braun, introduced in 1887, a cathode. This was a ray tube with a fluorescent screen, which produced visible light when struck by a beam of electrons. Boris Rosing, a Russian scientist ranks as an important pioneer in the invention of television. In 1907 he suggested the use of Braun's cathode in the receiver of a television system that, at the camera end made use of mirror - drum scanning. Rosing succeeded in transmitting and reproducing some crude geometric patterns as a result.

Amplification, another step towards practical television was made possible in 1904 - 1906. J.A. Fleming, an English physicist invented the electrode valve and Lee De Forest an American inventor added to this the grid in 1906.

Almost fifty proposals for distant seeing were documented by 1920. These developments up to 1920's produced early versions of the picture tube, methods of amplifying an electronic signal, and the idea of the electronic scanning principle. Combined these early discoveries became the basis from which Baird (UK), C.F. Jenkins (USA), Fransworth (USA), Shornberg (Russia) and V.K. Zworykin (USA) worked from.

From London to San Francisco, Berlin to Tokyo, the race for television had begun. But the group were divided on one main issue - whether television should be electronic and based on the recent cathode tube of Brauns or mechanical and following the Nipkon principle whose disc was the heart of mechanical TV. Until the advent of electronic scanning all workable television systems depended on some form or variation (e.g. mirror drums, lensed discs etc) of the mechanical sequential scanning method exemplified by the Nipkon disk.

Electronic television is where the scene to be televised is first transmitted into an electrical image and the latter is then broken up into an orderly sequence of electrical impulses that are sent over the channel one after the other. At the receiver the impulses are translated back into a corresponding sequence of lights and shadows, and these are reassembled in their correct positions on the viewing screen.

John Logie Baird, the restless and charming Scotsman was totally committed to the idea of mechanical television and dismissed the electronic

system. A decision which would later prove disastrous.

Baird was born on August 13th 1888 in Helensburgh, Dumbarton, Scotland. His education started at Larchfield, moving to the Royal Technical College, and later the University of Glasgow. It was in the early 20's at the age of 34 that Baird became seriously interested in a career in television, having given up many previous ideas.

"Seeing by Wireless - Inventor of apparatus wishes to hear from someone who will assist (not financially) in making working model." 25

This was an advertisement Baird put into the personal column of the Times in 1923. He had succeeded in fitting up an apparatus for transmitting pictures, but couldn't get it to work. Baird called on a radio dealer called Victor Mills who remembers getting a knock on his door from a strange scotsman, who dressed in an old raincoat, didn't look as if he owned anything. But he arranged to see Baird at his studio in Hastings but when he got down there his "workshop proper didn't exist" what was there was "a collection of junk." 25

But little did he know it at the time, and for all the crudeness of the equipment Victor Mills was about to share with Baird in a historical moment. Adopting the Nipkon principle, Baird began experimenting with mechanical methods and produced televised objects in outline. Using Mills hands Baird gave the first demonstration of true television. His pictures were made up of only 30 lines and repeated about every 10 seconds. His receiver screen was only a few inches high and although the picture he achieved was very crude and flickered badly, this experiment became the start of television as a practical technology. 27

With this success Baird, characteristicly gave demonstrations to the press and carried on with his experimentations. But after many explosions he was thrown out of his Hasting lodging and moved to Soho in London. Here very poor, but still very enthusiastic about his work he sought sponsorship to enable him to continue. In March 1925 Baird found a partner in Selfridges who were willing to sponsor him, not for scientific reasons, but as a gimmick to attract customers.

Although Baird had little money for equipment, less for food and none at all for clothes his experiments in his Soho studio prospered. In 1929 he got his first big break when the BBC (British Broadcasting Corporation) gave Baird Television LTD (which he had set up that same year) facilities

for experimental transmissions through the medium-wave London Station transmitters in Oxford Street. 15

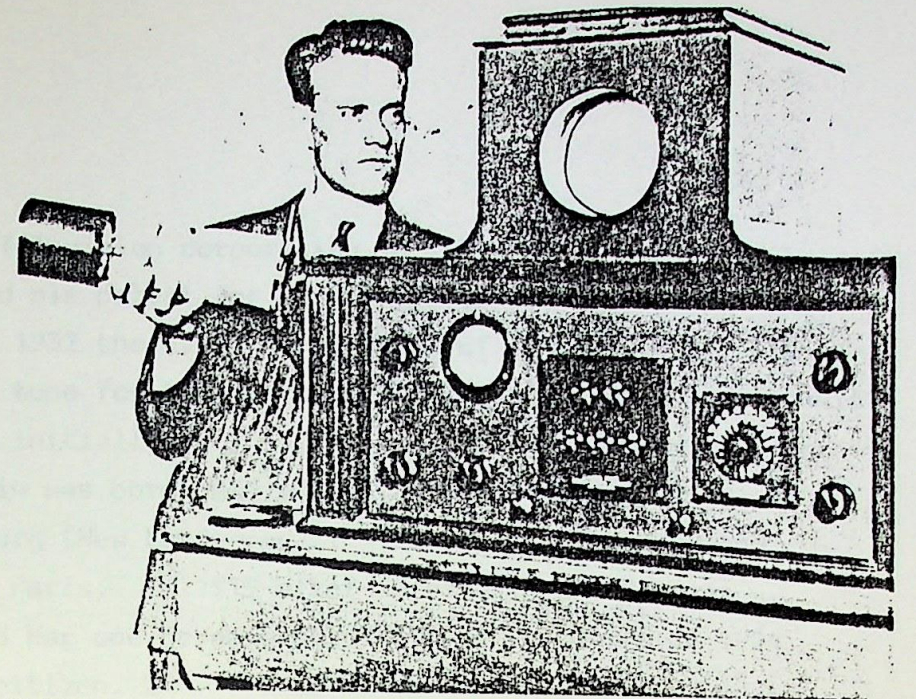
Baird's transmissions were "Low-definition" as they only employed 30 scanning lines 12½ pictures per second. At this stage Baird had moved to new studios in Long Acre and this was where the programmes originated from. Sound was added to these transmissions in 1930 and they were continued from the new London Regional Station at Brookmans Park. In 1932 the BBC equipped a studio for Baird in Broadcasting House itself.

Television was born to a very tiny audience but from the start it aroused great interest and controversy. Although curious, people were wary of this new invention. Many believed that if they could see into the screen and watch programmes, then the programme makers could see into their houses, their own sitting rooms. Many were very frightened of it and the Daily Express asked the same questions.

Even though William Fox (an advisor to Baird) recalls Baird coming to him and saying - "I have come to tell you I have achieved television" - it is still a matter of debate in some countries. Many great minds including - Prof. Sergi Movokovsky a Russian TV pioneer and Dr. Kenjiro Takayanagi a Japanese TV pioneer, also countries like Germany and America all claim to have done the same. 25

During these boom years of mechanical television, the alternative electronic system capable of transmitting high definition pictures was also being developed. Philo T. Farnsworth, a young inventor, working by himself and Dr. Vladimir K. Zworykin, a Russian immigrant who headed a research team at RCA (Radio Corporation of America) each developed an all-electronic television method.

200, Green Street, San Francisco is the historic monument to P. Farnsworth who pioneered electronic television there. Farnsworth was born in August, 1906 in Utah and while only in high school he conceived the basic requirements for TV. After two years at Brigham Young University in Utah, he began research into the process of picture transmission. In 1927 at just 20, he worked with his wife Elma "on the edge of discovery." Supported by a banker, Farnsworth successfully transmitted an image of the American dollar sign. The image consisted of 60 horizontal lines and led to Farnsworth submitting his first patent. In 1929 the Crocker Research laboratories which had been co-founded three years earlier, was recognised



Philo T. Farnsworth with his electronic television receiver, 1929. (Wide World Photos; used with permission)



Dr. Vladimir K. Zworykin. (Courtesy of RCA)

as Farnsworth Radio and Television corporation in 1938. 25

In 1923 Zworykin filed his patent for iconoscope camera tube which he later constructed and by 1932 the Radio Corporation of America (RCA), with an improved cathode ray tube for the receiver, demonstrated all - electronic television, on 120 lines initially.

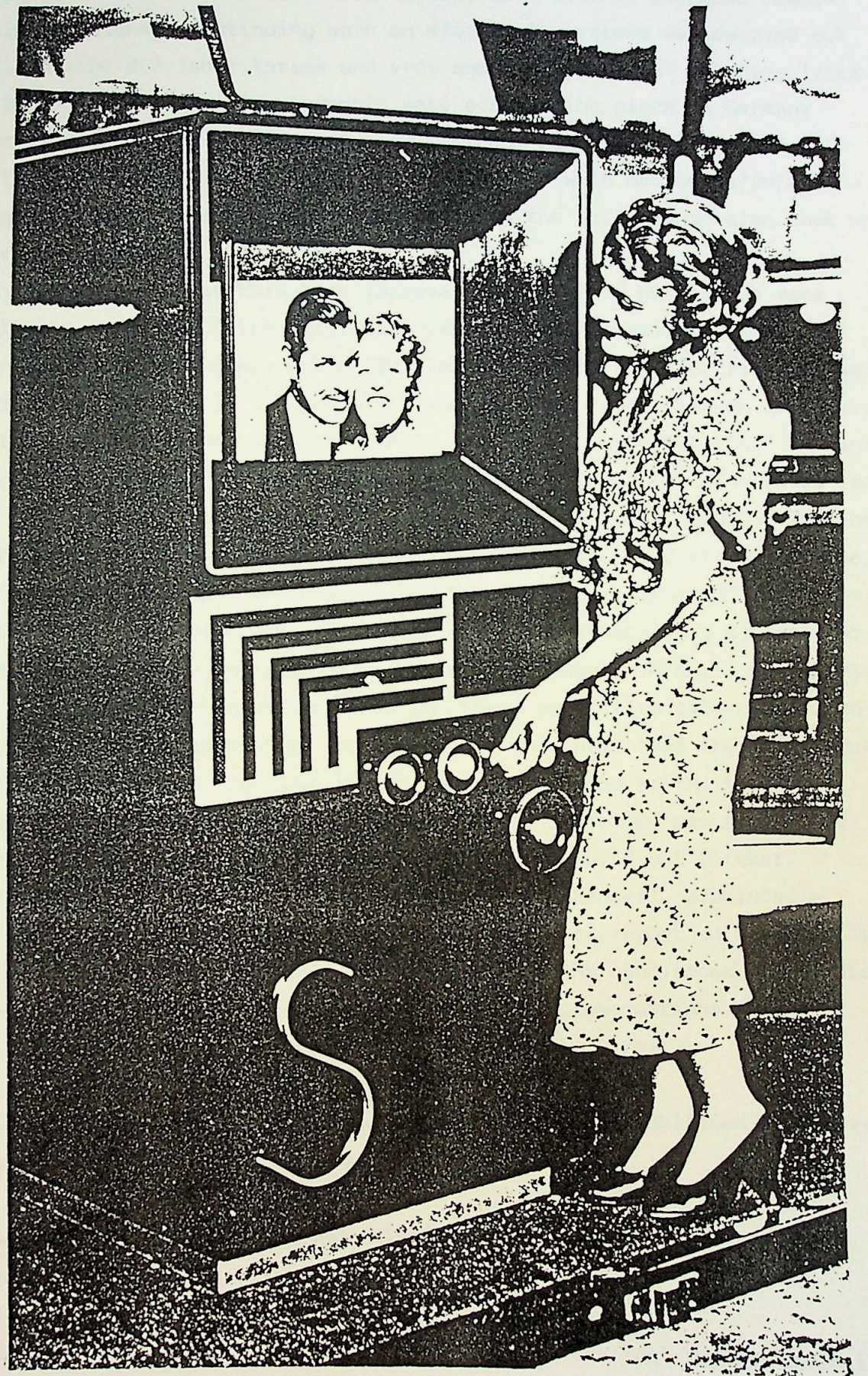
Vladimir Kosma Zworykin was born July 30th, 1889 in Murom, Russia. He attended the St. Petersburg (New Leningrad) Institute of Technology and the College De France in Paris. In 1919 after serving in the Russian Signal Corps during World War one he emigrated to America, where in 1924 he became a naturalized citizen. 27

In 1920 Zworykin joined the Westinghouse Electric Corporation in Pittsburgh and it was after this that he filed his patent for the iconoscope, or TV transmission tube and later, in 1924 an application for the Kinescope or TV receiver. He had formed an all - electronic television system as the older systems had been electromechanical, involving a rapidly rotating perforated disc or some similar device. In 1929 Zworykins demonstrations impressed an official of RCA and he was offered a position as director of electronic research in New Jersey.

Farnsworths image dissector and Zworykins iconoscope were soon competing in the United States, Britain and Germany. In America a patent dispute between the rival methods of Farnsworth and Zworykins led to a stalemate for several years until a mutually beneficial arrangement was concluded between RCA and Farnsworth Television in 1939.

Up to now we have seen how the very first ideas on television became a reality for pioneers such as Baird, Farnsworth and Zworykin. Now we shall go further into the development of a high-definition television system, to the first outside broadcast by the BBC and to the period during World War II.

Chapter II
The growth of television



By the late 1920's the USA were on top, with over 18 licenced Broadcasting stations. Continuing work on electronic systems was carried out mainly at the RCA laboratories and very soon the number of scanning lines was increased to 343. Developments were also taking place in Germany especially in the development of high - vacuum cathode - ray tubes. A regular broadcasting service began there in 1935 with medium definition - using 180 lines. The Philips Laboratories in the Netherlands also took up television research. 27

In Great Britain at this time improved standards of definition were developing rapidly. Baird Television LTD and A.C. Crosser LTD were experimenting with systems using 120 lines. In 1931 the Electric and Musical Industries (EMI) set up a television research group under Issach Shoenberg. Sir Issac Shoenberg (knighted in 1962) was born on March 1st 1880, in Pinsk, Russia. Before emigrating to England in 1914, Shoenberg had installed the 1st radio stations in Russia. While heading the research group at EMI, he developed during the years of 1931 - 35, an advanced kind of camera tube, the Emitron, and a relatively efficient hard - vacuum cathode - ray tube for the television receiver. Shoenberg wished to establish a system that would last for many years, since any following changes in basic standards, such as the number of scanning lines and their repetition rate could lead to severe technical problems. He succeeded, and until 1964 the BBC (under the recommendation of the Post Master General) adhered to the technical standards he proposed - 405 scanning lines with 50 frames per second and interlaced scanning to give 25 pictures per second with out flicker.

In May 1934, Major G.C. Tryon, the Post Master General, appointed a committee under the chairmanship of Lord Selkdon, to report on the relative merits of the different systems in operation and the conditions under which a public service might be provided. "The main recommendations of the Committee, whose report was issued in January 1935, were:

- a. That a high - definition public service should be established at an early date, ultra - short waves to be used,
- b. That the BBC should be responsible for television as for sound broadcasting,
- c. That a standing Advisory Committee approved by the Post Master General should be formed,

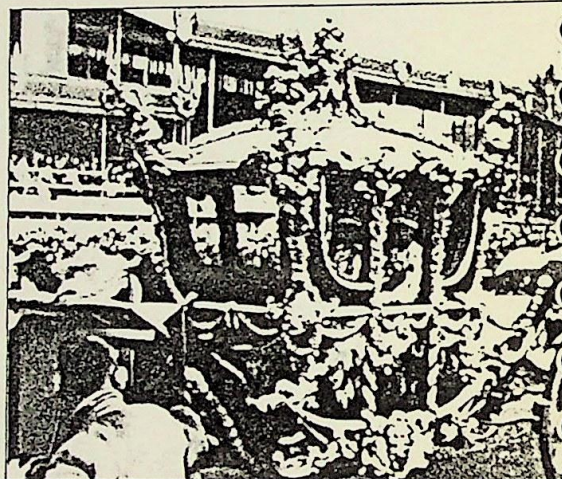
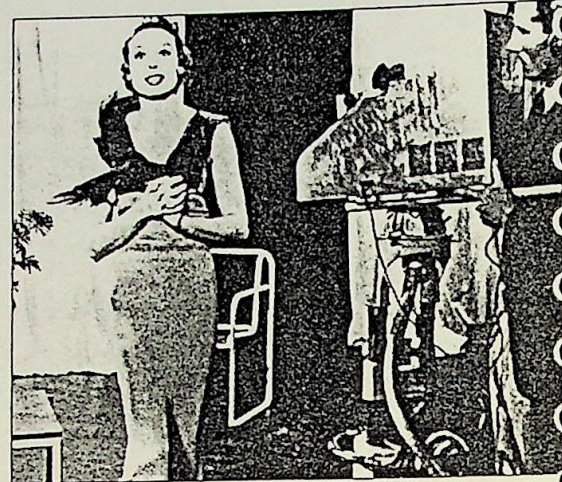
BBC Television

2 November 1936

Adele Dixon, the singer who launched the BBC Television Service at 3.23pm with the lyrics: 'A mighty maze of mystic magic rays is all about us...' (Lyrics by James Dyrenforth)

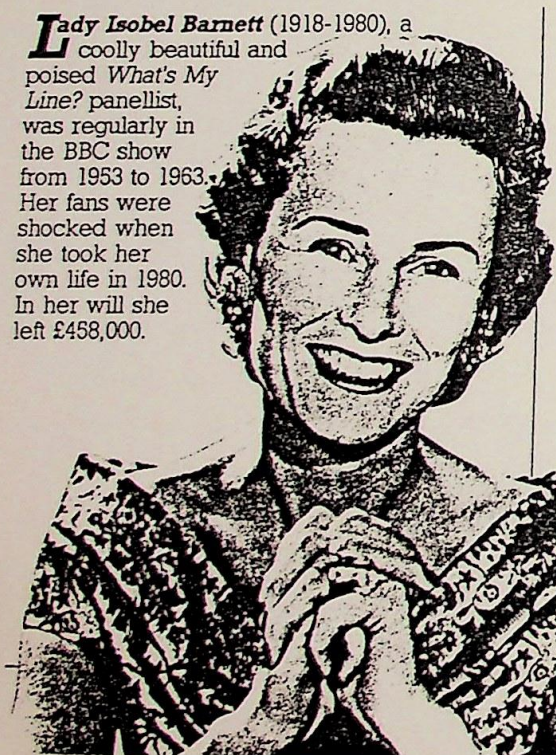


1939
Elizabeth Cowell, one of the first television announcers.

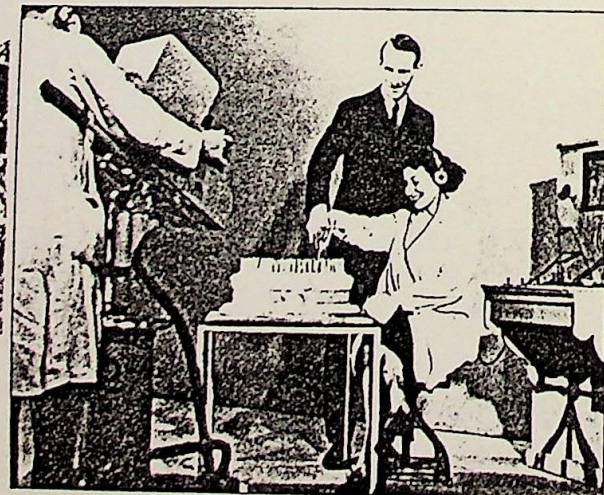


12 May 1937

Coronation Procession of King George VI.
The first major outside broadcast.



Lady Isobel Barnett (1918-1980), a coolly beautiful and poised *What's My Line?* panellist, was regularly in the BBC show from 1953 to 1963. Her fans were shocked when she took her own life in 1980. In her will she left £458,000.



December 1937
Picture Page: 100th Edition.
Cecil Madden and Joan Miller cutting the cake

d. That the first station should be in London and that the two selected systems, Baird and Marconi - EMI, should each supply their own apparatus for alternative operation, and

e. That the cost should be borne by the revenue obtained from the existing ten shillings licence fee.

The Advisory Committee recommended Alexandra Palace as the site of the London Television Station and that Baird Television LTD and the Marconi - E.M.I. Television Co. Ltd be invited to tender for the supply of apparatus for their respective systems." 15

The most dramatic breakthrough of all came in 1936. "A maize of mystic magic rays is all about us in the blue" - were the words sung by Adele Dixon at the opening of BBC Television Service on the historic November afternoon in 1936. 34 The world's first regular service, BBC Television, began at 3 pm, from Alexandra Palace, in North London. Leslie Mitchell, formerly a radio announcer, read the announcement that introduced the new service. The opening speech was by the post master general, Major G.C. Tryon, and at 3.15 there was an interval. There were to be many intervals at the beginning to avoid the danger of eye strain among viewers or watchers, lookers and gazers as they were variously known. In Russia they were called radio-viewers. This was followed by a Newsreel, Adele Dixon, Buck and Bubbles, coloured American comedy dancers and the Lai Founs Chinese jugglers. The transmission lasted one hour and closed down then until 9 pm.

A new piece of "furniture", a television set began to appear in a few homes in the London area. They were 9-inch, 10-inch or 12-inch screen and cost from 21 guineas and were built into solid cabinets.

The evenings viewing also lasted an hour and started with "Television comes to London" - A BBC film which showed the new headquarters at Alexandra Palace. "Picture Page", a magazine programme was shown at 9.20 and created one of television's first personalities - Canadian actress Joan Miller. She appeared as a switchboard girl and connected viewers with the famous, who in the first edition were Jim Mollison, the airman, Kay Stammers, the tennis player and Bossy Phelps, the Royal bargemaster. These were interviewed by Jasmine Bligh and John Snagge. The transmission ended with another showing of the newsreel.

BBC transmitted for two hours a day and no television on Sundays. The programme organiser and senior producer, Cecil Madden, had a budget of £1,000 a week for all his programmes.

The Coronation of George VI in May 1937 was televisions' first big occasion. The cameras were not allowed inside Westminster Abbey but they were installed on the processional route at Hyde Park Corner and an eight mile cable linked a portable transmitter in a four - ton lorry with Alexandra Palace. The scenes along the coronation route described by Freddie Grisewood could be seen as far away as 60 miles as thousands of people watched the television coverage, crowding round sets in the homes of pioneer owners. It was regarded as a triumph when Queen Mary, King George's mother smiled directly at the cameras, to the audience at home.

Before the government authorised the British Broadcasting Corporation to adopt Shoenburg's standards and the complete EMI system EMI was in competition for air time and use of BBC. In the beginning the EMI system was under comparison to alternative forms like that of the Baird company. Their broadcasts employed a 240 - line, 25 - picture a second system. There was a long running battle between the Baird Television Company and EMI and in September 1937 the Baird transmission was closed down by the BBC. 27 Before this blow to Baird, the pioneer and ultimate believer in a mechanical system, Philip F. Farnsworth visited Baird from America and demonstrated to him his superior electronic system. Bairds mechanical scanning methods produced crude, unclear pictures and had many limitations. In 1937, Baird was finished and EMI was declared the winner. But Baird had been excellent propaganda for the beginning of television and this medium owes more to the Scotsman than to EMI.

By the mid 1930's electronic television was fast developing in all parts of Europe and the world. In 1938 there were over 400 television sets in France and 11 public viewing rooms in Germany. In 1936 the Olympic Games were televised by the Germans, who didn't , although they had great opportunity to, use the new invention for political gains for the Nazi's in the years before the outbreak of World War II. In the USSR there were a few 100 sets in the late 30's.

Back in Britain there were 2,000 sets in use by the end of 1937 and by February of the next year television opened for an hour on Sundays. But many problems arose for those in charge at the BBC. Public opinion at the time was that television's real job was to show live public interest

happenings, such as the coronation. Some artists were cautious of the new medium and some sporting authorities, ie - The Jockey Club and the British Boxing Board of Control did not welcome television cameras at their events. However television gradually became more popular and by the end of 1938 there were 5,000 sets in use. The price of these had also dropped from £60 to between £25 - £40 for a 10" screen.

Two days before the outbreak of World War II there were over 20,000 television sets in use in Great Britain. But for them televisions' first era was coming to a close. With the outbreak of war, the BBC shut down transmission "to prevent the single transmitter to act as a direction - finder for the German bombers. " There was no announcement and after a Mickey Mouse cartoon at noon that morning the screen went blank. It was to remain blank until June of 1946.¹⁶

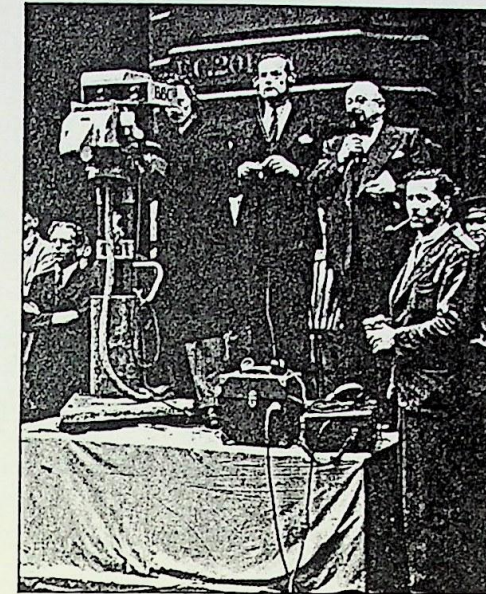
Quite the opposite was happening in the United States. Here television was poised for a new launch at the New York World Fair in 1939. NBC broadcast the opening and the following day after completed work in the laboratories RCA offered twenty five different sets for sale. The same year they (RCA) began "regularly scheduled high-definition telecasts from the Empire State Building" in New York. On that side of the Atlantic another television boom seemed on the horizon.

RCA, however, came under fire from its rivals and the television industry was divided. They could not agree on a uniform set of standards for America and the Federal Communications Commission, the FCC, adhered to its traditional policy of refusing commercial authorization to the new medium. But in 1940 with the help of the National Television Systems Committee (The NTSC) the FCC resolved the problem. The United States adopted a picture repetition rate of 30 per second, while in Europe it was 25. On July 1st, 1941 commercial operation began of the monochromatic television system but America's involvement in the War was to delay promotion of the new medium until it began in earnest in 1947.³

At the end of World War II in 1945 the BBC faced up to two major tasks. The re-opening of its television service and the extension of its radio service. On the 7th June , 1946 again from Alexandra Palace, the BBC was back in action and its first programme was the outside broadcast of the victory parade. Leslie Mitchell appeared once again on the British screens with a variety show, followed by Magot Fonteyn the dancer and a production

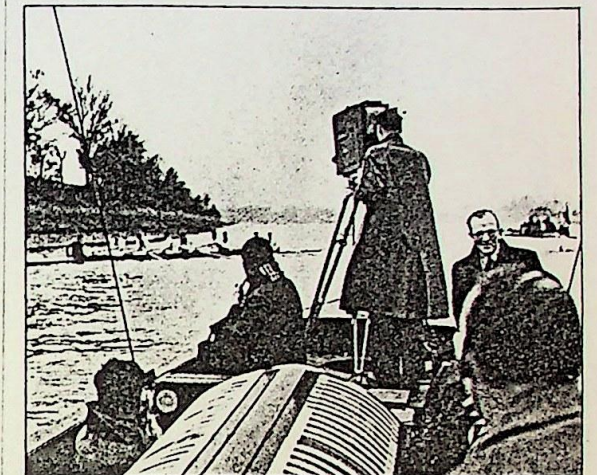
The day Elizabeth won her prince



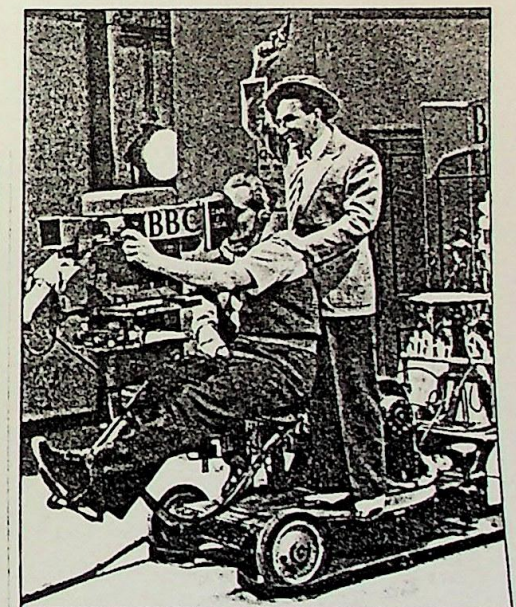


October 1948
The Commonwealth Conference.
One of the television Outside Broadcast cameras in front of No.10 Downing Street, to televise the arrival of the delegates to the Conference of Commonwealth Prime Ministers, which opened on 11 October 1948. Vernon Bartlett, MP (with microphone) describes the scene to viewers. Next to him is television commentator Ian Orr Ewing.

27 March 1949
Oxford and Cambridge Boat Race.
For the first time in television history, viewers were able to follow the race right through from the start at Putney to the finish at Mortlake. In addition to the eight television cameras stationed at intervals along the course, a waterborne camera followed behind the racing boats on the launch 'Consuta'. The Marconi camera follows the Oxford crew as they row up to the start.

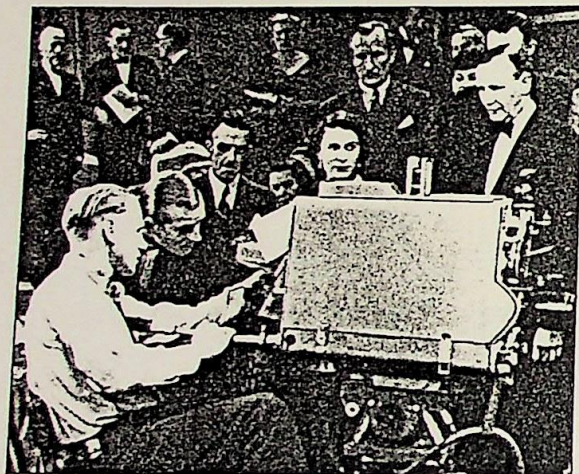
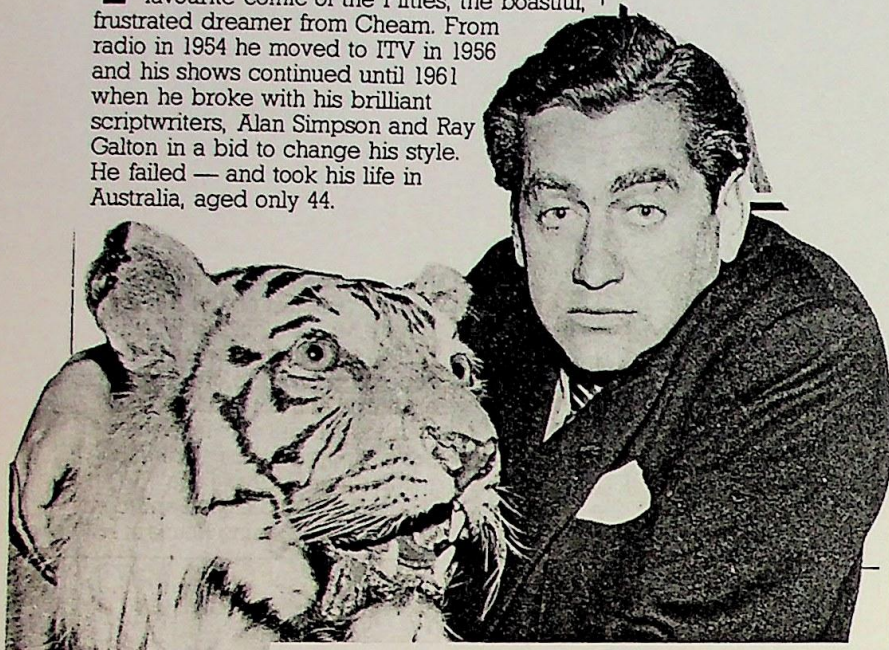


September 1948
Fatigue and Relaxation.
A demonstration of special exercises based on the practices of Yoga, given by Sir Paul Dukes and Mrs Evelyn Verschoyle.
Sir Paul Dukes stands on his head for one of the exercises, and talks to Mrs Verschoyle while doing so.



March 1949
The Charlie Chester Show.
Charlie starts things off with a bang!

Tony Hancock (1924-1968) was Britain's favourite comic of the Fifties, the boastful, frustrated dreamer from Cheam. From radio in 1954 he moved to ITV in 1956 and his shows continued until 1961 when he broke with his brilliant scriptwriters, Alan Simpson and Ray Galton in a bid to change his style. He failed — and took his life in Australia, aged only 44.



28 October 1953

Visit of HM The Queen and HRH The Duke of Edinburgh to the BBC Television Studios at Lime Grove.

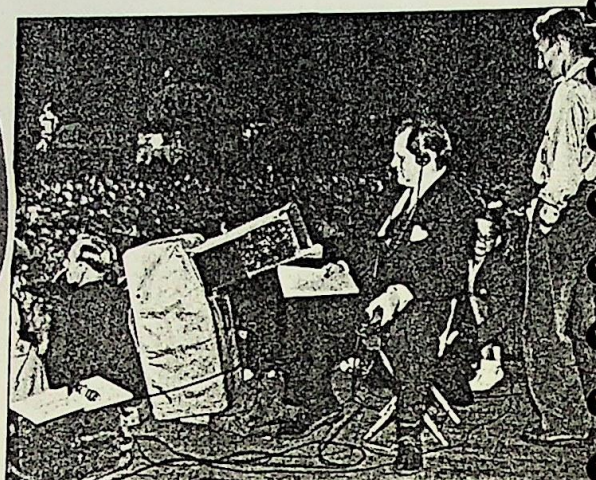
On Wednesday, 28 October 1953, HM the Queen and HRH the Duke of Edinburgh paid an informal visit to Lime Grove where they saw the televising of a drama production, 'The Disagreeable Man'; watched a variety show 'For Your Pleasure' and were present at the opening of the quiz programme 'Animal, Vegetable, Mineral?'.

After the variety show the artists were presented to HM the Queen. The Duke of Edinburgh is interested in the television camera which cameraman Colin Clews explains to him. On the Queen's right, Mr D C Birkinshaw, Superintendent Engineer, Television; on her left, Sir George Barnes, who was knighted during the evening.

August 1950

Calais en Fête.

The first 'live' cross-channel telecast with Richard Dimbleby reporting the crowd scenes in the Town Square. The programme also marked the centenary of the sending of the first telegram from England to France by cable on 28 August 1850.



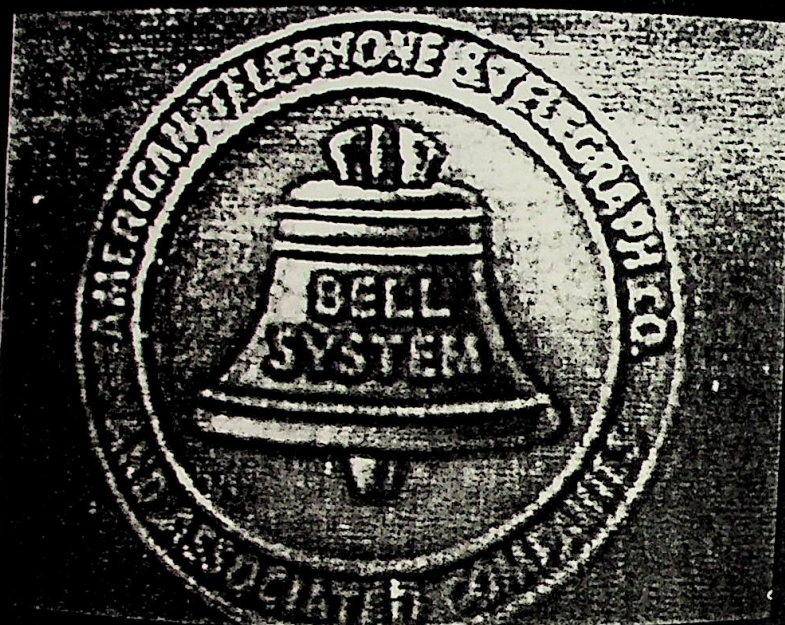
Richard Dimbleby (1913-1965) was the BBC's commentator on all great occasions from the Coronation in 1953 to the funeral of Sir Winston Churchill in 1965. He was criticised by some but many thought he deserved a knighthood, for no one described ceremonial, unscripted, so colourfully and smoothly. A memorial service was held for Dimbleby — who also presented *Panorama* — in Westminster Abbey after he died from cancer, aged 52, in 1965. Sons David and Jonathan carry on the family's TV connection.

white and colour signals had been developed by the early 1950's. Work had been underway on this idea since the late 30's both in Great Britain, the United States and France, Baird in Britain and Peter Goldmark of the Columbia Broadcasting System (CBS), USA, demonstrated sequential systems using rotating colour filters on the cameras and receivers.

In 1951 the FCC, authorized the use of the CBS method but later in 1953 NTSC developed a system capable of working within the current black and white standards. The NTSC system has formed the basis of colour systems throughout the world. 27

Chapter III
Telstar I and Cable mark a new beginning





THE FIRST PICTURES TRANSMITTED BY TELESTAR 1

Since the first television transmission in Britain in 1936, the television set has done little more than receive broadcast programmes when it is capable of receiving transmissions from many other sources. In the 1980's we are entering a new era in television where our sets can receive other programmes via DBS - Direct Broadcasting by Satellite and cable and on a pay-as-you-view basis. There is a growth of new systems of programming distribution such as video cassettes and discs and other facilities can be plugged into our television ie - video games, home computers, the telephone to display information on the screen and video printer to provide copy. 5

On of the first of these developments - DBS started with launch of Telstar 1 in 1962.

"Man's first step onto the moon on July 19th, 1969 was watched by an estimated 723 million people in 47 countries, rather more than one fifth of the world's population. No other event in history has ever and as a television critic put it "in that one gesture TV's priority at the centre of man's future historic development was symbolically demonstrated." Never before has the earth been so nearly one community, one village, all gathered together eagerly before millions of glowing screens. Capitalists and communists, rich and poor, all sat down as one to see and hear Neil Armstrong a quarter of a million miles away take his step for all mankind."

This is how Timothy Green describes Telstar 1's coverage of man's first step on the moon. Telstar 1 was blasted into orbit 26 years ago. Although the world's first communications satellite is now dead, its legacy, live international television lives on. As it circled the earth giant dishes from England to the US picked up its signals which encompassed London and New York in one arc and made intercontinental TV broadcasting possible for the 1st time. The evening of its launch AT & T's (USA) 34.5 inch 170 pound aluminum orb relayed the first phone call through outer space. The first "Live via Satellite" broadcast took place minutes later. A shot of the USA flag was seen by millions. 27

The use of satellites for broadcasting was first suggested by the science fiction writer Arthur C. Clarke in Wireless World magazine in 1945. In his famous article, headed "Extra - Terrestrial Relays: Can Rocket Stations Give World-Wide Radio Coverage ?" Clarke pointed out that if a satellite could be sent into orbit at a height of 22,000 miles it would revolve at the same

speed as the earth, and would therefore remain stationary above the same point of the globe's surface. Three strategically positioned satellites would be enough to cover the whole world bouncing radio messages to and fro. " 33

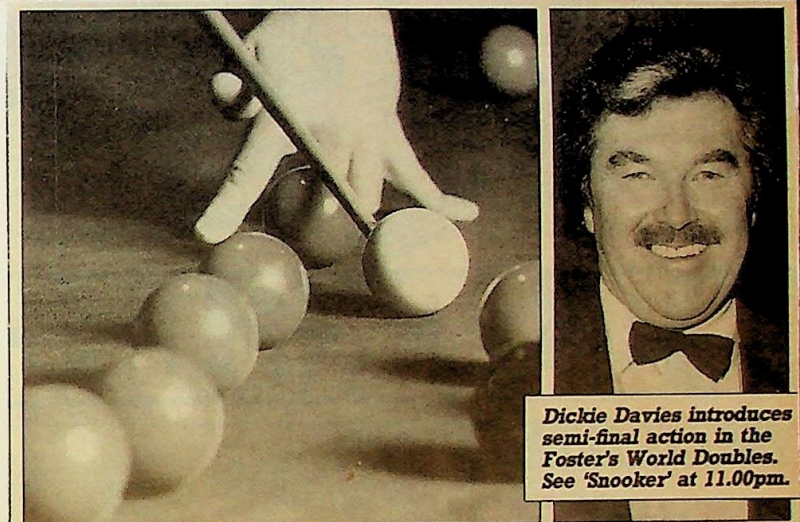
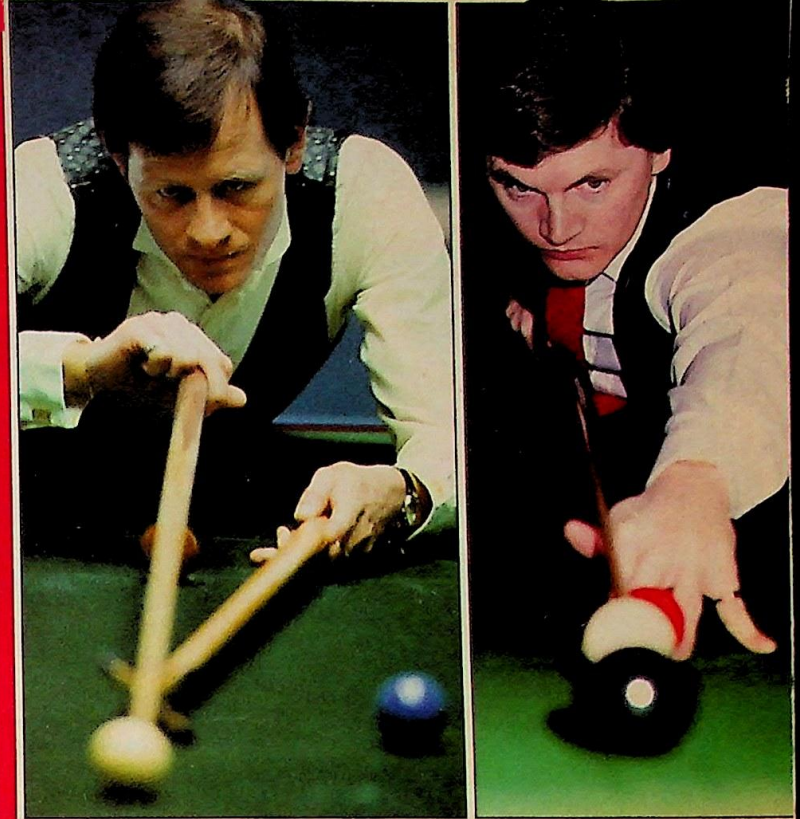
The launch of Telstar 1 was the beginning of a new international audience that was to witness such events as - Cassius Clay become the first TV super star in boxing in February 1964, the state funeral of Winston Churchill 1965, and the 1966 World Cup Final in Wembley between Great Britain and Germany.

Satellite has given television the capability around the world to go there while events are happening, whether tragedy or pageantry. Live TV is television being used to perfection. According to film director Franco Zeffirelli, sport, especially football, is the best live TV that you can see.

"The best use of it for my money is football. TV is magnificent for football." 26

When the world watches TV, what it watches most of all is sport. The BBC transmits 1500 hours of sport a year. The biggest receiving sport in Britain is snooker, now so tranquil and addictive it is called the opium of the masses. It was television that took snooker out of dingy back halls and gave it glamour as it was ideal for them, ideal for the box. World champion Steve Davis has become a millionaire through the game. A few years before television took up the sport, he would have been lucky to earn more than a few thousand pounds.

On May 5th 1980, ITV and the BBC provided live coverage of the extraordinary scenes of the SAS assault on the Iranian Embassy in London where a group of armed Shi'ite Moslems were holding twenty six people hostage. ITV's live transmission from Prince's Gate begun immediately after Coronation Street replacing the scheduled film, the BBC 1 interrupted a John Wayne movie "Rio Lobo", and BBC 2 broke into the World Snooker Championships. Directly after this 1000's of viewers rang into complain about the disruption of their evenings viewing. The greatest number of complaints came from the BBC 2 viewers, protesting at the interruption of the final game between Cliff Thorburn and Alex "Hurricane" Higgins, which had reached a very tense stage at 16 frames all. It would seem that given the choice of two different forms of "live" outside broadcasts - an unfolding news story and a great sporting event, many viewers preferred the latter!



Dickie Davies introduces semi-final action in the Foster's World Doubles. See 'Snooker' at 11.00pm.

Double trouble on cue

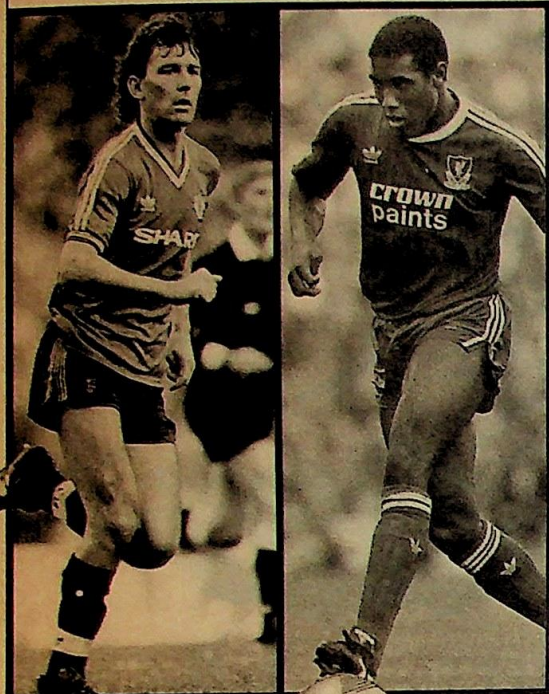
Of the top 16 pairs in the World Doubles Snooker Championships, starting on ITV this Friday, Steve Davis and Tony Meo (right) are the only players who have remained partners throughout the six-year history of the event. Davis and Meo are the favourites, having won the event four times. They have been beaten only once, in 1984, by Alex Higgins and Jimmy White, who have now split up. White this year teams up with Willie Thorne, and Higgins with fellow Irishman Eugene Hughes. The ITV commentary team at the Derngate, Northampton, includes John Pulman and Rex Williams, former world snooker and billiards champions respectively.



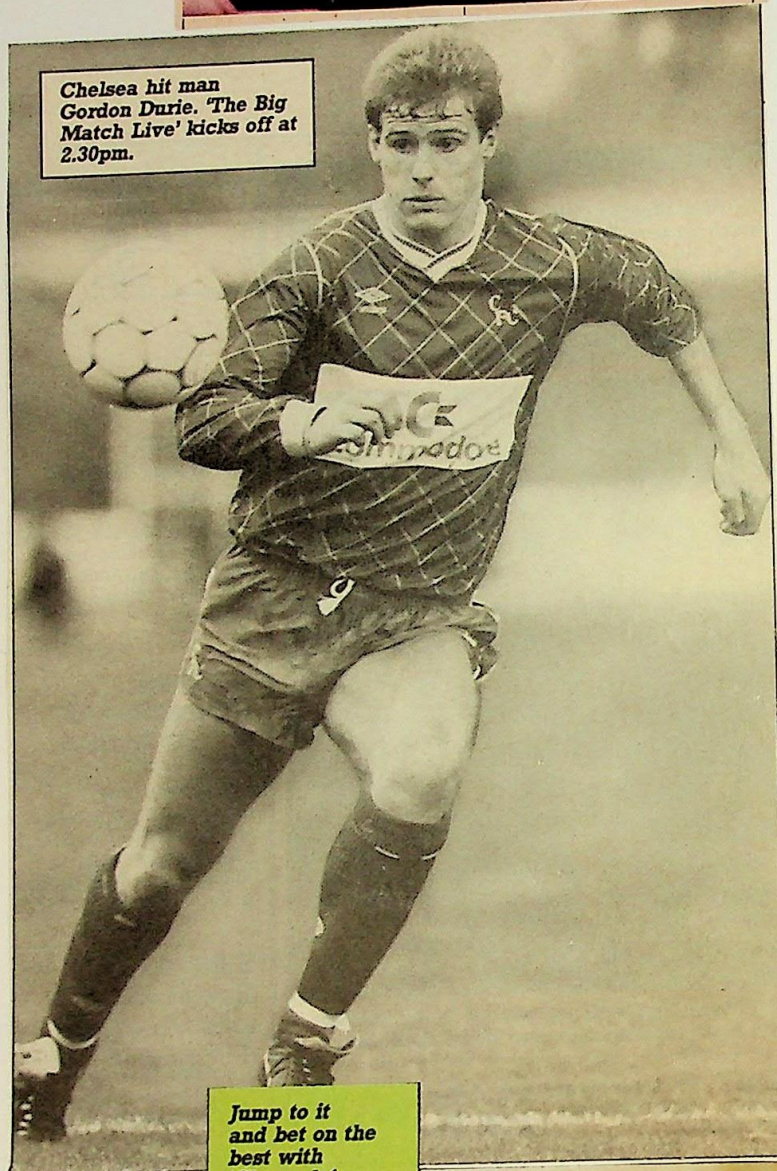
Steve Davis: disrupting normal viewing.



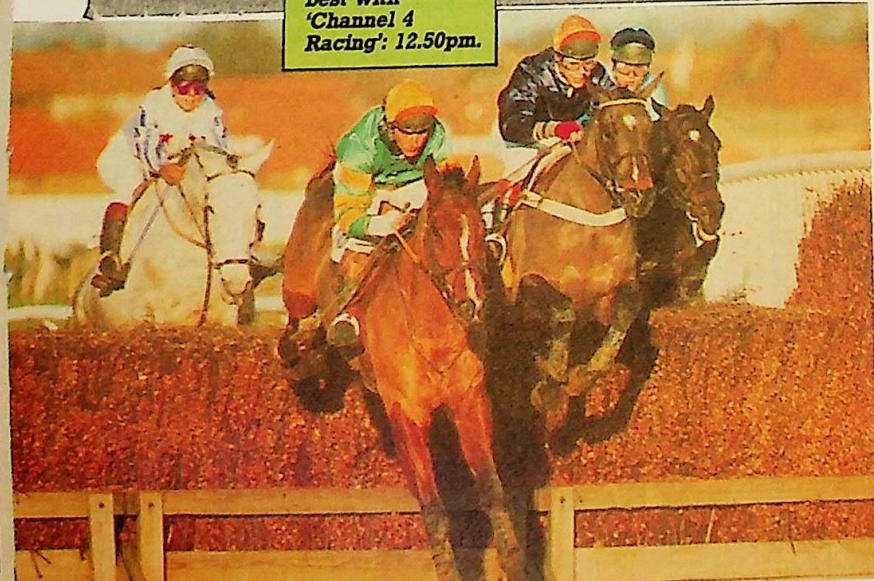
Manchester United's Bryan Robson and Liverpool's John Barnes — just two chasing victory in a local clash. 'The Big Match Live': ITV, 2.30pm.



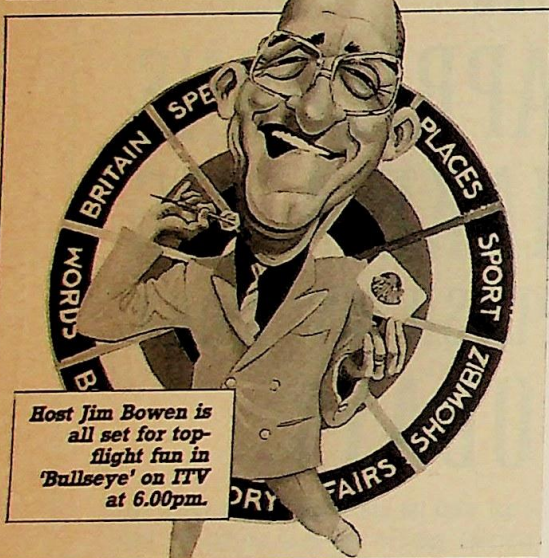
Chelsea hit man Gordon Durie. 'The Big Match Live' kicks off at 2.30pm.



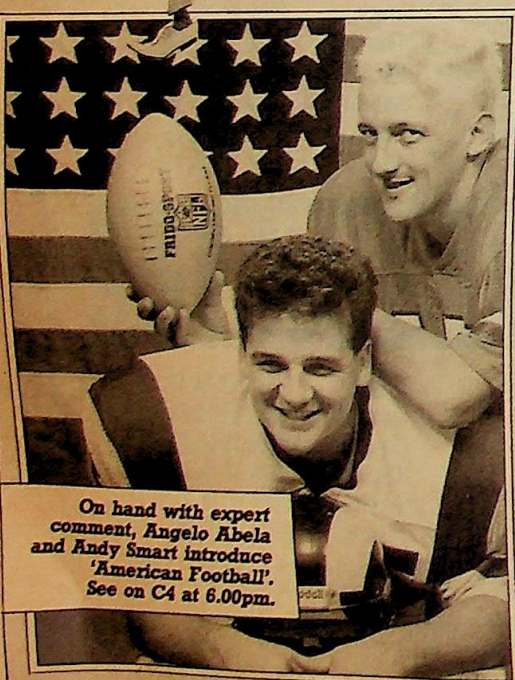
Jump to it and bet on the best with 'Channel 4 Racing': 12.50pm.



Host Jim Bowen is all set for top-flight fun in 'Bullseye' on ITV at 6.00pm.



On hand with expert comment, Angelo Abela and Andy Smart introduce 'American Football'. See on C4 at 6.00pm.

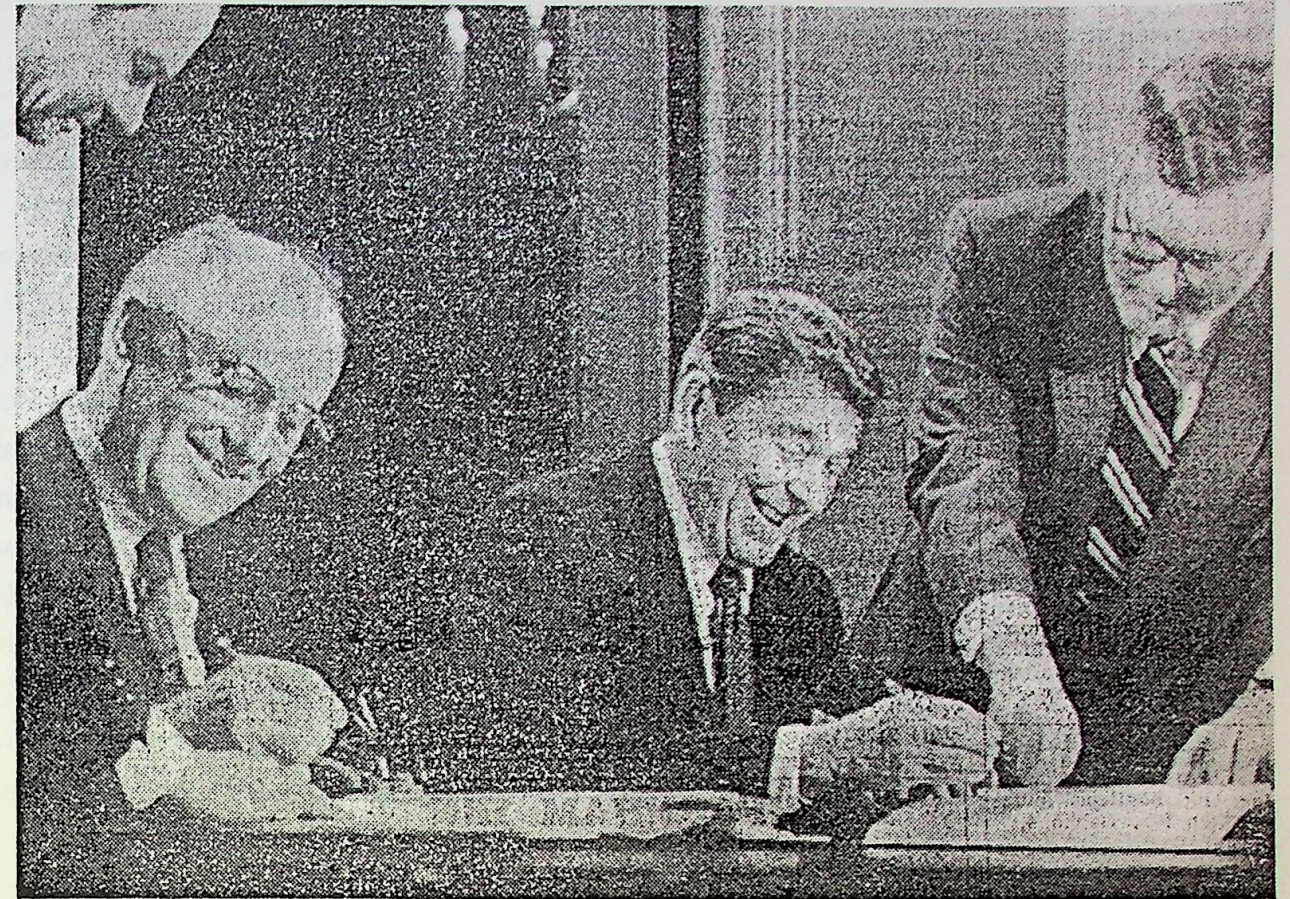


According to Dickie Davis, ITV sports presenter, TV allows people to be at the ringside or in the crowd or on the stand. And fifty years ago many viewers bought their sets just to see their favorite sports. In America the largest audience for any show is the 100 million people that watch the climax of the USA Superbowl. In 1982 the three American networks, NBC, ABC and CBS paid £1,000 million for the right to televise National Football League matches over the next five years. Sport for television is big business. For the rights to broadcast this years (1988) Winter Olympics in Calgary ABC paid \$309 million. - A very far cry from John Logie Baird's first flickering pictures of the Epsom Derby fifty years ago. But as an ABC executive said - "To bring the best athletic competition in the world back to the United States and at the same time receive high ratings - nothing could be better." 33

Today about 130 communications satellites now orbit the earth. Satellite transmission is a method by which television signals are transmitted from an earth station to space and there it is re-transmitted over a high area. Viewers connect their television set to a miniature satellite dish, the size and shape of an upturned umbrella, on the roof or in the garden of their house. Under legislation in the UK you are free, with planning permission to park a satellite dish in your back garden and watch whatever is floating down from ECS-1, Gorizont or Intersatsat. 35 One of the most recent transmissions by DBS - Direct Broadcasting by Satellite was the signing of the IMF Treaty on the 8th December, 1987, when the world watched President Reagan, USA, and Micheal Gorbachov, USSR, make history.

In the US today almost every home has at least one television (if not three - one in the kitchen, one in the living room and one in the bedroom !). The very size of the potential audience, virtually the enire American population, has made television a different media to all orders. Commercial advertisers pay large sums of money to advertise their products in the evening "prime - viewing : " time and a one half-hour network entertainment show costs several \$100,000 to produce. High cost production and advertising time have led the TV industry to place great emphasis on national ratings (ie the Neilson Ratings Index) which indicate the number of persons believed to be watching a show. The shows that do not get high ratings tend to be cancelled after a few weeks or a season and successful shows are widely copied. Some of the best and most popular programmes

The signing: a moment of history



• Smiling leaders, President Reagan and Mikhail Gorbachev, signing the historic treaty to eliminate intermediate range missiles, in the White House yesterday.

The world
watches as
arms deal
is sealed

imported from the US and on our TV at the moment are mainly from NBC ie - Hill Street Blues, The Cosby Show, Cheers, Alf, and most recently been shown on ITV - "LA Law."

But in some networks original and innovative programming has given way to a standard TV schedule, featuring movies, sports, celebrity talk shows, soap operas, comedies and adventures, in order to maintain audience and advertising figures. "In 1966 CBS replaced its coverage of the Senate hearings on Vietnam with old episodes of "I Love Lucy" and "The Real McCoys" because advertisers were pressurising the network to put on something that would attract a large audience - the head of CBS News, Fred Friendly, resigned in protest ." 33

In an effort to increase the variety and quality of programming the Public Broadcasting Network PBS, was set up. But totally educational based and relying wholly on donations to survive it is currently in crisis in America.

But it is cable TV that has given the viewer a greater choice and greater variety and has the potential of offering to minority groups a whole lot more. Cable television or CTV is any system that distributes television signals by means of coaxial cables or fibre optic. Such systems were in use in America in the early 1950's and were designed to improve the reception of commercial networks broadcasts in remote hilly areas. Commonly known as community antenna TV (CATV) these cable systems use a "community antenna" on a high exposed site to receive broadcast signals, which they then re-transmit via coaxial cables to homes and establishments in the local area that subscribe to this service. Although originally used to transmit broadcast networks programmes, cable TV stations are now in competition and a new threat to Broadcasters.

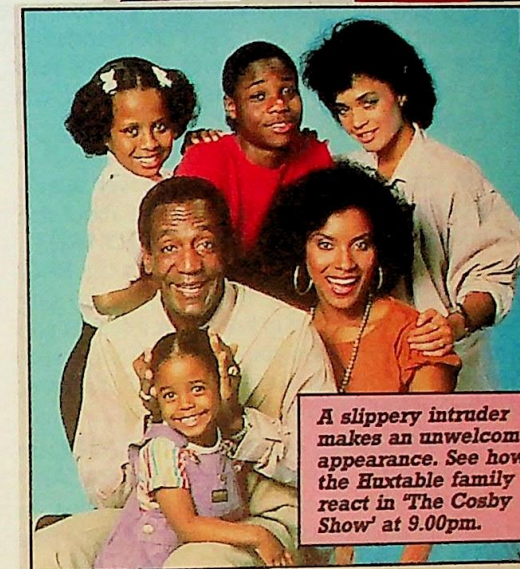
Besides bringing high quality signals to subscribers, cable TV provides additional TV channels. Some systems deliver fifty or more because they distribute signals occurring within the normal TV broadcast band as well as non-broadcast frequencies. Increased number of channels allows expanded programmes including broadcasts from distant cities, continuous weather and stock-market reports, cultural events and programmes produced by community groups and educational institutions. (According to the regulations of the Federal Communications Commission in the US, cable stations are supposed to provide opportunities for community controlled channels and programming.



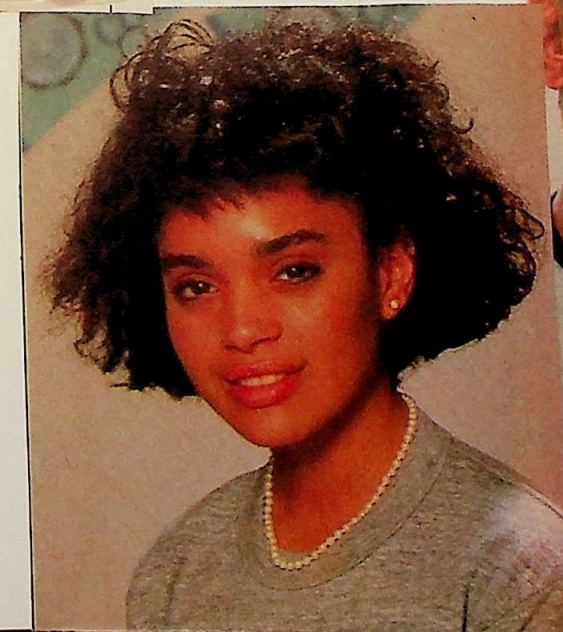
Bill Cosby - above, with Malcolm-Jamal Warner - makes a welcome return to our screens in *The Cosby Show* (C4, Friday).



Tempestt Bledsoe and Malcolm-Jamal Warner of *The Cosby Show*



A slippery intruder makes an unwelcome appearance. See how the Huxtable family react in 'The Cosby Show' at 9.00pm.



"The primary use of satellites in American TV is for the national distribution of over forty programme services. These range from a few hours to twenty-four hours a day. Local television and cable stations select what they please by directing their dish aerial at the appropriate satellite." 5 Some distributors carry out this for free, others get revenue from advertising while others charge for the service.

In 1980 American cable installations were capable of carrying up to 72 different channels on the one cable using a frequency separation device which works with a normal receiver. The current generation of cable is based on fibreoptics, using light signals along hair breadth glass fibres. Half a dozen of these linked together form a cable equal to 24 existing cables and capable of carrying hundreds of different programmes or services.

Chapter IV

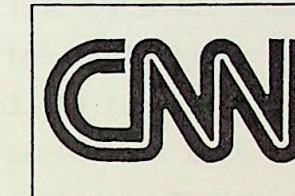
Cable TV and the British Isles



THE BEST IN ENTERTAINMENT OF EVERY KIND -
SOAPS, COMEDY SERIES, DOCUMENTARIES
CARTOONS ETC.



THE AMERICAN SERVICE THAT TAKES A FRESH
LOOK AT ALL THINGS AMERICAN, AND
WORLDWIDE NEWS.



CABLE NETWORK NEWS. UP TO THE MINUTE
INTERNATIONAL NEWS - AS IT HAPPENS.



MOVIE AFTER MOVIE EVERY NIGHT OF THE
YEAR IN THE COMFORT OF YOUR OWN
HOME.

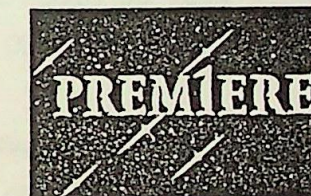


THE DAYTIME MAGAZINE CHANNEL THAT'S
A MUST FOR VIEWERS WHO WANT TO
KEEP AHEAD.

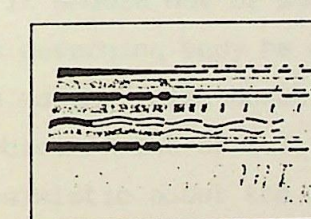


ALL DAY, EVERY DAY, THE LATEST AND
GREATEST IN ALL ROUND FAMILY
ENTERTAINMENT.

AND 4 TEXT CHANNELS



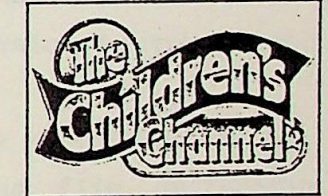
THE NUMBER 1 MOVIE CHANNEL. FILM
ENTERTAINMENT FOR ALL THE FAMILY.



THE WONDERFUL WORLD OF SPORT WITH
A CHOICE OF NO LESS THAN 80 DIFFERENT
SPORTS.



THE VIDEO POP MUSIC CHANNEL WITH NEWS,
INTERVIEWS, SPECIAL POP QUIZZES ETC.



THAT'S RIGHT! A WHOLE CHANNEL SPECIALLY
PRODUCED FOR THE CHILDREN - HOURS AND
HOURS OF FUN!



THE CLASSIC MOVIE CHANNEL. A WHOLE
CHANNEL DEVOTED TO THOSE MEMORABLE
MOVIES.



A CHANNEL SPECIALLY CREATED FOR
CONNOISSEURS OF CULTURE.

Five years ago, in 1983, the British Home Secretary, Leon Brittain, gave out the UK's first cable franchises to 11 out of the 37 applicants. The government thought that cable TV had more than just junk TV to offer and although it would be entertainment led it would eventually revolutionize the countries telecommunications networks.

A Cable Authority was set up to regulate the industry and Kevin Morrison, director of services, thinks new services will eventually be what investors go for "Entertainment TV will be of trivial significance compared with the true use of cable as wideband, interactive telecommunications. "40

Some of the first discussions for the introduction of cable TV in the UK, took place in 1982 following the findings of the Hunt report. The report - "Cable systems" on cable broadcasting by the Hunt Committee (headed by Lord Hunt), prepared by the Governments IT advisory Panel (ITAP) was published in February 1982 by HMSO. The ITAP report stressed the need to decide quickly on the cable issue for two main reasons. One was that Direct Broadcast Satellite transmission to individual homes was due to begin in 1986, and the second was that the private sector was willing and able to finance cable systems. The committee felt that "DBS operators would have larger audiences if their programmes were relayed by cable because cable connections would be less expensive and more attractive for many people" 8 and "That DBS and cable should be developed hand in hand or both would suffer. " 8

The Hunt report also suggested that the new cable systems should be introduced with no limit on the amount of advertising, film, or foreign material shown, and that it should not be subject to the BBC or IBA standards, but that a new governing body be set up to operate it - ie "Cable Authority" - charged with making rules about the amount of advertising and British content on cable. A lot of television producers, presenters and writers were very pessimistic about the effect of the impending competition from cable and satellite subscription channels. Some TV people referred to it as "the threat to the ecology" expressing the idea of network television as a sort of private game covert, till then protected by the BBC's licence fee and ITV's monopoly franchises, and now at risk from commercial exploitation. John Gau, independent producer, thought "Public service television is doomed."

London Weekend managing director, Brian Tesler, "forecast that 7.5 million

homes will be subscribing to cable TV within 10 years and 4.25 million to satellite TV. As the networks loose up to a quarter of their viewers (estimates vary), the licence fee and the advertising revenue will be reduced, he argued, forcing both BBC and ITV to abandon quality and minority programming and concentrate their resources on high audience ratings. 41

Alastair Milne Director General of the BBC, says cable could coarsen public taste, particularly foreign (especially US) imports and that they do not intend to compete with cable, but then anything could happen. On the 21st October, 1987, they released details of a new five year plan of the BBC to update and survive 1988 -1993. "The money we spend has to be seen on the screen and heard on the air." They plan to spend 24 million pounds a year on new programmes, with most of the money being set aside to make more BBC programmes, and cable stations.

The prime object of the BBC, set up in 1927 by Royal Charter and operating under licence from and on agreement with the Home Office, is to provide a public service of broadcasting for general reception at home and overseas. Its main aim in programme schedule is to educate, entertain and inform - "the great value of broadcasting services as means of disseminating information education and entertainment" as stated in the Royal Charter. There are two things the BBC must not do and that is carry advertisements or sponsored programmes and not express its own opinion (except on the matter of broadcasting itself) about current affairs or matters of public policy.

The BBC is a broadcast network and for this reason should not fear or enter into direct competition with cable TV. They are both so different they will both survive. The BBC has a certain standard of excellence that is recognised worldwide and competition with cable TV, with much different aims, would prove harmful to it. The great aspect of cable TV is its diversity, American people confuse cable as just television, when in fact it is more ways to watch TV and more ways to use TV.

Cable's appeal is its ability to cater to specialist minority tastes, something a public broadcast service should never attempt to do: for fear of disturbing their well balanced distribution of programmes catering for the popular mass audience with those of the specialist and minority interest audience.

To report on cable broadcasting the Hunt Committee visited, among others, Manhattan Cable, in New York, USA. Here they witnessed a station that transmitted CNN, Cable Network News; Cennate (C-Span); MTV-music television,



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ORIGINAL ACTION & DRAMA
Thrilling, all-new episodes of *Airwolf* and *Alfred Hitchcock Presents*, created just for USA subscribers; plus exclusive presentations of past episodes of *Riptide* and the classic *Alfred Hitchcock Hour*.



ORIGINAL COMEDY
Make time for *Robert Klein Time*, an upbeat blend of celebrity interviews and comedy; and check out *Check It Out* starring *Don Adams*.



USA SPORTS EXCLUSIVES
Exclusive coverage of some of the sports-world's most prestigious events like *The Masters® Golf Tournament* and *U.S. Open Tennis!* Plus hard-hitting *Boxing* and *College Basketball*.

ORIGINAL GAMESHOWS
Enjoy our winning lineup with *Jackpot*, *Chain Reaction*, *Love Me, Love Me Not* and *Bumper Stumpers*, all created just for USA subscribers!



ORIGINAL MUSIC AND ENTERTAINMENT

Catch the beat of our popular *Night Flight®* — top videos and concerts, and *Dance Party USA*, the ultimate dance show! Meet today's superstars on *Cover Story* and *Hollywood Insider*. And *Commander USA* saves the day with cult movie classics!

OUTSTANDING CHILDREN'S SHOWS

They'll love USA's *Cartoon Express* and *Calliope®*. And *Kid's Club* will keep them up to date on current events — and let them win prizes!



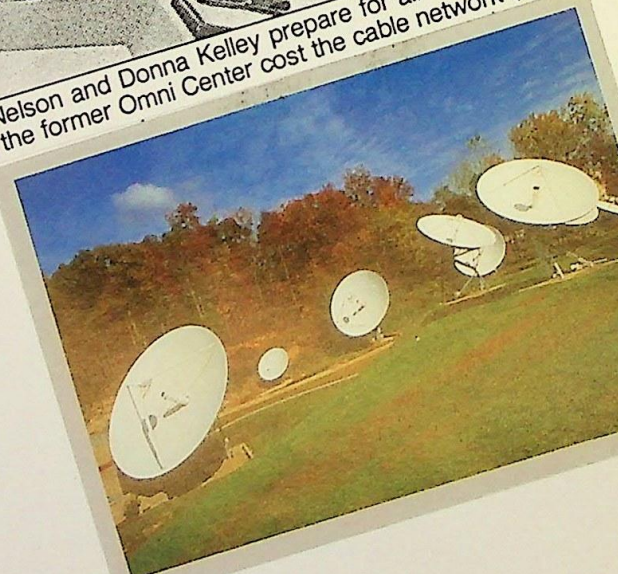


USA TODAY • TUESDAY, JULY 28

CABLE NEWS NETWORK COMES OF AGE CNN: A new home, a bright future



HIGH-TECH HOME: Anchors Brian Nelson and Donna Kelley prepare for air time in CNN's new headquarters in Atlanta. Revamping the former Omni Center cost the cable network \$30 million.



which ties for first place in cable in America, along with USA network and CNN, and ESPN, a sports channel. Stations all specialising in a given subject. 24

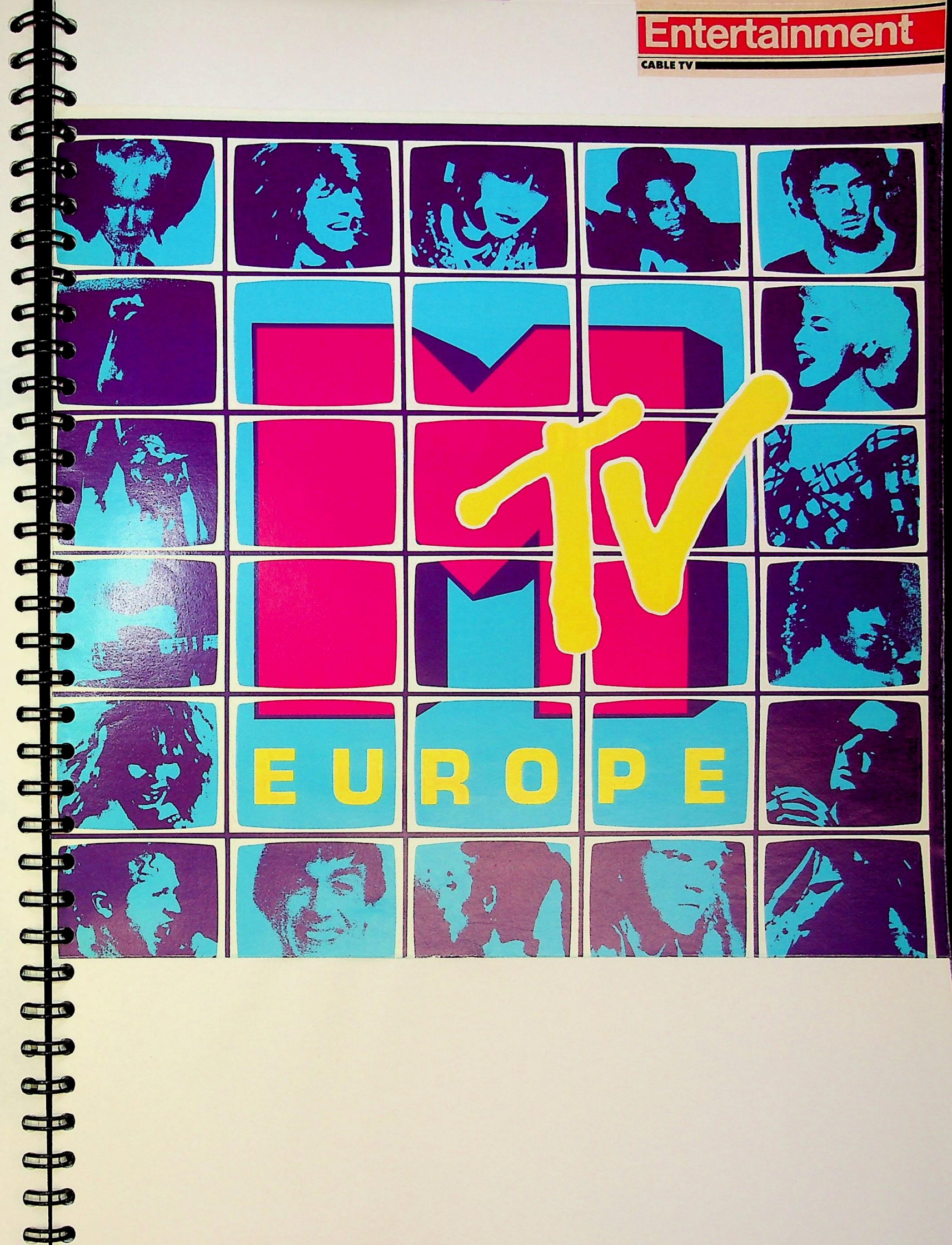
CNN, Cable Network News provide a 24 hour News service. It is supposed to be live coverage of National and International World Events, but in the latter its concentration is very minimal and only briefly on maybe London, Paris and the Gulf. CNN in Atlanta, costing \$30 million.¹⁵ Indicative of the success of America's first all news network. CNN began on June 1st 1980 and now eight years later has more than five times its subscribers. CNN's executive Vice President and Founder - Ed Turner, explains "We have had some advantages. We started up from scratch as opposed to the other organisations that evolved from radio. Also being in Atlanta is not as expensive as New York." 18

CNN has high hopes, its signal is already beamed through Europe, only available in England and Ireland right now, and next on the list is Asia. Although CNN has 24 hour news coverage, it is 24 hours of the same news, same repeats, and even uses the same film reels as network news uses. But its one advantage with being on the air 24 hours a day is its ability to link the public with live news. During the Iran-Contra hearings its viewing jumped more than 100%. For now CNN is available only in English, but plans are afoot for audio tracks in other languages - "Spanish, Italian, French, Japanese and even Mandarin to talk to a great bulk of the Chinese."¹⁸

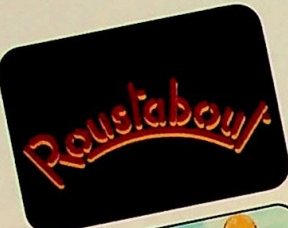
According to Norman Swallow, doyen of documentary producers, in an article written for television - "A bigger threat than any other would come from a satellite beaming programmes across the Atlantic. An additional danger would be a twenty-four hour news service and soft porn!" 7

In Britain at the time of the Hunt report discussions Harry Evans of Mirror Vision - Sunday Mirror and ITN were lining up to provide a 24 hour news service for Britain. Richard C. Wald, senior vice president of ABC News in US, says "People are now accustomed to news when they want news, not when it is scheduled it will be available." 25

The Hunt Committee found HBO - Home Box Office movie channel to be very successful. According to Michael Fuss, head of programming at HBO in 1982, 11 million homes subscribed to it and it had a turn over of \$65 million. But the problem was that Hollywood were not making enough movies. They only produced 140 in 1981 and only a handful of those were a hit. So HBO turned to commissioning their own programmes and movies. But this is a very costly



★ Start the day with 90 minutes of fast moving fun. Adventure, competitions, news, science and cartoons.



★ A toy chest full of songs and stories – 2 hours of things for our youngest viewers to learn and do.



★ A 30 minute chance for mothers at home to relax and watch something new with their kids.



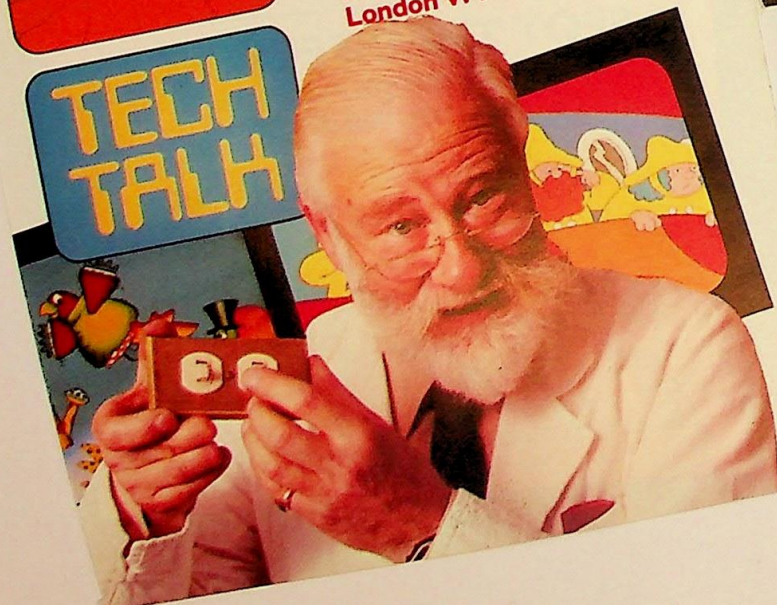
★ Weekends are different – drama, cartoons, and colourful magazines made just for you.



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Ask your local agent, or write to us at:

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PO BOX 28Y
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It's Brilliant!

AT LAST! TV ABOUT YOU AND YOUR L I F E

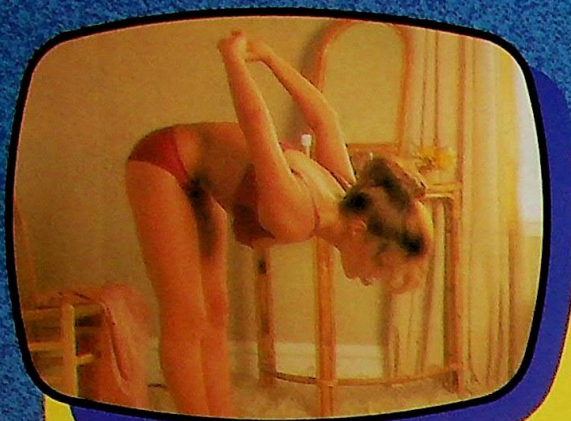


7 DAYS

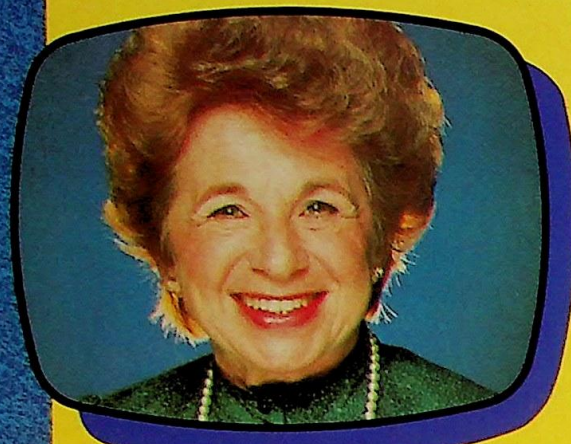
A WEEK, FROM BREAKFAST TIME TO EARLY AFTERNOON.

Lifestyle is something excitingly new in TV. For the first time, you can watch a whole range of programmes about family life as it affects you – dealing with a host of personal issues, from your diet to your spending, your health to your emotional relationships, your leisure to your lifestyle. Lifestyle is television that reaches

out to you in person, that comes into your home and talks about your experiences. You'll find it frank and fascinating. Some of the absorbing programmes you can see are featured overleaf. Lifestyle's daily presenter is famous disc-jockey, TV Show host and announcer David Hamilton.



It Figures. Charlene Prickett will help you keep fit with a complete exercise cycle for every part of the body. She will talk about physical problems like muscle strain and lower back pain.



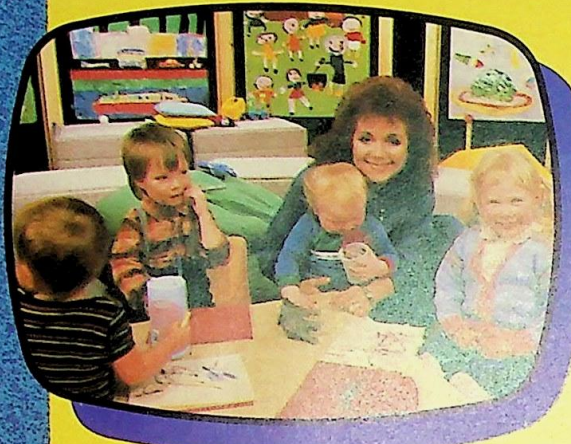
Good Sex! The effervescent candour and contagious good humour of Dr. Westheimer (America's most popular sex educator) will amuse and inform you in a completely disarming way. She will answer questions on everything to do with sex.



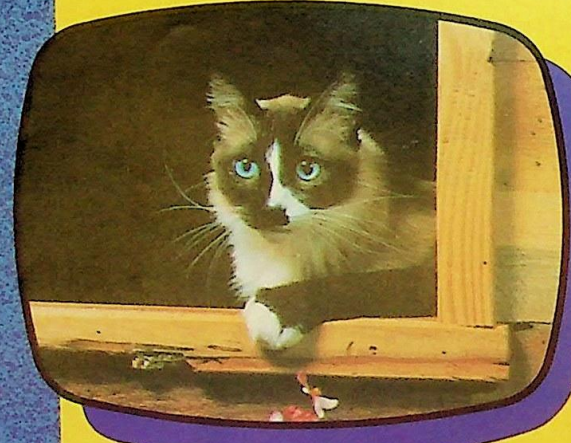
Farmhouse Kitchen. Grace Mulligan bases her programme on a farmhouse kitchen and provides helpful advice, recipes and cookery tips and entertains well known cookery writers and personality cooks. She caters for all sizes of households from large families to people living on their own.



The Sally Jessy Raphael Show. Sally Jessy Raphael – a gleeful dynamo with bleached-blond hair, red-rimmed glasses and fashionably tailored outfits – hosts her own American Emmy Award-winning talk show. She concentrates on "love, romance, human relationships and the fun things in life" with a wide variety of talkative and provocative guests.



Baby & Co. An innovative series by Dr. Miriam Stoppard encouraging parents to follow their own instincts and concentrate on what they think is best for their child. Does one child enable you to carry on your own life, but two or more mean they control you? What happens if mothers want to return to work? This programme has the answers.



It's a Vet's life. Veterinary surgeon John Baxter, ably assisted by Marilyn Webb, advises on all sorts of problems that pet owners may have. He also encounters such exotic species as boa constrictors and crocodiles.

venture as, an example, one episode of "Dallas" costs one million to make.

The cable sports channel like ESPN is popular, but as all rights to the major sports events are tied up for years to come ESPN has to make do with what the four networks don't want (ie body building). ESPN expected to make a loss of 20 million in 1982. It was clear British sport cable stations would have similar problems as events like all cup finals and test reports broadcast rights belong to the BBC and ITV. The Hunt report recommended the lifting of the 14. quota on foreign imports allowed and as we now see on Sky and Super, as much US football and wrestling as we desire.

Pay-TV or subscription television is the key to the financial success of cable television. Pay-TV is funded directly by the consumer who pays for what he views, usually exclusive programmes like films, sporting events and light entertainment. In America the cable operators are able to charge what they want as the FCC has done away with Pay-TV restrictions. There is now no limitations on the number of pay stations per community on amount or content of sport or feature films or on the nature of scheduling. In the US the cinema industry regards Pay-TV as a secondary box office of major importance.

Pay-TV is an agreement between the cable operator and the viewer, that he will supply the exclusive programmes desired provided the viewer continues to pay. If payment stops the cable operator disconnects his service. More secure systems essential for looped cable installations and over-the-air pay TV, scramble like signal in a variety of ways, ie switching sound channels. In order to view these channels the subscriber is given a descrambling device, a black box that sits on top of the television set.

In the future traditional methods of funding cable and some broadcast television could be affected by Pay-TV technology, which could also provide new sources of finance for direct broadcasting by satellite.

Alsatair Milne (BBC) was worried about the social division cable would cause because 40% of the country (isolated parts) would not receive it. But then the BBC argued in 1955 or earlier against the introduction of the ITV, but it has been good for them. The BBC it would seem denounce as a threat to themselves any prospect of the viewing public having a choice other than theirs. David Estein in an article called "An End to Protection" recalls "I remember my friend and colleague, Phillip Whitehead, twenty years ago, murmuring doubts about the arrival of BBC 2 with its Monday night westerns decimating the audience for Panorama." The "BBC's virulent attack

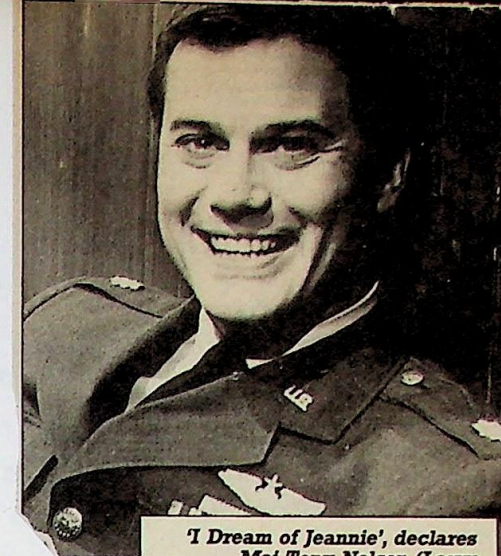
on cable television was spearheaded by the derisive phrase "wall-to-wall -Dallas" - Dallas being, of course the programme transmitted and shamelessly hyped ("who killed JR" made it on to the nine o'clock news) by the BBC for years, moved around the schedule to shoot down potential ITV hits, and the prospect of whose loss to Thames caused a collective heart attack within BBC management (not to mention costing Bryan Cowgill his job, and exposing British collusive humbug at its worst at the very top of the BBC and IBA) - yes, it was this very Dallas which would pollute the airwaves if broadcast on non-BBC - controlled cable. Somehow "wall-to-wall Tenko" and "wall-to-wall - Coronation Street" never quite sprang to the lips of those British broadcasters so keen to see off a potential rival." 7

Along with the question of funding, ownership and programme standards, another issue discussed in the Hunt report was whether responsibility for selection and licensing of individual cable companies would be put in the hands of the BBC or IBA or whether the government would set up a new authority to do this. As David Elsteen in his article says "The language of that protected system dominates our broadcasting culture. Sometimes it is the crude condescension of a Lord Whitelaw, saying that maybe it was a mistake to allow breakfast television: what has it got to do with him if millions of people want to watch some not very good programmes for thirty hours a week?" 7

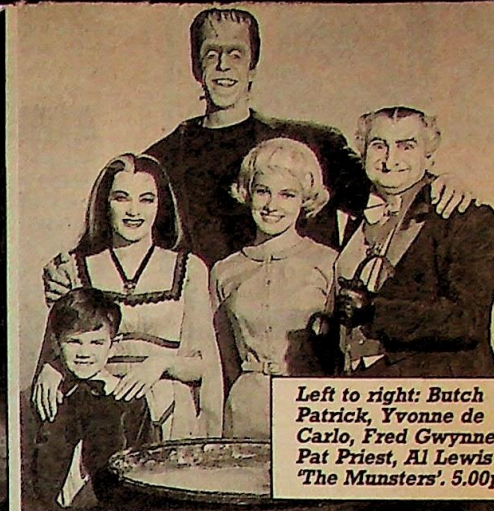
Exactly! Who should have the right to define "Quality" programmes for the mass public? Quality is nearly always associated with middle-class programmes particularly appreciated by the educated elite, which controls broadcasting.

Now in 1988 the EEC plans a clampdown on Satellite TV, which they describe as an invasion of non-European concerns, squeezing out community industry in the process. They have labelled as a threat to our culture, the invasion of American television satellite programmes into European sitting rooms. "In a 40 page discussion document on cultural activity the commission proposes that each member state allocate at least 10% of television programmes to community works created by independent producers and provide more scope and outlets for creative talent." 21

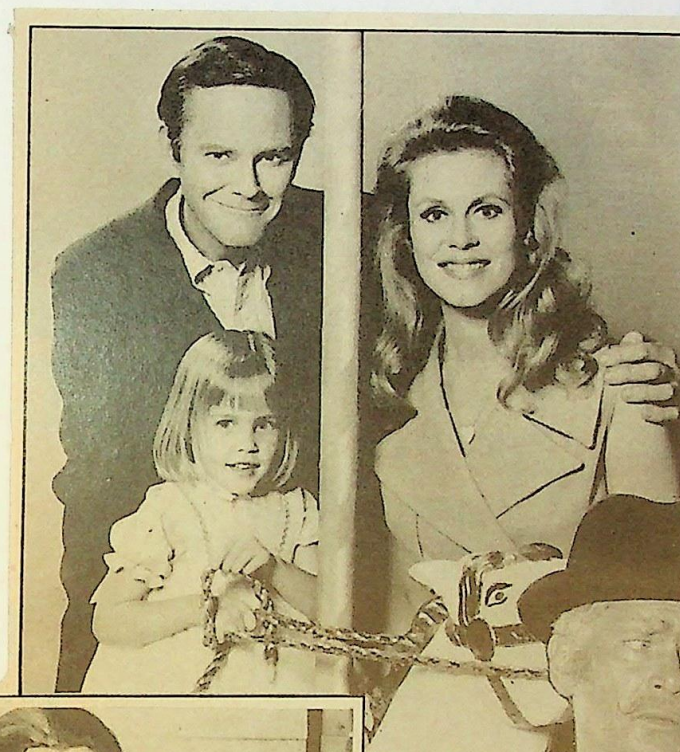
During the Hunt Report discussion many Broadcasters felt that if the 14% quota for foreign imports was lifted the British cable operators would head straight for the programme vaults of Hollywood. Here there are over 11,000 programmes dating back to the 30's with such series as "Leave it to Beaver"



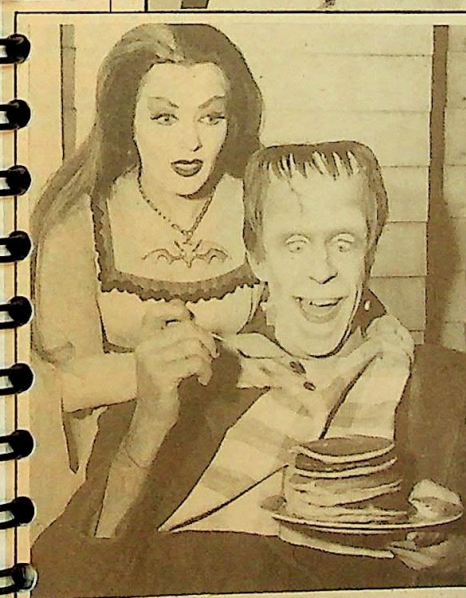
'I Dream of Jeannie', declares Maj Tony Nelson (Larry Hagman). Obviously a pleasure, which you can share at 5.30pm.



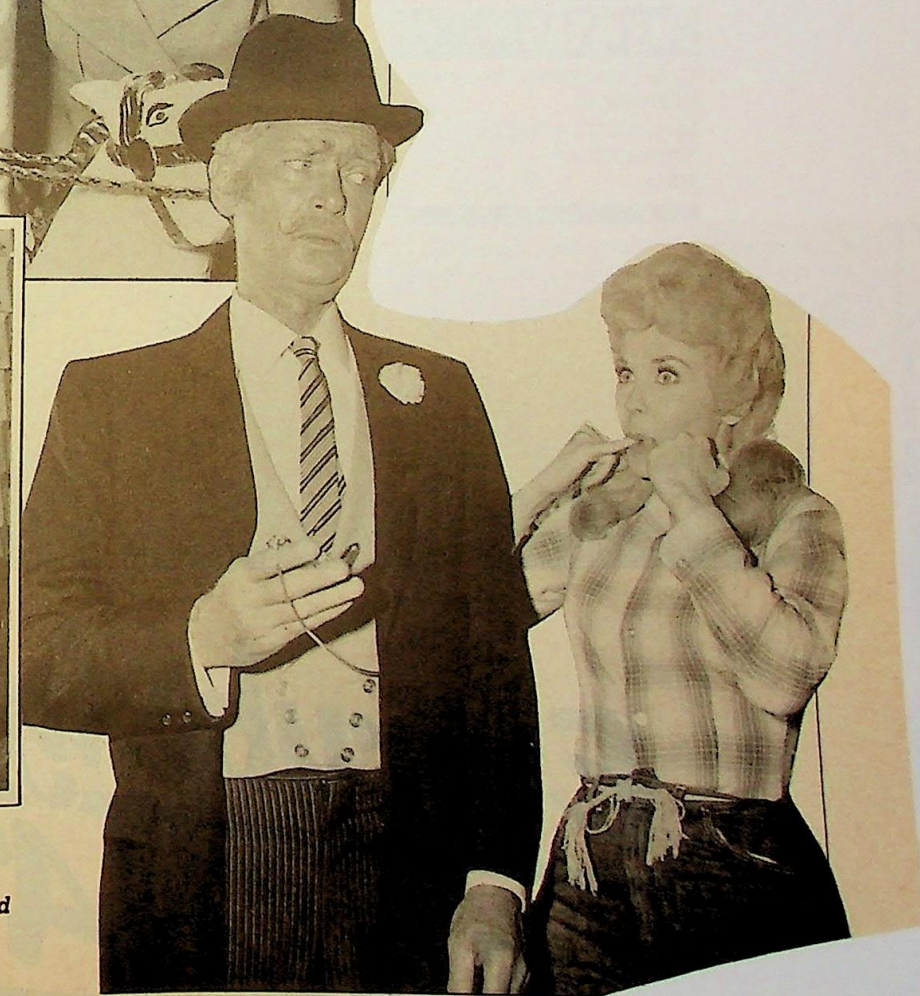
Left to right: Butch Patrick, Yvonne de Carlo, Fred Gwynne, Pat Priest, Al Lewis as 'The Munsters'. 5.00pm.

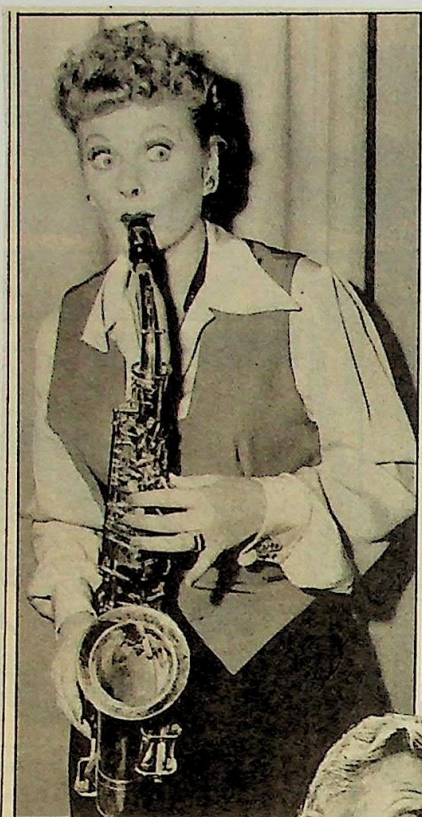


BEWITCHED
Mature magic-maker Endora (Agnes Moorehead) is poised to prove she hasn't lost her touch. Will you be 'Bewitched' by events at 5.00pm?



Bewitched Elizabeth Montgomery, Dick Sargent, Erin Murphy (top); 'Munster'-ous Yvonne De Carlo and Fred Gwynne (above); Beverly Hillbillies Buddy Ebsen and Donna Douglas.





Lucille Ball hits the right note in 'I Love Lucy'; Alan Young gets a hot tip from 'Mister Ed'; Larry Hagman and his Jeannie.



and "The Virginian" which they dubbed as "wonderfully nostalgic in small doses. It is then very interesting to view the tremendous success Channel 4, a broadcast network, has been having in its revival of a quintet of American situation comedies from the fifties and sixties, "The realisation that vintage humour healthily stands up to the test of time, dawned most strongly in 1982, with the repeat running of "I love Lucy", the phenomenally successful show starring Lucille Ball - "We got a fantastic response from it "recalls Sue Stoessl, Channel 4's head of marketing, "and we then decided to buy in some more programmes in that vein. "

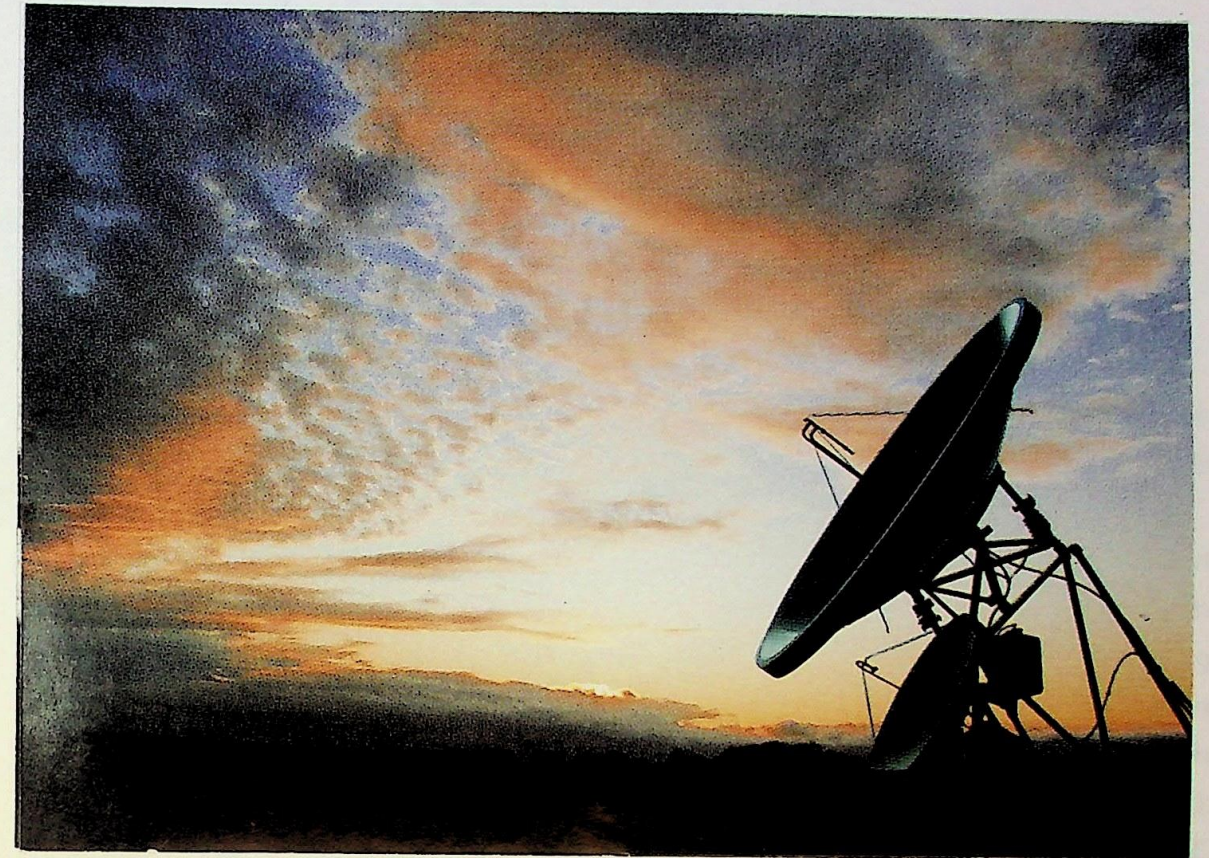
Those currently being shown are "I Dream of Jeannie (starring Larry Hagman of Dallas fame), Mister Ed (TV's famous talking Horse), Bewitched, The Munsters and The Beverly Hillbillies. Not just nostalgic "but there is a whole new generation of people who have never seen the shows before "says Sue Stoessl, "all these shows were written with family audiences in mind, and because of their appeal to adults and children they have become classics." 36 I wonder if the word "classics" or a hash of "old re-runs" would have been used if it was Sky or Super and not Channel 4 enjoying this current success.

The Television industry is an area which is constantly changing and developing in the fields of cable, satellite and broadcasting. But before looking at the prospects for the future the following five points will give a brief outline of some of the recent happenings in different areas within the industry both here and across the Atlantic.

1. In December of 1986 the Independent Broadcasting Authority Awarded the contract for the UK's first direct broadcasting by satellite service to the British Satellite Corporation. It was Britains first direct broadcasting by satellite service and the first in the world to be wholly financed by the private sector. The consortium grouped Granada Television, Anglia Television, Amstrad Consumer Electronics and the Pearson and Virgin groups.
2. The US and USSR took first and second place with the number of television sets in use in 1986. America had 185.3 million more than 25% of the world total and the USSR had about 103 million.
3. The period of 1985-1986 also marked the 60th anniversary of the National Broadcasting Company. It was also the first time that NBC ever won the prime-time ratings race, thus ranking No. 1 in network TV. They emerged first in late night programming and first in Saturday morning childrens programmes. "The Cosby Show" remained the highest rated series for the second straight year, attracting an average audience of almost 27 million households every week. Being "best" as well as "first" is another NBC goal, which was achieved in 1986 as the networks programmes and personalities received 391 industry awards, including 34 Emmy Awards - more than the other networks combined.
4. In the UK the BBC came under the scrutiny of a government committee that was expected recommend that the BBC be partly financed by advertising. Instead the committee chaired by Alan Peacock (called the "Peacock Report") reported in July 1986 that the BBC should continue to be financed by licence fee because advertising funds were limited and because standards might suffer and the range of programmes be reduced. The Peacock report proposed a 3 stage development over the next 15 years, ending in a free market in which the BBC would largely be funded by subscription. The licence fee would be indexed to the retail price index for ten years. 37
5. At home in Ireland, it has just been announced that an Independent television Board of Governors will be established to rule the new Irish TV service soon to come into operation that will service the whole country.

Chapter V

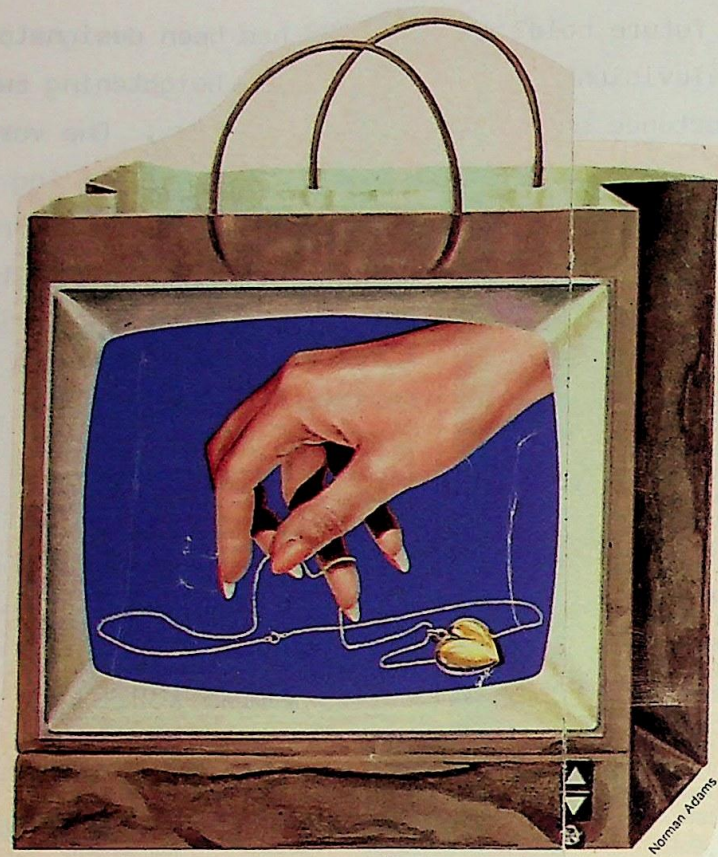
The television industry in the future



What else does the future hold? Already 1988 has been designated European Cinema and Television Year and is aimed at heightening awareness of the nature and importance of our audiovisual industry. One very important development is the rate at which cable TV is continuing to expand. In 1986, A C Nielsen Co. a leading TV audience measurement service in the US, estimated that in July the number of cable - equipped homes in the US was 41,248,380, 2 million more than 12 months earlier. Cable's expansion is not just significant but also its development to its full potential as a Broadband network. An important step towards achieving this that of interactive television . Since 1972, under American Law, all new cable systems must have two-way capability, providing for interactive television. Two way installations require a star network and cannot be cheaply looped from house to house. Similar to a telephone system, where each house is linked direct to the exchange and capable of being linked one house to another.

"Qube" in Columbus, Ohio, is one of the best known examples of interactive television. Started in 1977 by Warner Communications it has a thirty-channel service and over 40,000 subscribers. With the use of a hand-held control unit Qube viewers can select one of a variety of channels available at different costs within the three services - Premium, Community and Broadcast television. For reacting to given programme situations ie sport, talent contests, quizzes and test marketing new products or polling they have five response buttons to use. Two-way cable installations can provide a number of different services. These include the transmission of data associated with the house, like security monitoring, emergency services like fire, police and medical services. 5 As with satellites; television is only one of many interests sharing cable as a common carrier and, more important, sharing the costs of installation, as home terminals can be used for banking, electronic mail, viewdata services and shopping.

One of the most exciting phenomena in the development of cable television in 1986, was the emergence of a home shopping service. An operation called Home Shopping Service had begun making its mark in 1985, and in the first nine months of 1986 it reported revenues of \$167 million and operating income of \$ 20.7 million. What began as a local-television service has mushroomed into a nationwide video - shopping spree, taking place on local stations and cable channels. There are now more than 25 regional and national shopping



services selling their wares via television. The big four national nonstop services are: The Home Shopping Network (HSN), Live from Clearwater, FLA via both UHF stations and cable; Cable Value Network (CVN), out of Minneapolis; Consumer Discount Network (CDN), via cable and UHF stations from Houston; and Quality Value Convenience Network (QUC), via cable from West Chester, PA. 38

In most cases telemarketing is direct-response advertising. One or two hosts demonstrate products on the screen and interested viewers call a toll-free number and give their credit card number, to which the items of their choice are billed. The services are transmitted to Cable Systems by Satellite. One industry consultant predicted that the home shopping service network would become over an \$800 million business. 38

In London W.H. Smith and Sons has developed the technology to allow viewers to select long-format commercial and see them on their own screens within minutes. It has tried it out on Clyde Communications in Glasgow. The aim of this is to allow subscribers using their remote control keypads to buy any of the goods advertised. 40

Using their cable connection London subscribers to Westminster cable can take interactive video courses as well as films on demand from a video-disc library. Westminster cable was set up in October 1985 and one year later had 3,700 viewers. Are the Broadcasters going to be a part of all this new technology? According to Michael Checkland, Director General of BBC, in their new five year plan info 1988-1993 - "We are looking forward to the exciting new challenge of the new broadcasting technology and intend to be part of it by providing satellite and cable with the BBC's best product - programmes of originality and distinction." 39

Whenever BBC1 or BBC 2 are on the air CEEFAX puts hundreds of pages of instant news, information and entertainment on to the screen - all available at the touch of a button. CEEFAX provides for the deaf, subtitles for a growing number of programmes. Blue Peter is now subtitled live. It also transmits "telesoftware" - computer programmes for the BBC micro.

RTE will also have to meet the challenge of new services. They have already had to accept the development of the new independent commercial TV channel for Ireland, soon to come about - "It doesn't come as any particular surprise to us" said David Holden, RTE Director of Public Affairs, "the possibility has been there now for some time past" but he also thought that "the same rules that apply to RTE should apply to any new service."

Surely not, Mr. Pat O'Malley, P.D. Spokesman on Communications welcomed the new channel but said "the only comment I would make is that it should be accompanied by an independent Broadcasting Authority."⁴²

Radio Telefis Eireann is a public service network and Ireland's national broadcasting service, established as a state company under the Broadcasting Authority Act of 1960. Its current income is derived mainly from television licence fees and from sale of advertising time on radio and television. The total revenue available to RTE in 1985 was £84.8 million, £33m from licence fees, £34.4m from advertising £3.9m from the RTE Guide £8m from cablink and £3.5m from other resources. RTE has a subsidiary company RTE relays which allows RTE largely to control the influx of signals that otherwise would be in the control of Private Commercial Companies. In 1984 RTE Relays acquired an 80% shareholding in Dublin cablesystems, the other major cable company and the companies merged. The total number of subscribers cabled was 205,000.

In a report of a Joint National Media Research study for the eight months to June last showed that both RTE radio and TV services had maintained their audience share - despite increasing competition from Satellite TV and local radio stations. Sky however has been telling the world about its penetration of the Irish cable TV market, dubbing itself "the most popular foreign station" and what viewers call it "The greatest TV station in the galaxy" and "fabulous" - all comments from their post bag.

In October/November last year the six months experimental period of Sky, Super, Sports and all Satellite channels was up in Ireland, for cable-links 225,000 customers. If viewers opt to continue with the satellite service it costs £75 per annum all in - six existing channels and the new satellite ones, the cost without the later is £61. Kevin Windle managing director of cablelink says there is a strong possibility that the cable company may be going into the programme making business with the new Irish TV channel. This would not be in association with RTE, but a separate venture. Mr. Windle also reckons that there is a ready advertising market to be tapped which would pay for the new Dublin Channel - more competition for RTE. In its plans and aspirations for the period 1986-1990 RTE hopes for the "extension of FM stereo availability" and "optimisation of new technologies including electronic camera units and microwave links."²⁹

But what else does the 1990's hold for us? Due to the rate of developing technology our TV sets as we now it might cease to exist. If we are to

believe the Sunday Times, Financial Times and Economist, our television set will be rendered virtually useless by 1990. They predict a series of exciting and rather daunting advances. First to come will be the alteration of the way television is broadcast. Instead of the 625 line (PAL) screens we now have, we'll have around 1250. Thus improving picture quality by 100%. This called High Definition Television - HDTV. Coming from Japan where NHK's engineers have been working on this new development for over ten years, the new system achieves better resolution than that of 35 millimetre film, the "line" being invisible on large screens and the detail remarkable. The inventor of HDTV, Dr. Takashi Fujio is convinced that "it will come." ³³ But exactly when is hard to predict as this new system would leave all existing TV sets obsolete. At the moment the ratio between the width and depth of our screens is 4:3, whereas the ratio on the HDTV receiver is 5:3. But the Japanese scientists through their research have discovered that the human eye prefers to look at this shape.

3D television is also set to invade our living rooms and the sound quality of these new sets will be as good as a compact disc's via stereo broadcasting. But a lot of advances in television are available now. In Britain at the moment, you can have a picture-within-a-picture facility on your screen, which allows you to see what's on other channels without switching from the one you're watching. But one unique factor in the development of television in Britain is that two-thirds of all TV sets are rented and not owned as in other countries. This enables the viewer to switch sets and provides for the introduction of new services quicker than if it meant buying a new television set each time.

All stereo TV sets on the market now are equipped with standard features which are usually extensive and also designed for the future. Operated by digital techniques these TV sets "take aboard all new advanced media such as the computer, CD, D2-MAC, interactive communication systems and integrated system digital network" - according to the Loewe Television trade magazine - "Success through technology and Design." ³².

The digital stereo sets are equipped with a multi-standard receiver which gives a perfect picture when receiving transmissions from other countries such as the US operating the NTSC standard. As opposed to the Pal standard (used in all Western Europe except France). They are also the first TV sets to have a so called "hyper-band tuner." This gives an unlimited choice of cable TV programmes, cable - relayed satellite transmissions plus any other



added in the future. The D2 - mac is the name of the new TV standard which allows you to receive broadcasting from the satellite TV - Sat I 36,999 km up in the sky. 32

Two interesting developments in television sets in the past have been - one in 1983 when Sir Clive Sinclair a Briton invented the "pocket TV" and the other television "wristwatch" from Seiko in the States, to sell at \$495! 33

The future of the television industry is one of change, challenge, competition and above all technical development, in all areas - cable, satellite and broadcasting. Cable with its interactive system holds out the hope to Mrs. Thatcher of a re-employed Britain. The development of cable technology is good for the government in two ways - providing jobs and the prospect of getting Britain used to "push button" technology. They see cable as entertainment in the short term providing arm chair shopping, two-way communications and interactive education.

CONCLUSION.

This thesis has traced television technology from its birth in the 1920's to what we are likely to witness in the 1990's and beyond. From J. Logie Baird to Telstar I and DBS up to the cable capabilities of the future.

It has highlighted this era of narrowcasting and the competition it has brought about for broadcasters. We have seen how broadcasters no longer enjoy exclusive access to the domestic television set. The individual viewers now have a freedom of choice and as "consumers", no longer have to have TV programmes imposed upon them on terms decided by the broadcasters, who up to now have had a near monopoly of audience. We have seen what cable TV has already meant for Dublin viewers who now, along with other parts of the country have over ten channels, including along with RTE 1 and RTE 2, BBC 1 and BBC 2, ITV, Channel 4, Sky, Super, CNN, MTV, the arts channel Lifestyle, and the Childrens Channel. And how Ireland is also awaiting the arrival of a new independent commercial TV station to cover the whole country.

It has shown that in order to protect Public Broadcasting Networks like the BBC, ITV, Ch. 4 and RTE they themselves must take steps to insure that people choose to watch them (ie the BBC five year plan). But they will also have to accept that due to the wider choice now open to viewers because of DBS and cable and VCR's that their share of the National viewing audience will drop. If they accept this they can work to make up the money lost from loss of viewers in other ways as the BBC has taken steps to do. As the Director General Micheal Checkland says in their five year plan outline: "We do not start from the position of a weak BBC. We are the centre of a successful broadcasting industry and have achieved much in all our programme services in recent years. The BBC is moving forward. We face new challenges. We must embrace change and manage it." 39

People will continue to watch the BBC, ITV, RTE and Channel 4 because their programmes are good and give a sense of national cohesion. A Broadcast network is permanent and secure, in the sense that it is not an easy thing to destroy and does not have to be replaced every seven years like satellites. It does not have to depend on privately owned resources like cable television and has usually a certain advantage in the fact that it is public - freely available to anyone with a TV set.

Having seen that 1988 has been designated by the EEC, Cinema and Television Year and supposedly aimed at heightening awareness of the nature and importance of our audiovisual industry, the potential benefits of technological progress

in communications (which have proved enormous) must be realised by all - Broadcaster and narrowcasters alike. To do this would ensure development of cable to a full Broadband Network, developing to its full potential. As we have seen in discussing pay-TV, "Qube" the two way interactive station in Ohio, and the current US Boom in Home Shopping services, cable has a lot to offer and should be allowed to develop profitably and with minium regulation.

It has studied the findings of "Cable Systems", the 1982 report by the Hunt Committee and it has examined some of the most recent (and now as we have seen available here) American Cable stations, plus taken a look at the Broadcast Networks in particular NBC.

To conclude, this thesis has shown how the television set itself in the future will be a very different one to what we are now used to. It will continue to do what it has done for its first fifty years - provide programmes from Broadcasters, but these can now be supplemented by video, cable and satellite. The television set will be more of a Visual Display Unit for ones computer games, a shopping arcade for the viewers desires and a conference centre for business purposes.

Footnotes

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