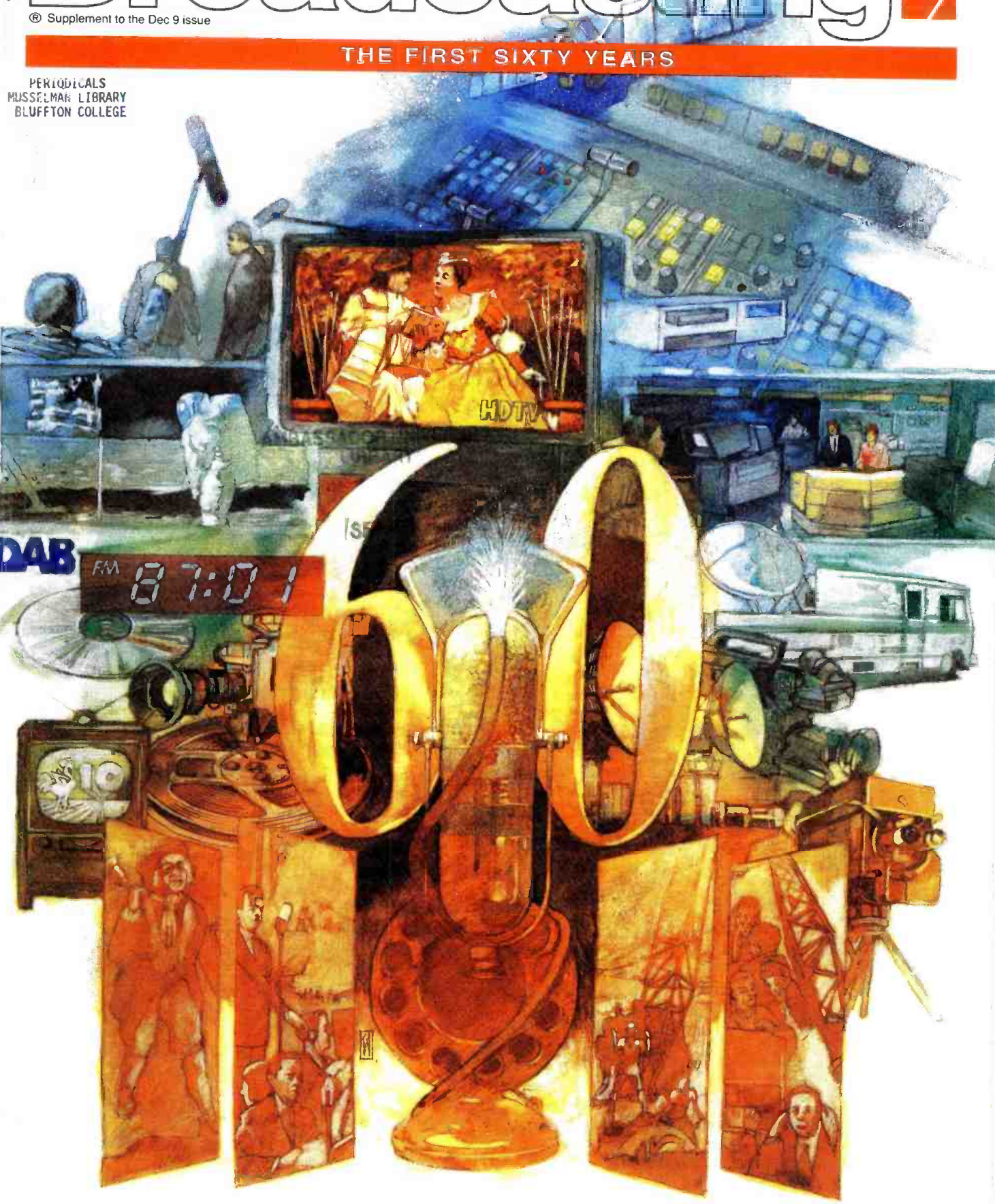


Broadcasting

© Supplement to the Dec 9 issue

THE FIRST SIXTY YEARS

PERIODICALS
MUSSELMAN LIBRARY
BLUFFTON COLLEGE

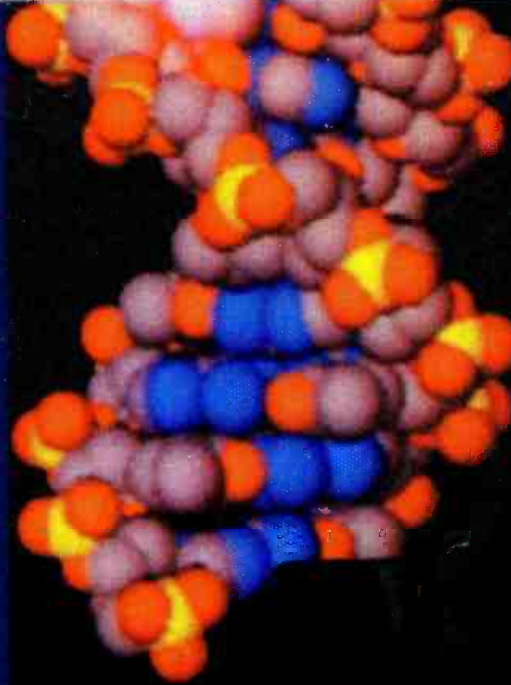


Insightful.

Timely.

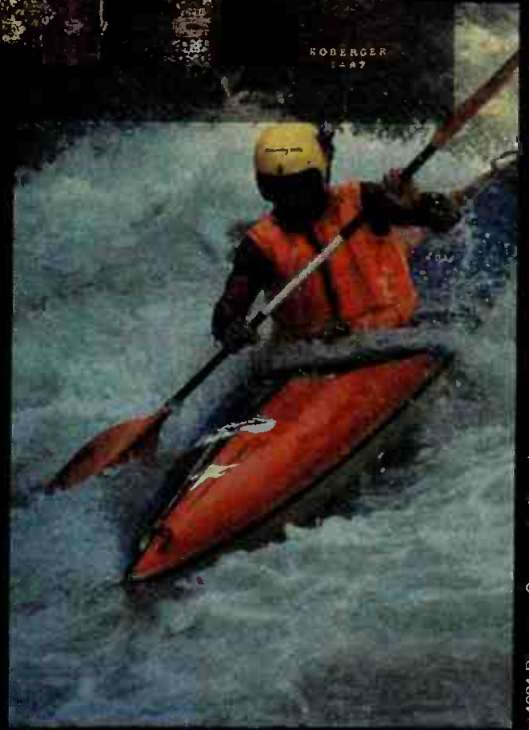
Influential.

Broadcasting.



CONGRATULATIONS FROM
DISCOVERY NETWORKS





© 1991 Discovery Communications, Inc.

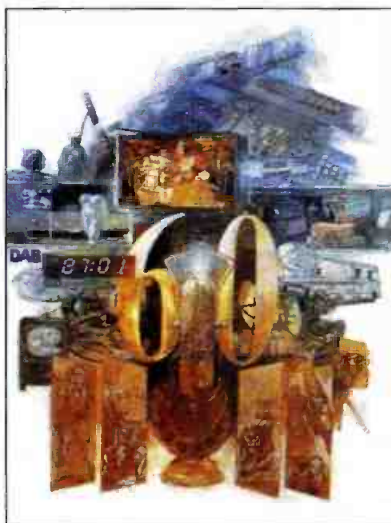
THE FIRST 60 AND COUNTING

The 60th is not the most significant of birthdays, no matter that it's marked with diamonds. The 50th, which BROADCASTING passed 10 years ago, and the 75th, which we anticipate 15 years hence, are far more lustrous (while the 100th, alas, is beyond our ken).

Nevertheless, the remembrance now in hand has been worth the candle. It has made us think, once again, of how far radio and television and cable and satellites have come, and about the remarkable people who brought them this distance.

Those include, conspicuously, the 60 individuals who populate BROADCASTING's inaugural Hall of Fame, commemorated on page 37, et seq. They form the first rank in a long line of broadcasting/cable men and women who gave their best to those media, and who will be similarly honored in succeeding years. Many are household names among our readers; others are best known to their contemporaries and to the editors of this magazine.

The 60th celebration also makes us think of BROADCASTING's own past, from those Depression days when Sol Taishoff and Martin Codel raised \$5,200 from Iowa broadcaster Harry Shaw to bring their dream to life. (The magazine was to have been named "The Fifth Estate," but the founders had second thoughts between the prospectus and the first issue.) Shaw had pledged \$52,000 to the venture, but President Roosevelt's



bank holiday closed that fiscal avenue. No matter, BROADCASTING was on its way, and never required another capital infusion.

Fifty-five years would go by with BROADCASTING in the hands of half its founding family; Martin Codel moved on to other pursuits. Times Mirror purchased the magazine in 1986, and Cahners Publishing, a subsidiary of Reed International, acquired the magazine this year.

Throughout, the editors of BROADCASTING have had a dual

charge: to live up to the past and keep up with the future. That has never been harder, nor more urgent, than today, with the electronic nation and publishing itself undergoing future shock. We fully expect to report and live through as much change in the next decade as in the past six.

The founders left still another legacy: a belief that this nation would rise or fall with the freedom of its press, and that the electronic press must be accorded all the First Amendment rights of its print colleagues. "Radio as free as the press!" was their banner, and the incumbent editors still hold it high.

A lot of words and images have gone by in the past 60 years, and a lot of journalism has been practiced. Good times and bad, it's been a ball.

EDITOR

C O N T E N T S

FROM MARCONI TO HDTV / 6

Entrepreneurs and inventors who have made the world a smaller—and a higher fidelity—place.



What hath Marconi wrought?

FAST FORWARD / 6

Snapshots of 60 years, as reported in the pages of BROADCASTING.

FIFTH ESTATE'S FAMILY TREE / 8

From Newton's spectrum experiments to Zworykin's TV patent, the pre-BROADCASTING roots of broadcasting.

60 YEARS OF PROGRAMING / 27

The soap operas, games shows, dramas, sports, news, sitcoms, cartoons and variety shows that have kept



The shape of TV in 1947

audiences glued to their sets since 1920.

FIRST 60 / 37

BROADCASTING inaugurates its Hall of Fame with the induction of 60 honorees for their lifetime contributions to the Fifth Estate.

FUTURISTS / 63

If HDTV and digital compression aren't enough for you,

then read what four prognosticators see in store for broadcasting.

THE FIFTH ESTATE'S FOURTH ESTATE / 73

A roster of the 596 men and women responsible for the first 2,868 issues of BROADCASTING.

Cover illustration by Web Bryant.

Congratulations On 60 Years!



_____**WARNER BROS.**_____

1691 0 1 1991

FROM MARCONI TO HDTV

A short course on the long history of electronic communications



A historic pair: David Sarnoff and Guglielmo Marconi at the RCA Communications transmitting center, Rocky Point, N.Y., in 1933

By Rich Brown

Trying to trace back to where it all began is not easy. A case could be made that broadcasting got its start in 1666, when Sir Isaac Newton performed basic experiments on the spectrum. But a more practical starting point might be 1897, when 23-year-old Italian inventor Guglielmo Marconi received his first patent for wireless telegraphy. The invention would set the stage for others to expand on his discovery, forming a chain of discovery and development that continues today.

When BROADCASTING published its first issue on Oct. 15, 1931, there were 608 radio stations serving an estimated 12 million radio sets nationally. Television was little more than a dream shared by engineers in the laboratory, and cable wasn't even a concept. Sixty years later, those 608 radio stations have grown to more than 9,500 commercial properties, and television finds itself on the verge of providing audiences with well over 100 channels of programming.

Among those taking their earliest lead from Marconi was Lee de Forest, whose invention of the audion tube in 1906 became the basis for amplification of radio

signals. Also taking their lead from Marconi were the business people, like future Radio Corporation of America Chairman David Sarnoff, who saw the commercial potential of radio and understood how to transform the technology into a popular medium.

But it is unlikely the inventors alone would have been able to make broadcasting a success. They were not always the best businessmen, a point driven home in Tom Lewis's just-published book on broadcasting's pioneers, *Empire of the Air*. Lee de Forest opened a number of failed businesses and spent a great deal of his life in copyright battles before dying in 1961 with a total of \$1,250 cash to his name, according to Lewis.

Similarly unsuccessful in his finances was inventor Edwin Howard Armstrong, whose work led to the creation of FM radio. Tired and broke after years of defending his ground-breaking patents, the inventor eventually committed suicide. But despite their personal troubles, the marks that both Armstrong and de Forest made on the industry were indelible.

For businessmen such as Sarnoff, however, the rewards would be great. The Russian immigrant joined Marconi Wireless Telegraph Co. in 1906 at age 15 and aggressively began his Horatio Alger

climb. Sarnoff, keeping a close eye on experimental radio broadcasts by de Forest, proposed that the company develop a "radio music box" as early as 1916. A few years later, his dreams of radio as a popular medium would become reality.

Early amateur radio stations were primarily transmitting information and, with the help of a Victrola, an occasional record or two. By 1920, KDKA(AM) Pittsburgh, an experimental Westinghouse station founded in the garage of Dr. Frank Conrad, became the country's first licensed radio station. The few listeners who were able to receive KDKA in November of that year tuned in to hear coverage of the Harding-Cox election.

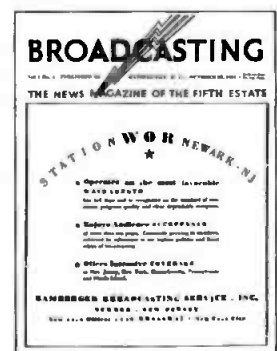
Other stations began to sprout around the country, WBZ Springfield, Mass., and WJL Detroit among them. By 1927, so many stations had gone on air that the government established the Federal Radio Commission to maintain some order in the nation's increasingly crowded air-

1931

FAST FORWARD

In their 60 years of covering events in the Fifth Estate, from the hirings at radio and TV stations to the firings of rockets bearing communications satellites, the quarter-million-plus pages of BROADCASTING are a diary of the lives of radio, TV and cable. Herewith, a time line of those six decades.

Note: Events are listed by date of publication in BROADCASTING.



BROADCASTING's first cover:
Oct. 15, 1931.

Oct. 15
First issue of
BROADCASTING.

Dec. 15
The NAB reports that more than half of the nation's radio stations are operating without profit.



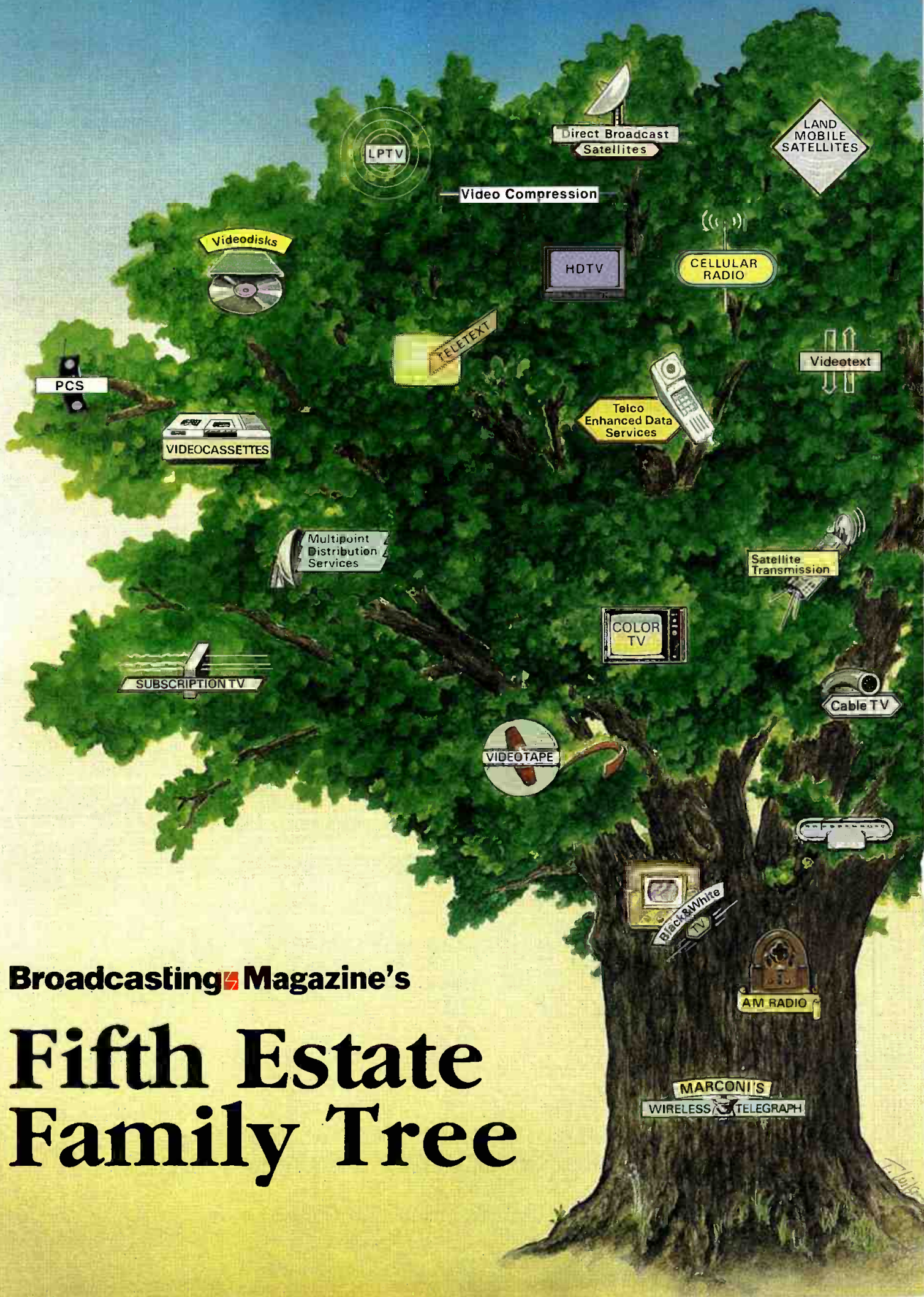
Congratulations, Broadcasting Magazine.
We're very proud of our 60 year association.



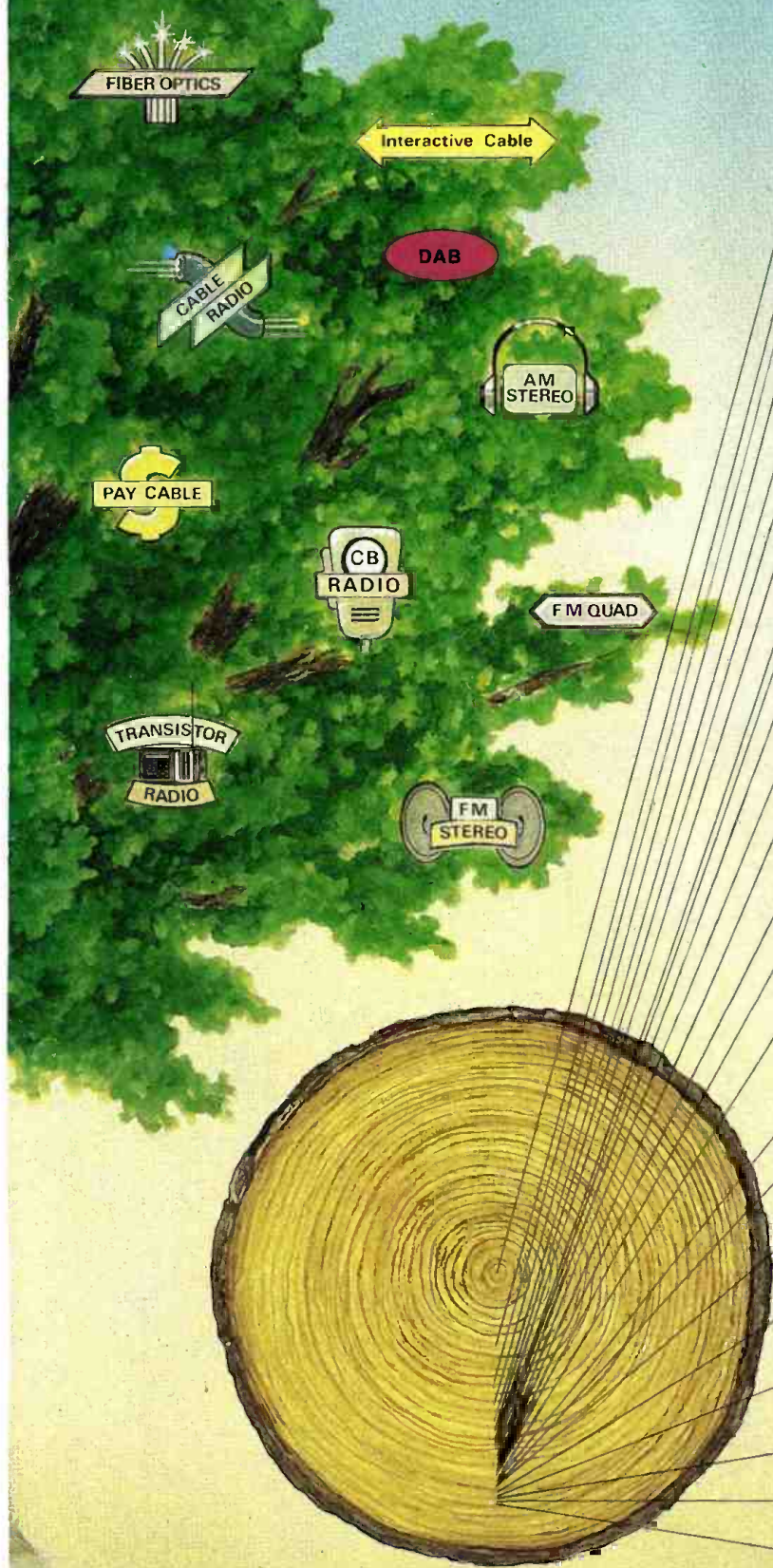
Hubbard Broadcasting, Inc.

Broadcasting Magazine's

Fifth Estate Family Tree



Genesis



- 1666** □ Sir Isaac Newton performs basic experiments on the spectrum.
- 1794** □ Alessandro Volta of Italy invents the voltaic cell.
- 1827** □ Sir Charles Wheatstone of England invents acoustic device to amplify sounds. He calls it a "microphone."
- 1844** □ Samuel F.B. Morse tests first telegraph with "What hath God wrought?" message sent on link between Washington and Baltimore.
- 1858** □ First transatlantic cable completed. President Buchanan and Queen Victoria exchange greetings.
- 1867** □ James Clerk Maxwell of Scotland develops electromagnetic theory.
- 1875** □ George R. Carey of Boston proposes system that would transmit and receive moving images electrically.
- 1876** □ Alexander Graham Bell invents the telephone.
- 1877** □ Thomas A. Edison applies for patent on a "phonograph or speaking machine."
- 1878** □ Sir William Cooke of England passes high voltage through a wire in a sealed glass tube causing a pinkish glow—evidence of cathode rays.
- 1884** □ Paul Nipkow of Germany patents a mechanical, rotating facsimile scanning disk.
- 1886** □ Heinrich Hertz of Germany proves that electromagnetic waves can be transmitted through space at the speed of light and can be reflected and refracted.
- 1895** □ Wilhelm Conrad Roentgen of Germany discovers X-rays.
- 1896** □ Guglielmo Marconi of Italy applies for British patent for wireless telegraphy. He receives American patent a year later.
- 1900** □ Arthur Kennelly and Sir Oliver Heaviside propose a theory that radio waves will bounce off a reflective layer in the upper atmosphere (Kennelly-Heaviside layer) and cause them to carry great distances, especially at night.
- 1901** □ Marconi sends the first trans-Atlantic signal from England to Newfoundland.
- 1906** □ Lee de Forest invents a three-element vacuum tube (the Audion), which becomes the basis for amplification of radio signals.
- 1906** □ Reginald Fessenden transmits speech and phonograph music using a high-frequency generator.
- 1916** □ David Sarnoff, assistant traffic manager of Marconi Wireless Telegraph Co., proposes developing a "radio music box."
- 1920** □ Westinghouse's KDKA Pittsburgh is first licensed radio station; broadcasts Harding-Cox election returns.
- 1923** □ Vladimir Zworykin files for patent for all-electronic TV system.
- 1927** □ Philo T. Farnsworth applies for patent on image dissector camera tube.
- 1931** □ First issue of BROADCASTING is published on Oct. 15.

waves (the commission by 1934 would evolve into the Federal Communications Commission).

Meanwhile, RCA was busy developing the country's first major radio network through its National Broadcasting Company (General Electric and Westinghouse were part owners in the company until they were bought out by RCA in 1930). Sarnoff, a fast-rising executive at RCA, pushed for the establishment of the Red and Blue Networks, which could take advantage of growing advertiser interest in radio.

The first of those, the Red, would build upon an earlier network based at WEAF New York. WEAF had already made its mark in the industry, having been the first station to feature sponsored programming in 1922. RCA purchased the flagship station from AT&T in 1926, and launched its Red Network with 25 affiliated stations. A second New York area station, WJZ, would soon serve as the flagship for the Blue Network (an FCC order in 1943 would force RCA to divest the Blue Network, which would eventually become ABC). NBC's first formal rate card for the Red Network in September 1927 offered a basic group of 15 cities for \$3,770 per hour from 7 p.m. to 11 p.m. The network grossed nearly \$3.8

Announcing the National Broadcasting Company, Inc.

National radio broadcasting with better programs permanently assured by this important action of the Radio Corporation of America in the interest of the listening public

Public Advisory Council
The Public Advisory Council of the National Broadcasting Company was organized on the 15th day of February, 1927, to advise the Board of Directors of the National Broadcasting Company in the management of the affairs of the Company. The Council is composed of representatives of the various interests connected with the radio industry, and is organized on a non-partisan basis. Its members are: **Chairman:** W. W. Rorer, President of the National Broadcasting Company. **Members:** J. P. Morgan, Jr., President of the American Telephone and Telegraph Company; C. D. Johnson, President of the General Electric Company; H. H. Arnold, President of the American Radio Manufacturing Company; J. W. Mackay, President of the National Broadcasting Company; J. W. Mackay, President of the National Broadcasting Company; J. W. Mackay, President of the National Broadcasting Company.

RCA charts a course for the future

million that year, doubling that figure in 1928.

Network competition began in 1929 when William S. Paley took over two struggling radio networks and molded the

Columbia Broadcasting System (CBS) into a formidable opponent to the established NBC networks. Paley, who had earlier placed ads for his family's La Palina cigars on the 16-station network, had seen radio's advertising potential first hand. Others saw the potential as well. Mutual Broadcasting would enter the network race in 1934. Two years later, the A.C. Nielsen Co. proposed an "audimeter," which would attach to a sampling of radio sets and measure the explosive growth in radio listening.

Radio executives were enjoying tremendous success with the medium, and there was some understandable reluctance to embrace research into a potentially dangerous competitor. Nevertheless, the radio networks were investing in television research. NBC, whose parent company, RCA, was in the set manufacturing business, was particularly eager to get into TV. The FCC awarded NBC its first experimental TV station permit on April 4, 1928, and the company's experimental TV transmissions from the Empire State Building began as early as 1931. Sarnoff, always the visionary—and the promoter—launched regular service with a well-publicized television broadcast from the RCA Exhibit at the 1939 New York World's Fair. Like it or

1932

March 15
CBS, NBC and New York area stations, notably WOR(AM), go into round-the-clock operation to cover the Lindbergh kidnaping, radio's biggest spot-news reporting job to date.

May 1
NBC lifts the ban on recorded programs for its owned and operated stations, but continues to bar them from network use.

July 15
NBC withdraws prohibitions against price mentions on the air during daytime hours; two months later, both NBC and CBS allow price mentions at nighttime as well.

1934

June 15
The Communications Act, creating the Federal Communications Commission to replace the Federal Radio Commission, becomes law.



David Sarnoff, RCA president, at 1939 world's Fair, the first time a news event was covered by TV.

1936

June 15
A year of TV demonstrations begins with the Don Lee Broadcasting System's first public exhibition of cathode-ray television in the U.S., using a system developed by Don Lee TV director Harry Lubcke. One month later, RCA demonstrates its system of TV with transmissions from the Empire State Building, and Philco follows with a seven-mile transmission in August.

July 1

FM broadcasting, a new system invented by Major E.H. Armstrong, is described at an FCC hearing as static-free, noise-free, free from fading and cross-talk, having uniformity

1935

May 15
RCA announces it is taking television out of the laboratory for a \$1-million field-test program.



The FCC, successor to Radio Commission, at its first meeting in 1934.

day and night in all seasons and greater fidelity of reproduction.

Oct. 15
A.C. Nielsen, revealing his firm's acquisition of the MIT-developed "audimeter," proposes a metered tuning method of measuring audience size.

1937

May 15
WLS(AM) Chicago recording team of Herb Morrison, announcer, and Charles Nehlsen, engineer, on a routine assignment at Lakehurst, N.J., record an on-the-spot, at-the-time account of the explosion of the German dirigible Hindenberg. NBC breaks its rigid rule against recordings to put it on the network.

1938

Feb. 15
BROADCASTING publishes the first facsimile newspaper in a demonstration for convention delegates.



The first baseball game ever televised, Princeton-Columbia, was covered by NBC in 1939.

1939

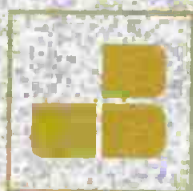
Jan. 1
After 15 years of litigation, the patent for iconoscope-kinescope tubes, the basis for electronic television, is granted to Dr. Vladimir Zworykin.

May 1
A telecast of the opening ceremonies of the New York World's Fair marks the start of a regular daily television schedule by RCA-NBC in New York.

Thank you Broadcasting

*for giving voice
to the interests and concerns
of the Fifth Estate
over the past 60 years.*

*We salute your success, your people,
and your resolve in
helping to shape
our industry into the vital
force it is today.*



JOHN BLAIR COMMUNICATIONS, INC.

THEY'LL NEVER



STUDS



ER BE STUDS.



To Be or Wanna-Be. There is no question.

Even if a few imitators make it to NATPE, they'll never be STUDS.

Only STUDS has proved it can double and triple ratings overnight. And only STUDS

delivers perfect 18-49s with virtually no 50+.

For the most saleable audience in first run, get the STUDS franchise.

Because Wanna-Be's never work out.

TWENTIETH
TELEVISION

not, the television era had begun.

"It is with a feeling of humbleness that I come to this moment of announcing the birth of a new art so important in its implications that it is bound to affect all society...an art which shines like a torch in a troubled world...a creative force we must learn to utilize for the benefit of all mankind," Sarnoff told viewers.

While Sarnoff's 1939 telecast made headlines, scientists had actually been experimenting with TV throughout the 1920's. Among those with the greatest impact on its development was Vladimir Zworykin, whose invention of the iconoscope camera and kinescope picture tube provided the basis for modern television. Taking those developments yet further were inventors Philo T. Farnsworth and Allen DuMont. Sarnoff saw the potential in primitive TV experiments and began calling for the development of the medium in 1923.

But it would be a number of years before TV would take hold. Even Sarnoff's well-publicized presentation at the World's Fair in 1939 did not translate into instant success for the medium. NBC was the FCC's first commercial TV station licensee in June 1941 and introduced commercial television on July 1 of that year in New York. But World War II had



William Paley, whose gem was Columbia

placed much of the development on hold, and it was not until 1946 that TV networks began to surface.

Things began to move quickly after the war, for both radio and TV. The number of radio stations grew from 1,004 to 1,520 in 1946, and TV was ready to see significant growth of its own. ABC, CBS, NBC and the DuMont TV networks were all broadcasting within two years. By 1950, there were five million TV sets in use. TV took another giant

step forward with its first coast-to-coast broadcast, Sept. 4, 1951, when NBC-TV telecast a Japanese peace conference in San Francisco. The medium really took off the following year as the FCC lifted a freeze that had limited the number of TV stations to 108 nationally.

The TV network race was consolidated into three major players by 1955, when DuMont was forced out of the running by an increasingly aggressive ABC. The ABC Network, which had dramatically improved its standing through a 1952 merger with United Paramount Theaters, solidified its future with the collapse of DuMont. ABC's Leonard Goldenson, often described as broadcasting's "unknown soldier" alongside the high-profile Paley and Sarnoff, managed to build the network into a major player from an initial lineup of five owned stations and nine primary affiliates covering about 35% of the country.

Once the primary networks were in place, the focus shifted to new technology. One logical extension was color TV. But just as the development of TV was halted by the war, the development of color TV was stalled by standardization problems. CBS, which had unveiled a system of sending and receiving TV images in full color as early as 1940, was

1940

June 1

The FCC authorizes commercial operation of FM, but puts TV back into the laboratory until the industry reaches an agreement on standards.

Sept. 1

CBS demonstrates its system of color TV developed by its chief TV engineer, Dr. Peter Goldmark.

1941

March 17

General Foods signs unprecedented contract with Jack Benny, giving the comedian control of his Sunday-night time period on NBC-Red network at its termination, whether or not he continues under General Foods sponsorship.

June 30

Bulova Watch Co., Sun Oil Co., Lever Bros. and Procter & Gamble sign on as sponsors of first commercial telecasts on July 1 over NBC's WNBT(TV) New York (until then W2XBS).



Westinghouse's 'Stratovision' plane that had TV transmitters on board.

Dec. 15

President Roosevelt's broadcast to the nation on Dec. 9, the day after war was declared, has the largest audience in radio history—about 90 million listeners.

1943

Aug. 2

Edward J. Noble buys the Blue Network from RCA for \$8 million in cash.

1944

Dec. 25

With FCC approval for the transfer of owned

stations, the Blue Network assumes the name of its heretofore holding company, the American Broadcasting Co.

1945

May 14

Pooled coverage of the Nazi surrender brings the American people full



NBC's WNBT(TV) New York covers V-E Day in 1945.

details of the end of the war in Europe. Peace heralds a communications boom: not only will programing restrictions end, but new station construction, frozen for the duration, will proceed at an explosive pace soon after V-J Day.

1946

June 24

A telecast of the Louis-Conn heavyweight title bout, sponsored by Gillette Safety Razor Co. on a four-city hook-up, reaches an estimated 100,000 viewers and convinces skeptics that television is here.

Nov. 4

RCA demonstrates its all-electronic system of color TV.

Nov. 11

Bristol-Myers is the first advertiser to sponsor a television network program: *Geographically Speaking*, which debuted Oct. 27 on NBC-TV's two-station network.



Herbert Hoover (l) and host Lawrence Spivak on an early 'Meet the Press,' which debuted in 1947 and remains one of the longest running shows on network TV.

1947

April 28

Comedian Fred Allen uses a gag, which NBC had ruled out, about network vice presidents and is cut off the air while he tells it. The story is front-page news across the country as the sponsor's advertising agency demands a rebate for 35 seconds of dead air.

1948

June 14

Texaco puts an old-style vaudeville show on TV, launching an hour series on NBC-TV starring Milton Berle.

WITH ALL OF US LOOKING...



AND LISTENING...



WE ARE BECOMING ONE WORLD



T I M E W A R N E R

THE WORLD IS OUR AUDIENCE

A stack of several red, textured chips, possibly made of wood or a similar material, is shown against a dark background. The chips are stacked vertically, with the top chip slightly offset to the right. The lighting is dramatic, highlighting the texture and color of the chips. The text is overlaid on the upper portion of the image.

When it comes to chips,
the only ones you should

these are
gamble with.



Wagering a few chips on the blackjack table or roulette wheel may be loads of fun for some people. But when it comes to studio cameras, you can't afford to take a chance. After all, the chip is the heart of the camera—the one component that image quality ultimately depends upon.

That's why you should only consider a camera from the leader in CCD technology. A camera like the Sony BVP-370 or BVP-270.

You can always bet on the quality since we design and build our own camera chips. And we load our chips with the most advanced technology available.

Sony's unique Hyper HAD™ sensor with On Chip Lens technology provides increased sensitivity of one full stop—



F8 at 2000 lux. And it dramatically reduces

vertical smear to a mere -140dB in the BVP-370 and -105dB in the BVP-270. Taken together, these features combine to give you the highest quality CCD imager available.

The result is a picture with 700 lines of resolution and such remarkable colorimetry that no other chip camera would dare lay odds against it.

So if you're considering a studio camera, consider the BVP-370 or BVP-270. They're as close to a sure thing as you can get. To find out more, call 1-800-635-SONY, ext. 102.

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SONY®

BUSINESS AND PROFESSIONAL GROUP

discouraged by the FCC's refusal to approve a system that could not be received by black-and-white TV sets. It was not until late 1953 that the industry could move forward with an FCC-approved color system, one that had been developed by RCA.

And once the FCC finally settled on a color system, the networks themselves were slow to commit to the more expensive color productions. NBC reported a net loss of \$6.9 million on color production in 1956, when only half of its schedule was in color. But the company labeled the investment "a reasonable expenditure to lay the foundation for a business that promises substantial profits in the near future." NBC had made the full switch by 1965. CBS followed the next year, and ABC completed the picture one year later.

While the technology was growing up, so, too, were the programers and their audiences. The year 1959 marked a turnaround in the way radio and television audiences would perceive the broadcasting medium. TV viewers across the country were shocked to learn that their favorite game shows were a fraud, while the radio industry made headlines of its own with payola scandals. In a one-two punch, audiences and legislators learned



The game was up when Charles Van Doren admitted to cheating on 'Twenty One'

not to believe everything delivered by broadcasters. And broadcasters learned some lessons in self-regulation.

TV viewers at the turn of the decade had little reason to suspect that Columbia University faculty member Charles Van Doren was being helped through his stint as a contestant on *Twenty-One*. Everybody loved a winner, and by all appearances, Van Doren was a big winner. NBC was so taken by him that they

signed him to a \$50,000-a-year contract.

But rumors began to surface that Van Doren and other contestants had been given answers prior to broadcast, leading to investigations by a New York grand jury and, in November 1959, the House of Representatives in Washington. By the time the investigations were over, it would be revealed that *Twenty-One*, as well as two other game shows, *The \$64,000 Question* and *The \$64,000 Challenge*, had supplied answers to popular contestants to help drum up an audience for the shows' sponsors.

"I would give almost anything I have to reverse the course of my life in the last three years," Van Doren told the House Legislative Oversight Committee. "I was almost able to convince myself that it did not matter what I was doing because it was having such a good effect on the national attitude toward teachers, education and the intellectual life...I was able to convince myself that I could make up for it after it was over."

While the networks were not shown to have had any prior knowledge of the quiz show scandals, they still made well-publicized efforts to monitor their programming more closely. As a result, the networks wrested greater control of their schedules from the sponsors.

1950

Sept. 4

General Foods drops Jean Muir, who denies any Communist affiliations or sympathies, from *Aldrich Family* after protests against her appearance by "a number of groups." The Joint Committee Against Communism claims credit for her removal, announcing a drive to "cleanse" radio and television of pro-Communist actors, directors and writers.



The hands of witness Frank Costello, as shown on TV during Kefauver Senate hearings on crime, in 1951.

Committee, chaired by Senator Estes Kefauver (D-Tenn.)

Oct. 16

The FCC approves CBS color, effective Nov. 20. The network promises 20 hours of color programming a week within two months. Manufacturers are divided, however, over whether to make the sets to receive the telecasts; in the meantime, RCA continues work on its own system.

July 2

Sixteen advertisers sponsor the first commercial colorcast, an hour-long program on a five-station East Coast CBS-TV hook-up.

Nov. 19

Bing Crosby Enterprises announces the development of a system for recording sight and sound programs on magnetic tape. The pictures shown at demonstrations are described as "hazy" but "viewable." A year later, the images are described as improved "more than 20-fold."

1951

March 19

Frank Costello's hands provide TV's picture of the week as he refuses to expose his face to cameras covering New York hearings of the Senate Crime Investigation

1952

By rushing equipment

across the country from Bridgeport, Conn., to Portland, Ore., KPTV(TV) Portland goes on the air as the first commercial UHF TV station.



NBC converted a Cadillac into a 'Travelling Eye' with a TV camera and microwave on top. The vidicon was used for close-up shots.

1953

Sept. 28

With the end of daylight savings time, CBS-TV and NBC-TV inaugurate "hot kinescope" systems to put programs on the air on the West Coast at the same clock hour as in the East.

Dec. 7

RCA demonstrates black-and-white and color TV programs recorded on magnetic tape. RCA-

NBC Board Chairman David Sarnoff says two years of finishing touches are needed before the system is ready for market.

Dec. 21

The FCC approves compatible color TV standards.

1954

Aug. 30

CBS President Frank Stanton broadcasts the first network editorial, urging that radio and TV be allowed to cover congressional hearings.

1956

April 23

Ampex Corp.'s new TV tape recorder, with \$4 million in orders, steals the show at the National Association of Radio and Television Broadcasters Chicago convention.

1957

Feb. 18

Videotape recorders are seen as the solution to the

TV networks' daylight savings time problems.

1958

Jan. 20

Subliminal TV messages are put under the spotlight in Los Angeles and Washington.

Sept. 29

The BBDO advertising agency converts live commercials to videotape.

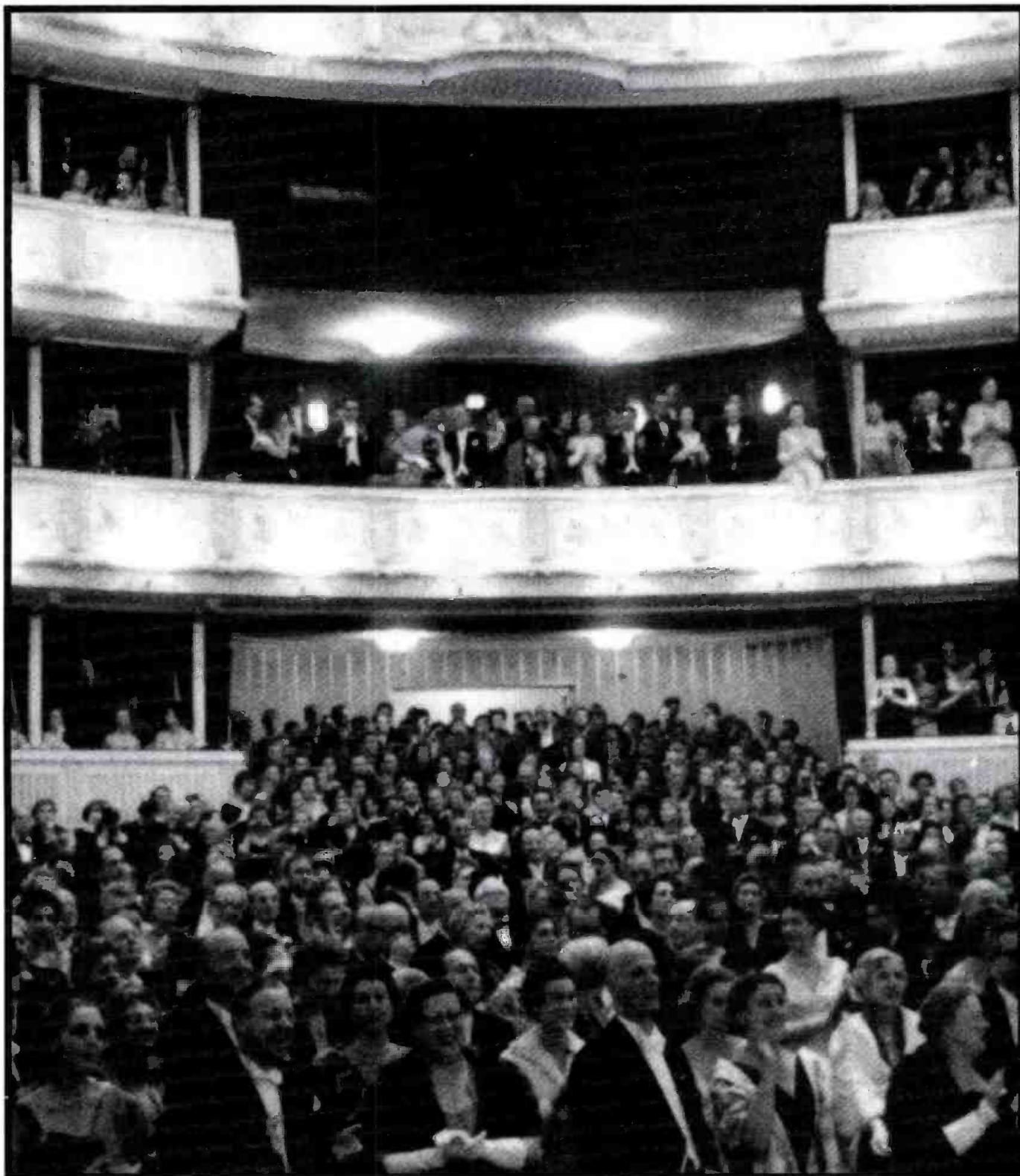
1959

April 27

Sixty-eight TV stations defy the broadcasters' code by refusing to drop Preparation H commercials.

Nov. 9

The quiz show scandal climaxes when famed *Twenty-One* prize-winner Charles Van Doren admits to a House committee that he had been provided with answers and strategies in advance. The sad ending to the quiz era prompts cancellations of big-prize shows and vows by NBC and CBS to clean house of deceptive practices.



**CONGRATULATIONS BROADCASTING.
THIS ROUND'S FOR YOU ON YOUR 60TH ANNIVERSARY.**



MULTIMEDIA ENTERTAINMENT

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FROM MARCONI TO HDTV

Broadcasters would find themselves scrutinizing their programming even more closely in 1962, when newly appointed FCC chairman Newton Minow rocked the industry with his speech labeling TV "a vast wasteland." Washington not only began to keep a closer eye on commercial TV programming, but also sought to improve TV programming in general by providing public TV with an unprecedented \$32 million in funds.

The year 1962 was also significant in that it marked TV's entry into the satellite era. BROADCASTING heralded the launch of AT&T's Telstar I that year as a "triumph paralleling the invention of the printing press, the telegraph, the telephone and the wireless."

Meanwhile, a new competitor was gradually making its way into America's living rooms. Cable TV, launched in the 1940's as a way of bringing TV into communities with reception problems, was catching on around the country. By 1966, the industry had grown so large that the FCC declared its authority to regulate the 1,600 cable systems then in operation.

Almost 2,500 cable systems reaching 5.5 million homes were in operation by 1970. Each system averaged about 2,000 subscribers and offered between six and



FCC's New Frontier Chairman Newton Minow, who tabbed TV a 'vast wasteland'

12 channels with a monthly price tag of about \$5. Cable operators soon found a way to boost that revenue even higher with the advent of Home Box Office (HBO), which would become the nation's first major pay-cable service (there had been a handful of earlier pay-TV attempts, including a short-lived effort in Bartlesville, Okla., in 1957).

HBO's beginnings are traced back to a

small cable system in Wilkes-Barre, Pa., Service Electric Cable TV, where, in 1972, 365 subscribers became the first in the country to pay to receive the premium service. Day-one viewers watched a National Hockey League game from Madison Square Garden, followed by the film *Sometimes a Great Notion*. Three years later, HBO became the first pay-TV service to utilize satellite distribution. By 1977, pay-TV households had passed the one-million mark.

HBO followed its success with the 1980 launch of a companion pay service, Cinemax, which would be available to subscribers on a "tiered" basis at a discounted price. HBO would soon share the wires with a number of additional national pay-TV networks from competing companies. The biggest of those, Showtime/The Movie Channel, launched in 1983. Showtime's origins dated at least as far back as 1976 as a pay-TV service on a Viacom system in Northern California; The Movie Channel originated as The Star Channel, a stand-alone pay-TV network serving eight Warner Cable systems by videocassette. Among other early pay-TV launches, Bravo kicked off in 1980; The Playboy Channel debuted in November 1982, and The Disney Channel was started in 1983.

1960



The adversaries shook hands, as Howard K. Smith looked on, in 1960.

Aug. 22
Daytime serials fade out on network radio.

Oct. 3
The opening Kennedy-Nixon debate attracts the largest TV audience ever.

1961

May 15
FCC Chairman Newton Minow shakes up the National Association of Broadcasters convention with his assessment of TV programming: although it occasionally shines with programs like *Twilight Zone* and *CBS Reports*, it is, more than anything, from sign-on to sign-off "a vast wasteland."

July 17
Off-network shows become popular TV-syndication fare.

Nov. 6
The Ampex "electronic editor" permits inserts and additions to be made in videotape without physical splices.

Nov. 20
ABC-TV engineers develop a process for the immediate playback of videotape recordings in slow motion.

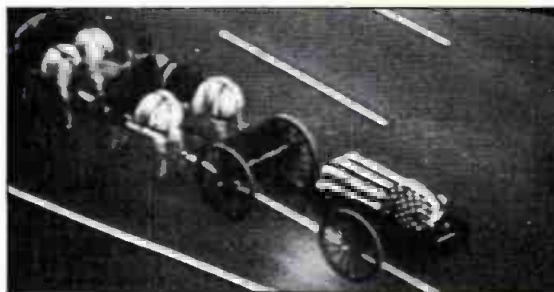
1962

Feb. 26
John Glenn's orbital space flight is seen by 135 million TV viewers.

July 16
Telstar, AT&T's orbiting



TV made its satellite debut in 1962.



Television dropped all programming and commercials in 1963 to cover the aftermath of the Kennedy assassination.

satellite, provides a glamorous debut for global TV.

1963

May 20
Astronaut Gordon Cooper sends first TV pictures from space.

Nov. 25
All commercials, all entertainment programming were canceled from radio and TV networks following the assassination of President Kennedy. In the same week, the first trans-Pacific broadcast via

satellite previews live TV coverage of the 1964 Olympics in Tokyo.

1964

Jan. 20
The government and the tobacco companies each ponder their next move after the surgeon general's report links cigarette smoking and lung cancer. Within weeks, American Tobacco drops sports broadcasts, radio stations begin to ban cigarette ads and CBS-TV orders a de-emphasis of cigarette use on programs.

1965

April 12
Early Bird, the first commercial communications satellite, goes into stationary orbit, opening trans-Atlantic circuits for TV use.

1966

Feb. 21
Fred W. Friendly quits as president of CBS News when his new boss, John Schneider, CBS group vice president for broadcasting, cancels coverage of a Senate hearing on the Vietnam War.



CBS News President Friendly resigned in 1966 in protest when CBS cancelled coverage of a Senate hearing on Vietnam.

FROM MARCONI TO HDTV

The cable industry has seen a number of specialized programming services come and go since its inception. Sports News Network made it onto its feet only to fall a while later. Country singer Willie Nelson was to have launched a Cowboy Channel. Cable programmers have learned that there is much more to having a successful network than just identifying an audience niche.

Among those cable networks that overcame the odds was Ted Turner's Cable News Network, which naysayers had labeled the "Chicken Noodle Network" when the 24-hour news network launched in 1980. Within 10 years, the service grew from an audience of 1.7 million households to a worldwide service reaching about 54 million homes in the U.S. alone. And CNN even managed to do the unthinkable: the service now routinely provides formidable competition to the well-established broadcast network news divisions.

Many of the larger basic cable networks launched on satellite in the late 1970's and early 1980's. Turner was one of the first of the basic cable networks to latch on to national satellite delivery with the launch of "superstation" WTBS-TV Atlanta in 1976. The station's family-oriented programming, which reached just



Ted Turner cuts the ribbon on CNN

24,000 households at the time of its launch, eventually grew to a potential audience of more than 58 million homes.

Other early satellite launches included The Family Channel, which traces its origins back to 1977; superstation WGN-TV Chicago, launched in 1978; all-sports network ESPN, launched in 1979, and the children-oriented Nickelodeon, which debuted in 1979. The year 1980 saw the satellite launch of three more of the nation's largest cable networks: the enter-

tainment-oriented USA Network; Black Entertainment Network, and The Learning Channel.

Around the same time, the growing cable industry designed a cooperative network to provide live gavel-to-gavel coverage of the U.S. House of Representatives. The nonprofit service, C-SPAN, eventually broadened its Washington coverage and added a second service, C-SPAN II, to follow the workings of the nation's capital. C-SPAN now reaches more than 50 million households nationally and has become a fixture for coverage of Washington events. Its unblinking coverage of the presidential election years has become among the most thorough available on TV.

Cable programming borrowed from music radio formats in 1981 with the satellite launch of MTV, the original 24-hour music video network. The older-skewing music network, VH-1, went national four years later. Short music videos were just right for cable audiences, which found themselves "grazing" through the many channel offerings in search of quick entertainment fixes. MTV eventually expanded its reach to more than 50 million households, and music videos became a staple on both broadcast and cable networks.

June 6

Network TV audiences see live close-up pictures of the moon sent back by Surveyor I as they come into the Jet Propulsion Laboratory.

1967

Aug. 21

ABC Radio introduces a radical plan: four networks instead of one, each tailored to suit different station formats.

Nov. 13

President Johnson signs the Public Broadcasting Act into law, establishing the Corporation for Public Broadcasting.

1968

March 25

The Children's Television Workshop is created by the Ford Foundation, the Carnegie Corp. and the Office of Education to develop a 26-week series of hour-long color programs for pre-school children.

June 17

The U.S. Supreme Court gives the FCC jurisdiction over all cable TV systems.

Oct. 14

Pictures taken inside Apollo 7 in flight and sent back to Earth revive public interest in the space program.

Nov. 25

NBC-TV earns the life-long ire of sports fans when it interrupts a Jets-Raiders game to air its made-for-TV *Heidi*. Viewers miss the Raiders' two-touchdowns-in-nine-seconds defeat of the Jets.



A PBS star was born in 1968.



In 1969, astronauts Neil Armstrong and Buzz Aldrin took a giant leap for television.

1969

April 14

The Corporation for Public Broadcasting plans the creation of the Public Broadcasting System to distribute programs to educational TV stations.

June 2

In the same week that ABC-TV announces its \$8-million-a-year *Monday Night Football* deal (games to begin in 1970), Apollo 10 sends back the first color TV pictures of the moon and of Earth from the moon.

July 28

The world watches live coverage of Neil Armstrong's walk on the moon.

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First it started a trend.
Now it sets records.



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ENTERTAINMENT LTD.

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Broadcasting**

March 1989 saw the launch of a new interactive cable service, Video Jukebox Network, which helped bring music videos and technology yet a step further. The network, programed by local viewers through telephone 900-numbers, now reaches more than 12 million households nationally.

Still others had come on board—The Nashville Network, launched in 1983; Arts & Entertainment, Lifetime, and American Movie Classics, all started in 1984; and The Discovery Channel and Nickelodeon's rerun-oriented nighttime programming, Nick at Nite, both started in 1985.

Among the last of the major basic cable networks to launch was Turner Network Television (TNT), which since 1988 has grown to more than 45 million households with its mix of movies, sports and children's programing. Along with CNN, TBS Superstation and its around-the-clock headline service, Headline News, Turner entered the 1990's with four of the top 25 basic cable networks. There have also been smaller launches in recent years, such as Court TV, which has made its way into 5 million homes nationally.

By the late 1980's, all of these cable networks resulted in limited channel ca-



The cable industry gets its own month

capacity on cable systems. The mid-1980's had seen the last major round of national cable network launches, and it was becoming increasingly difficult for services to find any place on the dial. By 1990, about two-thirds of all cable subscribers had systems with 53 or fewer channels.

Limited channel capacity made for some strange partners at the start of the current decade. The NBC-owned Con-

sumer News and Business Channel (CNBC) bought the 10-year-old Financial News Network. Two competing comedy networks—MTV's HA! and HBO's The Comedy Channel—merged to become Comedy Central.

With the proliferation of cable programming, the broadcast networks saw their audiences erode. ABC, CBS and NBC saw their collective prime time share drop to 63% of the audience by the 1990-91 season. To complicate matters, the upstart Fox network sprang up in 1985 to capitalize on the many already successful, unaffiliated independent TV stations around the country.

Fox Broadcasting had gotten its start when Australian financier Rupert Murdoch paid Metromedia \$2 billion for seven major-market stations reaching about a quarter of the country. After a bumpy start, quirky Fox programming like *The Simpsons* and *Beverly Hills 90210* began to get through to their young target audiences and helped the programming service become a competitor to the established networks. By the 1990-91 season, Fox, which was offering fewer nights of programming than the other networks, managed to capture 11% of the primetime TV audience.

Meanwhile, each of the three broad-

1970



Cigarette commercials were history in 1971.

March 9
House and Senate conferees agree on legislation to outlaw cigarette advertising on radio and TV, but change the bill's effective date from Jan. 1, 1971, to Jan. 2, so commercials can appear on New Year's Day football telecasts.

May 11
The FCC rules that TV stations in the top-50 markets cannot accept more than three hours of network programming between 7 and 11 p.m., bars them from domestic syndication and bars them from

acquiring subsidiary rights in independently produced programs.

1971
May 3
National Public Radio starts up with a 90-station interconnected lineup.

1972
April 17
Judge Benjamin Hooks of Memphis is nominated to the FCC, making him the first black ever to serve on any federal regulatory agency.

1973
Jan. 8
Western Union gets the first domestic satellite grant.

May 21
Broadcast media around the world open their coverage of the Senate select committee's investigation of the Watergate scandal.

July 9
The National Black Network starts with 41 radio affiliates.



RCA launched its first satellite in 1975.

1974
Jan. 14
RCA inaugurates the nation's first domestic satellite communications service using Canadian satellite.

Aug. 12
Over 110 million viewers watch President Nixon's resignation.

1975
April 21
Home Box Office, Time Inc.'s pay-cable subsidiary, announces it will inaugurate a satellite network in the fall.



1976
Jan. 12
Ampex Corp. and CBS develop the electronic still-store system, which uses a digital recording technique to store 1,500 frames in random mode, each accessible in 100 milliseconds.

1977
Jan. 31
ABC's eight-day telecast of the miniseries *Roots* becomes the most-watched program in television history, with ratings in the mid-40s and shares in the mid-60s. Eighty million people watched at least some part of the final episode.

Aug. 8
Sony unveils its Betamax videocassette.

Aug. 29
RCA introduces its SelectaVision home videotape recorder.

The modern cable era began with pay-cable service HBO's announcement, in 1975, of plans to launch a satellite network.



'Roots' became the most-watched program in TV history in 1977.

1978
July 10
The U.S. Supreme Court upholds the FCC in the "seven dirty words" case involving WBAI(FM) New York. The ruling says the FCC may regulate and punish for the broadcasting of "indecent material."

1979
Feb. 12
Ampex demonstrates its digital videotape recorder at the Society of Motion Picture and Television Engineers conference in San Francisco. Sony unveils its version two months later.

Defining the shape of television. Then. Now.



1930s
*The dawn of the broadcast age.
And NBC is there.*



1940s
*Milton Berle becomes the
first TV superstar.*



1950s
*Bonanza heralds the
"all color" network.*



1960s
*Johnny Carson begins reign as
King of Late Night.*

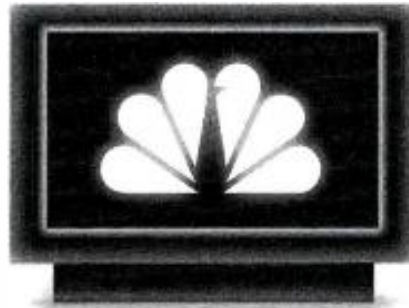


1970s
*Saturday Night Live
reinvents TV comedy.*



1980s
*Bill Cosby singlehandedly
revives the sitcom.*

1990s
Leading the way to tomorrow. And beyond.



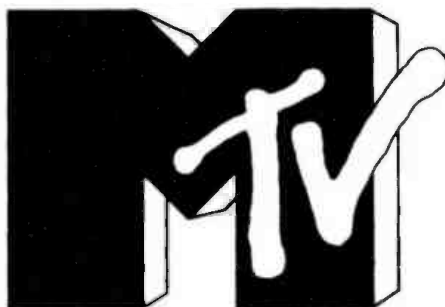
And in the decades to come.

*We salute Broadcasting Magazine for keeping up with us
during the past 60 years. And for the next 60, too.*

cast networks were learning to adapt to new owners with leaner methods of operation. CBS in 1985 narrowly avoided a takeover attempt by cable magnate Ted Turner only to find itself under the new leadership of investor Laurence Tisch. Also that year, station group owner Capital Cities successfully completed its merger with ABC (17 years after a failed effort to merge the network with ITT). And coming full circle was NBC, which in 1986 was sold to original part-owner General Electric.

The changes in network ownership were followed by a series of cutbacks and staff reductions that were expected to continue with the weak economy of the early 1990's. Even the venerated network news divisions were subjected to hundreds of staff cutbacks. Under the new network ownership, "doing more with less" became a catchphrase.

The broadcast networks continue to brace for change, with the advent of digital compression, which stands to multiply further the number of programming options that can be delivered to TV audiences. Partly in anticipation of digital compression, pay-cable suppliers HBO and



MUSIC TELEVISION®

MTV: 'Video Killed the Radio Star'

Showtime have already begun "multiplexing," offering variations of their services on multiple channels. The basic cable networks are thinking in the same direction.

The history of broadcasting has been one of constant technological change, and the future appears destined to continue in that mode. The FCC in recent months proposed rules allowing local telephone companies to distribute TV programming. High definition television is

likely to take on a greater role as the FCC closes in on a U.S. standard. A well-financed group of broadcasters, joined together as United States Satellite Broadcasting, plans to launch a high-power direct broadcast satellite by mid-1994.

As TV advances toward the 21st Century with ever more bells and whistles, radio continues to hold its own. In fact, revenues have continued to increase for the past 30 years at the nation's radio stations, which now number about 5,000 commercial AM and 4,500 commercial FM properties. Many of those stations are today receiving programs from one of the four network suppliers—ABC, CBS, Unistar and Westwood One—which blossomed with the introduction of satellite technology in the late 1970's. Today, radio prepares to enter its next phase with the introduction of digital sound and AM stereo.

One can't help but wonder what some of the medium's forefathers would make of today's landscape. Sarnoff would probably be pushing for HDTV. Marconi would no doubt be impressed. And Sir Isaac Newton? He wouldn't even know what hit him. ■

1980

1991



The NCTA, Congress and the FCC wonder what the agreement has wrought.

1983

February 7
Reagan-appointed Mark Fowler, chairman of the FCC, tells a common-carrier conference that the U.S. is heading toward a regulation-free telecommunications marketplace.

March 7
The two-and-a-half-hour final episode of *M*A*S*H* is the most-watched program in TV history, garnering a 60.3 rating/77 share.



"M*A*S*H" farewell was most-watched program in history.

1984

January 23
U.S. Supreme Court

rules that home videotaping is legal.

October 15
Congress passes the Cable Telecommunications Act of 1984, landmark legislation deregulating the industry.

1985

March 4
Ted Turner makes inquiries at the FCC about a possible takeover of CBS. Later in the month, media company Capital Cities Communications purchases ABC for \$3.5 billion. Turner's efforts to acquire CBS conclude by the end of July, when a federal judge approves the network's stock buyback plan.

August 12
Having lost his bid to buy CBS, Ted Turner makes a \$1.5 billion offer for MGM/UA. A merger is approved in October.

1986

March 24
MGM and Color Systems Technology sign an agreement for the conversion of 100 of the

studio's black-and-white films to color.

1987

April 6
Fox Broadcasting Co. introduces its prime time lineup with 108 affiliates.

June 29

President Reagan vetoes legislation to write the Fairness Doctrine into law.



Time and Warner joined to form communications giant.

1989

March 13
Time Inc. and Warner Communications agree to swap stock and merge into what will be the world's largest media and entertainment company.

1990

April 16
Digital audio broadcasting is demonstrated at NAB, and is heralded as the HDTV of radio.

June 4

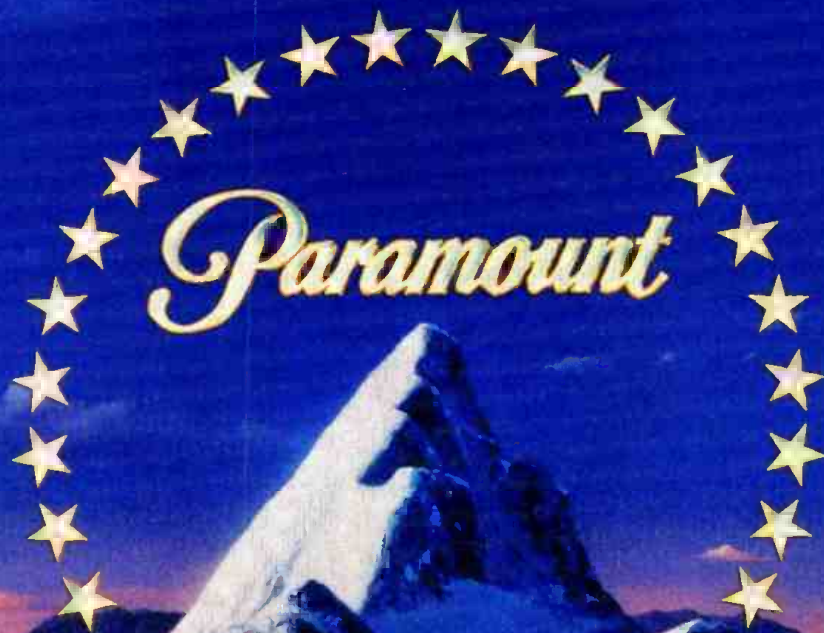
General Instruments revolutionizes the development of HDTV by proposing an all-digital system. The video compression system also has implications for satellite transmissions.

1991

January 21
The U.S. air attack on Iraq begins Jan. 16 with dramatic live coverage from network reporters in Baghdad. CNN, which had established a four-wire line with the approval of the Iraqi government, was alone among the networks to maintain contact with its Baghdad reporters through the night.

August 26

Free to move around Moscow, and ready to commit resources to coverage, television and radio provide gripping details of the short-lived Soviet coup and the collapse of Communism in the Soviet Union. During his detention in the Crimea, Soviet President Mikhail Gorbachev keeps track of events by listening to the BBC, Voice of America and Radio Liberty.



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ARBITRON

FILLING THE MAGIC BOX

The following is a look at some of the voices and faces that helped turn a mode of communication into the most prolific news and entertainment medium the world has known

By Reed Bunzel

The year: 1920. A nation had been awakened by a world at war and was preparing to enter an era of roaring prosperity. Its people and places would never be the same.

That was the year that a group of men in Pittsburgh flipped the switch of KDKA(AM), and the American system of broadcasting was born. Later that year, as listeners turned an ear toward the speakers, a handful of curious listeners was brought closer to American politics as they heard the returns of Warren Harding's presidential victory over James Cox. At that moment, the nature of America's politics, sports, entertainment and information—in fact, its whole future—was forever changed.

Within a few short years, increasing numbers of listeners turned on and tuned in to the radio console that occupied front center in American living rooms. By 1926, some 528 stations were on air nationwide, broadcasting through some 5.7 million radio sets to a weekly audience of 23 million. Businessmen and factory workers and homemakers and kids and grandparents wolfed their evening meals so they could gather around the glowing AM dial. Veterans of the era still can remember, while others can only imagine, the vast theater that unfolded every night as the characters and places and heroes and villains of radio brought laughter and tears and joy and sorrow, each emotion "brought to you" by Wheaties or Bromo Seltzer or Lucky Strike or Lady Esther cosmetics.

Americans played armchair detective as they listened to the blood-curdling screams of Carlton E. Morse's *I Love a Mystery* or as the extra-loud sound effects of rapid-fire machine guns and exploding bombs came on like *Gangbusters*, based on J. Edgar Hoover's favorite FBI files. They listened as Orson Welles became "the mysterious aid to the forces of law and order" in the "radio noir" blockbuster *The Shadow*. They sat on the edges of their seats as the zombies, ghosts and goblins of *The Inner Sanctum* released spine-tingling thrills and chills,



Above are some of the stars that the magic of radio brought into American living rooms each week (l-r): Jack Benny, Judy Garland, Charlie McCarthy and friend, Edgar Bergen

and some even sat with the *Lights Out* as they listened to the latest creation of radio thrill seeker Arch Oboler. And none sat so riveted as those who happened to catch the *Mercury Theatre of the Air* on Halloween night, 1938, when Orson Welles brought an army of Martians to the New Jersey countryside.

Popeye, Stella and Cisco

From the Sunday funnies and comic books, radio brought line drawings to life with adaptations of dozens of American superheroes. *Little Orphan Annie*, *Dick Tracy* and *Terry and the Pirates* sprang from the pages of the *Chicago Tribune*, while a raft of other illustrious characters also made the transition from printed page to radio. Buck Rogers ruled the ionosphere, Popeye fought for Oyl at sea, while Superman, Batman and Robin donned capes in a crusade to wipe out evil and lawlessness. Still others, such as the Green Hornet and Captain Midnight, made the reverse switch from kiloHertz

to newsprint in their war against crime. Even the mayor of New York, Fiorello La Guardia, appeased citizens' cries for comics as he read the Sunday funnies during a newspaper strike in 1945.

For some listeners, a weekly dose of action, adventure, drama or suspense wasn't enough to whet the entertainment appetite—and thus the serial was born. Hollywood dress designer Helen Trent proved, day after day, that "a woman over 35 can find romance," while *Mary Noble*, *Backstage Wife* kept her matinee idol husband, "dream sweetheart of a million other women," on a tight, but loving, leash. *Stella Dallas* ensnared woeful parents whose lifelong sacrifices were lost on rude and ungracious kids, *Our Gal Sunday* fueled fantasies of sudden fame and fortune, while *The Goldbergs* were everyday normal folks who led everyday normal lives and dealt with everyday normal problems. Lest the fantasies, if not fact, of women's liberation and suffrage be ignored, listeners could relate to *Joyce Jordan—Girl Intern*,

A CAVALCADE OF RADIO STARS



Hope and a microphone, the two were made for each other.



Jim & Marian Jordan, a.k.a. Fibber McGee & Molly ('twas funny, too).



Freeman Gosden (l) and Charles Correll were radio's Amos & Andy.



Will Rogers never met a mike he didn't like.



The original star searcher, Major Bowes introduces a horn-toting hopeful to a spin at fame on his amateur hour broadcast.



President Franklin Roosevelt prepares for a fireside chat with the nation.



In 1950, NBC gathered (l-r) George Sanders, Peggy Lee, Portland Hoffa (Mrs. Fred Allen), Groucho Marx, Fred Allen and Tallulah Bankhead for its last 'lavish' radio variety show.

Wendy Warren and the News and the orphanage manager at *Hilltop House*. And those who knew that father knows best tuned in to the storyline of *One Man's Family*.

Early western listeners knew that Texas Ranger Captain Daniel Reid donned a mask and a horse named Silver to ride the range with his Indian sidekick Tonto in *The Lone Ranger*. Fans of gunslingers and cavalry everywhere could sing along with Tom Mix as he extolled his audience to eat "Hot Ralston for your breakfast, start the day off shining bright, gives you lots of cowboy energy, with a flavor that's just right." Sound effects geniuses were kept busy finding new methods for horses to gallop across the plains and bullets to find flesh in still other westerns such as *Gunsmoke*, *Red Ryder* and *The Cisco Kid*.

Fibber and Fireside Chats

Laughs and gags were a penny a pound during the golden age at the Jot 'Em Down Store in Pine Ridge, Arkansas, home of *Lum and Abner* for 24 years. Jim and Marian Jordan began as the *Smackouts* in 1931 but changed the name of their show to *Fibber McGee and Molly* and the address of their closet to 79 Wistful Vista in 1935 at the request of new

sponsor Johnson Wax. Such timeless comics as Groucho Marx, Bob Hope, Jack Benny, George Burns and Gracie Allen, Red Skelton, Mel Blanc, Milton Berle and Jimmy Durante found loyal fans with weekly radio appearances. Even the curious notion of a ventriloquist with a wooden puppet became a radio smash, as Edgar Bergen moved his lips as well as Charlie McCarthy's.

Singers and dancers also found their way to the radio stage, as Bing Crosby, Eddie Cantor, Gene Autry, Kate Smith and even Fred Astaire crooned and tuned their ways into American living rooms coast-to-coast. Programs ranging from the *Grand Ole Opry*, which debuted on WSM(AM) Nashville in 1925, to *Your Hit Parade*, to *Camel Caravan* provided the fame—and the fate—of hundreds of American musical stars and hopefuls.

Just as radio was born following a great war, it reached its maturation during another. Already honed to reportorial sharpness by such broadcasts as Charles Lindbergh's trans-Atlantic flight and the subsequent kidnapping of his son, and Herbert Morrison's horrified description of the Hindenburg explosion, radio was prepared to go to war. Networks had been broadcasting President Franklin D. Roosevelt's *Fireside Chats* since 1933, and deliberately followed the progress of

Hitler's progress across a continent an ocean away. The social conscience of a nation was awakened by Edward R. Murrow's reports of impending war in London, and the course of history in Europe and the Pacific was brought home by voices that became both familiar and comforting. It was during this time that radio news achieved a personality all its own, with commentaries from such notables as Drew Pearson, Floyd Gibbons, H.R. Baukhage, Clellan Card, Boake Carter, John Charles Daly, Pauline Frederick, Paul Sullivan, Lowell Thomas, Cal Tinney and Robert Trout.

That personality continues today, with poetic justice meted out by CBS's Charles Osgood, and the rest of the story as told by ABC's Paul Harvey. From the broadcast of CBS's *Going to Press* in 1928 to radio's coverage of the Persian Gulf War earlier this year, radio has shown that sometimes a word is worth a thousand pictures.

Play ball

Sporting events have always been a part of radio. In 1921, KDKA(AM) sportswriter Florent Gibson aired a play-by-play description of a lightweight boxing match, and later that same year Harold Arlin broadcast the first major league

baseball game on radio. Arlin went on to broadcast the first football and tennis play-by-play on radio as well—and the rush to capture the sporting life was on.

CBS Radio carried the World Series between Chicago and Philadelphia in 1929, and the Mutual Broadcasting System broadcast the first professional championship football game in 1940 between the Washington Redskins and Chicago Bears. Since that time, virtually every sporting event from arm wrestling to the Olympics has found its way onto radio.

Going for the gold, again

With the advent of the picture tube, the golden age of radio programing appeared to fade. As small monochrome screens found their way into American homes, the old serials and mysteries and comedies and game shows shifted to television, and impending doom was foretold from all corners of the radio industry. Radio would fold its tent and disappear, according to prevailing wisdom.

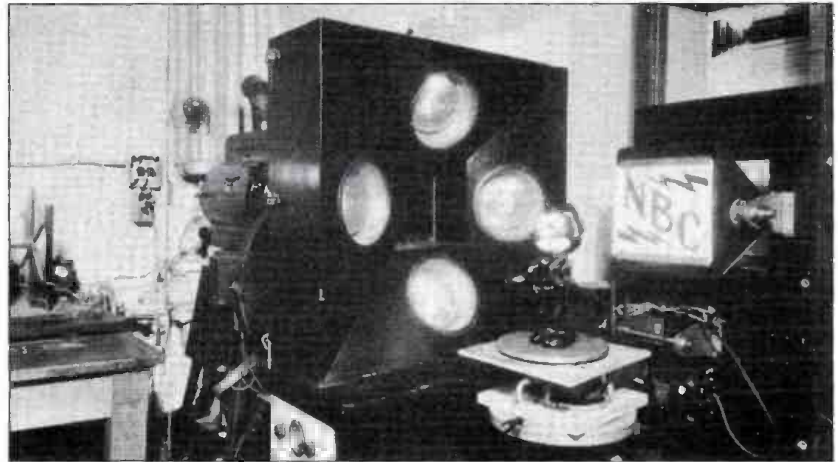
Enter Todd Storz.

Television's rising tide did not discourage the KOWH(AM) Omaha general manager, who recognized the same concept that *Your Hit Parade* producers understood years earlier. While Top 40 did not spring full blown from Storz, he and Dallas broadcaster Gordon McClendon did develop the theory of hit rotation that was to shape the next 40 years of radio programing. As Top 40 slowly shifted from its childhood of Patti Page and Perry Como to its Elvis Presley-Buddy Holly adolescence, radio began to find a second wind.

Rock 'n' roll, a term widely credited to disk jockey Alan Freed but which actually derives its name from a 1922 blues song, was born (much to the dismay of mothers and fathers who saw no resemblance to *Your Hit Parade* of yesteryear). When CBS signed off the last episode of *Suspense* in 1963, Beatlemania and other rock 'n' roll animals were set to change the radio waves forever. Despite such subsequent ventures as ABC's *Theatre Five* and CBS's *Radio Mystery Theatre*, music now piloted the air. In 1970 Casey Kasem began advising America's youth to "keep reaching for the stars" as he counted down radio's Top 40, and today Howard Stern pushes the entertainment envelope with his daily dose of shocker schtick.

For those searching for a radio romance, the golden days are not dead and gone. The romance is here and now, in the news and the sports and the talk and the music and the shock of jocks and the prairie home companionship that comes from radio today. ■

GETTING THE PICTURE: TV TAKES THE STAGE



Arguably the first television performer, *Felix the Cat* takes a spin on a turntable in this 1930 NBC TV test. It would be a decade-plus before he would have much company.

By Steve McClellan
and John Eggerton

Delayed perhaps a decade by World War II, television programing took root in the late 1940's on four national networks—ABC, CBS, NBC and DuMont.

In its first years, network TV was mostly live and New York-based, drawing on established radio stars and formats, the New York theater and vaudeville. Some of radio's biggest names would make it big in TV as well, including Jack Benny and George Burns with series, and Bob Hope with innumerable specials, while other stars and shows failed to translate to the new medium. Radio's *Gangbusters*, for instance, had a brief tenure on TV in 1952. The show with which it alternated in its half-hour slot was also a carryover from radio: *Dragnet*.

One of the first of television's "Golden Age" offerings to take hold was *Kraft Television Theatre*, which debuted on NBC in 1947. The live program ran more than a decade, producing some 650 plays. Many other drama anthologies followed: *Studio One*, *Playhouse 90*, *Ford Theatre*, *Goodyear Playhouse* and *The Hallmark Hall of Fame*, the last of which continues that tradition of quality drama.

Not surprisingly, early TV drama had the feel of theater, both because it was live and because television was still primarily speaking in the language of the stage, in essence broadcasting a live theater. It would take time for television to

find its own voice and picture.

That time was not accorded The DuMont Television Network, however,

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The class of TV clowns (l-r): Lucy, Ethel and Ricky ham it up; your comedy team of comedy teams, Sid Caesar and Imogene Coca; in top hat and tails (or white gloves and organdy), Milton Berle was Mr. Tuesday Night and everybody's "Mr. Television."

which didn't survive television's first decade (it folded after the 1954-55 season). But among its contributions was the medium's first sitcom, *Mary Kay and Johnny*, which debuted in 1947. DuMont is also credited with the first dramatic TV serial (soap opera), *Faraway Hill* in 1946. The program lasted two months, but its descendants have entertained millions.

In fact, two of the longest-running daytime soaps—CBS's *The Guiding Light* (1952) and ABC's *General Hospital* (1963)—continue to go at it head to head. *Faraway Hill* may have been ahead of its time as a prime time soap (it aired at 9 p.m.). In 1964, *Peyton Place* was launched by ABC, where it thrived two nights a week for five seasons. A decade later, *Dallas* spawned a new generation of prime time soaps that included spin-off *Knots Landing*, *Dynasty* and *Falcon Crest*.

As with drama, early TV comedy was essentially an adaptation of another form: the burlesque-variety show. The earliest star of the genre was Milton Berle, who quickly became known as "Mr. Television," and the show he hosted, *Texaco Star Theatre*, an institution on Tuesday nights on NBC. (Berle won the first Emmy for "outstanding kinescope personality" in 1949.)

Another standout, *Your Show of Shows*, starred Sid Caesar and Imogene Coca, and provided a launching pad for the writing talents of Mel Brooks, Woody Allen and Neil Simon. Two decades later, the comedy/variety genre was still going strong, with *The Carol Burnett Show*, *The Dean Martin Show*, *The Smothers Brothers Comedy Hour* and *Rowan and Martin's Laugh-In*.

One comedian who toyed with the forms of television comedy was Ernie Kovacs, who reveled in special effects and send-ups of TV shows and commercials.

If DuMont's *Mary Kay and Johnny* was the first sitcom, *I Love Lucy* was the

sitcom of TV's youth. Begun in 1951, the show would pioneer camera and staging techniques, as well as syndication deals. It would also establish Lucille Ball as one of the medium's first stars. (Desi Arnaz, whose Cuban accent made his appearance on the show a hard sell to CBS, was both a fine straight man and



A trademark Ed Sullivan pose; preparing to give viewers another really big 'shew'

shrewd businessman whose behind-the-scenes talents were extremely valuable, if less visible.) If *Lucy* was TV's first love, *Ozzie and Harriet* were its first family, paving the way for a host of domestic sitcoms and half-hour comedies of all types that would come to dominate the medium.

Variety is the spice of TV

For general interest variety entertainment, *The Ed Sullivan Show* (formerly, *Toast of the Town*) was the "really big shew." A former newspaper columnist, Sullivan had a wooden delivery that was the object of much parody, but he also had a talent for knowing what events (from the Bolshoi Ballet to the Beatles, with a liberal dollop of plate spinners,

animal acts and stand-up comics) would capture the interest of American viewers from 1948 to 1971 on CBS.

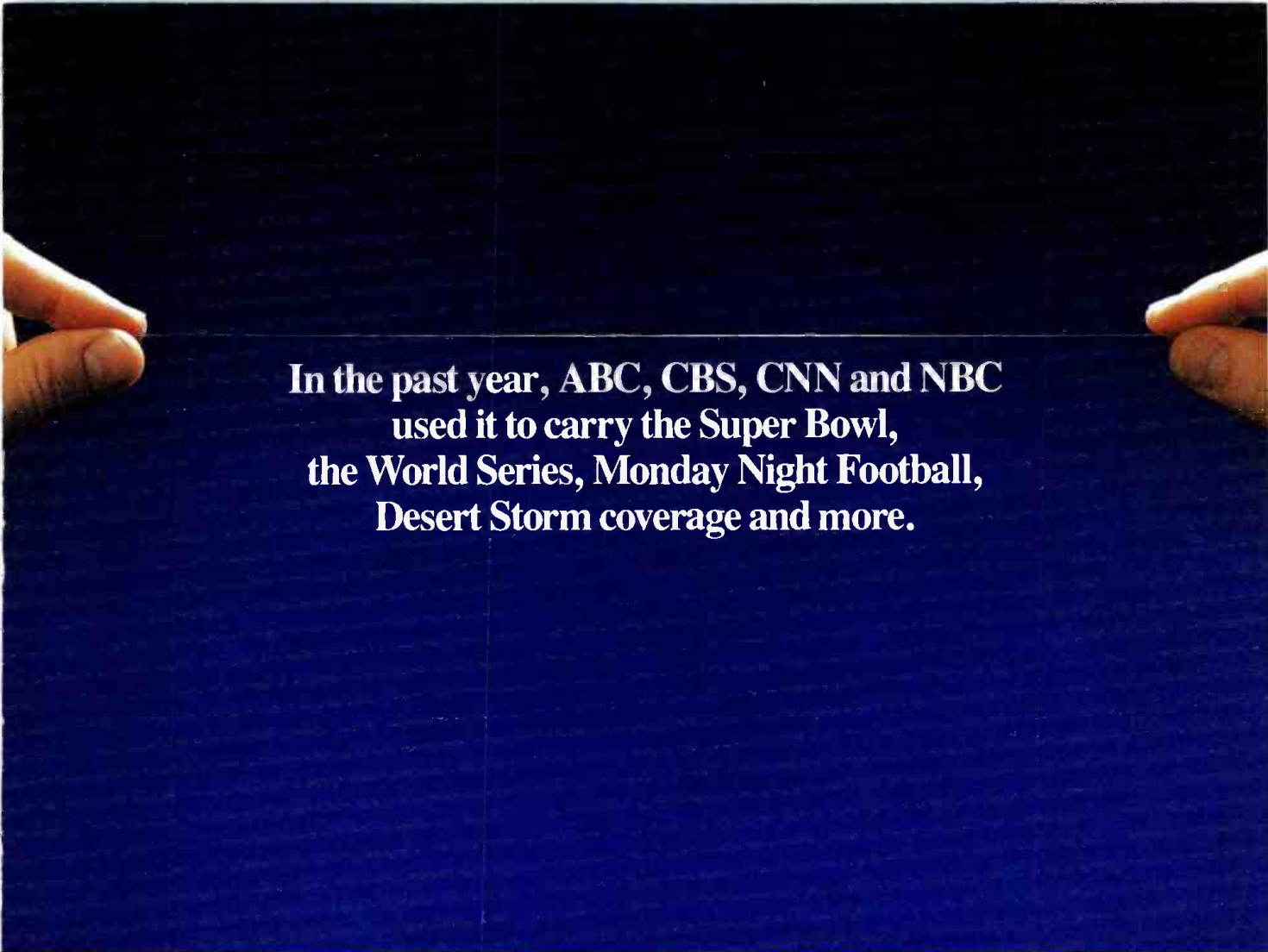
One show CBS was high on from the outset was *The Arthur Godfrey Show*, which debuted in 1949 as *Arthur Godfrey & Friends*. It was once said he went into more American homes than the milkman. Among the other early stars of TV variety were Garry Moore (whose show launched the career of Carol Burnett, among others), "Lonesome" George Gobel, and TV's renaissance man, Steve Allen, whose lineup of "street" men included Tom Poston, Don Knotts, Louis Nye and Bill Dana.

Another of the medium's stars was also a CBS property (the network dominated the prime time season for decades). Veteran film, radio and vaudeville comedian Jackie Gleason got his own show in 1952 and became a fixture on the network for almost 20 years. His blowhard bus driver with a heart of gold, Ralph Kramden, together with the guileless and goofy sewer worker Ed Norton (Art Carney), may have been the medium's definitive comedy team. The duo later provided the models for TV's first animated prime time show, ABC's *The Flintstones*, a look at life in the Stone Age town of Bedrock.

Westerns ride the TV range

The networks were not the only ones in the business of distributing programing nationally. Frederic Ziv transferred his radio transcription talents to TV syndication, and in 1950 began distributing the first-run *Cisco Kid* to stations. The series was filmed in color, which helped make it a syndicated property whose longevity, if not popularity, rivals that of *I Love Lucy*. Ziv TV's other first-run properties of the 1950's included *Sea Hunt* and *Highway Patrol*. Also among syndication's earliest and longest-running shows was *Death Valley Days* (1952-70), produced by Gene Autry.

Although *Cisco* had been around in



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60 YEARS OF PROGRAMING



On TV's serious side: 'Requiem for a Heavyweight' on 'Playhouse 90'; 'Dragnet' duo, and a Ponderosa family portrait

syndication for several years, the era of the adult western arrived in force in the mid-1950's in the wake of such popular theatricals as "High Noon" and "Shane." In 1955, CBS tried to woo John Wayne to the small screen in a series designed to capitalize on the popularity of western films. Wayne declined, but suggested a relative newcomer to Hollywood, James ("The Thing") Arness. *Gunsmoke* climbed to the top 10 in its second season, where it stayed for most of its two-decade run. By the 1958-59 season, seven of the top 10 shows were westerns, while 31 such programs blanketed the network schedules that season. Among other notable shows in the genre were *Wagon Train*, *Have Gun Will Travel*, *Rawhide*, *Maverick*, *The Rifleman* and a horse opera about three grown sons living with their father on a little spread called the Ponderosa. In 1959, *Bonanza* began a 14-year run on NBC, second only to *Gunsmoke* in longevity.

The western hastened the migration of television programming from New York—where most of it was shot live—to Hollywood, where the film studios became the major suppliers.

As TV found its rhythm, programmers began to look beyond the familiar. Among the science fiction offerings, Rod Serling's *The Twilight Zone* was a stand-out for the quality of its writing and acting. Other sci-fi anthology series of the period included *The Outer Limits*—"We will control the horizontal. We will control the vertical"—and *One Step Beyond*. When the space race captured the imagination of the country, TV was not far behind, with the short-lived *Lost in Space*, and another space travel show that debuted on NBC in 1966. Those were the voyages of the starship *Enterprise*, which went on to greater glory in off-network syndication and the first-run spinoff *Star Trek: The Next Generation*.

Thrills of victory...

From 60-yard bombs to six-foot putts, slam dunks to slap shots, live coverage of sports has been a staple of television programming from the outset. NBC was the first to broadcast the World Series, in

1947, to affiliates in New York, Philadelphia, Washington and Schenectady, N.Y. Boxing was a popular sport in TV's early days, as was professional wrestling. The *Super Bowl*, first broadcast in 1966, is usually the highest-rated program of the broadcast season. Spanning the globe to bring us a constant variety of sports programs was ABC's *Wide World of Sports*. ABC also changed the Monday night viewing habits of many with the 1970 introduction of *Monday Night Football*.

Crime paid

The crime drama has long been a popular staple of television. Among the early successes was *Dragnet*, from creator Jack ("just the facts, ma'am") Webb. Webb's



Puppeteer Burr Tillstrom with friends (l-r) Kukla, Fran (Allison) and Ollie

penchant for what he perceived as gritty realism caught on with viewers, making the show a top-10 hit by its second season on the air (1952-53), which is where it stayed for most of its initial eight-year run (it returned for three more years in 1967-70). In the '60s and '70s, shows such as *Hawaii Five-O*, *The FBI*, *Manix*, *Kojak*, *Ironside* and *Mission: Impossible* were among the genre's most popular.

A new friend for children

In addition to securing the rights to

countless theatrical cartoons, television has been producing animated programming for children since the debut of the syndicated *Crusader Rabbit* from Jay Ward in 1949. *Beany & Cecil* ("your obedient serpent"), *Rocky and Bullwinkle* and *Huckleberry Hound* are just some of the many characters who became Saturday morning pals.

In the world of live action, *Kukla, Fran & Ollie*—with help from Burr Tillstrom and Fran Allison—had long runs on NBC, ABC and PBS. *The Howdy Doody Show* was a staple from TV's earliest days, as was Disney's *Mickey Mouse Club* (1955-59). NBC's *Mr. Wizard* and *Ding Dong School* were among the first educational shows. In the 1960's and '70s, *Captain Kangaroo* (Bob Keeshan) delighted children on CBS, while *Mr. Rogers* and the cast of *Sesame Street* did the same on public TV. Two franchised programs have also enjoyed particular success with the younger set: Claster's *Romper Room* and Larry Harmon's *Bozo* ("the world's most famous clown").

In addition to its many children's programs, how-to shows and continuing-education offerings, public television has provided many high points in programming. Ken Burns's *Civil War* is the most recent example, but others include *Masterpiece Theater*, *Nova*, *Cosmos* and *The Ascent of Man*.

Television as spectacle

Although continuing series and regular airings of theatrical movies have generally made up the major part of commercial TV schedules, specials, made-for and miniseries have added spice, particularly at sweeps times. Offerings from Bob Hope, Bing Crosby, Perry Como and others have brightened holidays, while annual delights such as *Peter Pan* and the wonderful "Wizard of Oz" (a movie made by television rather than for it), became events of their own.

Music has also played an integral part in the program mix. In the early days it was band leaders such as Paul Whiteman, Guy Lombardo and the most successful of all, Lawrence Welk. Singers such as

60 YEARS OF PROGRAMING



Dick Clark rocked 'em on 'Bandstand'



CBS took a chance on 'All in the Family'



MTM plus NBC equaled 'Hill Street Blues'

Como, Crosby, Judy Garland and Andy Williams were joined by Tom Jones, Sonny & Cher, Donny & Marie, The Captain & Tennille and others. Although Ed Sullivan hosted some of the hottest groups of the '60s, rock 'n' roll got its most sustained play on TV by Dick Clark and his *American Bandstand*.

The nation's newsstand

Viewer thirst for news programing led to a number of milestones in the 1950's, including the first televised news conference (1955), and the expansion of CBS's Saturday night newscast to a half-hour (1959).

Edward R. Murrow, who set the pace in radio journalism in the 1930's and '40s, continued to set standards of journalistic excellence in the new medium. His *See It Now* documentary series broke new ground in taking on powerful figures such as the feared anti-communist crusader Senator Joseph McCarthy.

Television probably helped turn an election in 1960, when the Kennedy-Nixon debates contrasted a perspiring Nixon with his cool, mediagenic opponent. Political campaigning would never be the same. In 1969, CBS launched an hour investigative news show, *60 Minutes*. Over 20 years later, the program remains in the top 10, the most successful prime time news program in the medium's history, although it has had a host of challengers, the most successful being ABC's *20/20*.

Many of the images TV news has captured have taken on a life of their own as touchstones for a television generation. Among them: the picture of a rocket readying for launch, accompanied by a voice saying "T minus 30 seconds and counting"; Lee Harvey Oswald doubling over from Jack Ruby's fatal bullet; a wounded soldier being carried to a waiting helicopter; a parade of Watergate witnesses helping topple a President. These and dozens more demonstrate the power of television news to create witnesses to history.

Game shows: from scandal to staple

Television also has the power to turn the

average person into a big winner and instant TV personality (if only for the equivalent of Andy Warhol's 15 minutes). Like news programing, game shows have been popular on television from the beginning, having made the transition easily from radio.

Those shows became the subject of a national scandal and congressional investigation in the 1950's, however, when it was discovered that popular games such as *The \$64,000 Question* and *Twenty-One* had fed answers to contestants who producers thought would catch the public's favor.

After the scandals, one company emerged as the leader in game show production—Goodson-Todman Productions (*What's My Line?*, *To Tell the Truth, I've Got a Secret* and *The Price Is Right*, among the veritable "host of others"). Among the other popular game shows, Monty Hall asked contestants to choose between the giant box of Rice-a-Roni and "what's behind door number one" on the long-running *Let's Make a Deal*, while viewers at home could play along with contestants on *Concentration*, *Password*, *The Match Game* and *Pyramids* of various values. And before Bob Barker was asking a lucky audience member to "come on down," he was putting them through their paces on *Truth or Consequences*.

Changing times with PTAR

In the 1970's, with the adoption of the prime time access rules, game shows became an important staple of syndication. In the 1980's, Vanna White became a national celebrity as the letter-turning hostess on *Wheel of Fortune*, which, along with *Jeopardy*, helped turn distributor King World and producer Merv Griffin into two of the biggest success stories in syndication history.

Prime access also paved the way for such ground-breaking shows as *PM Magazine*, and probably the most successful non-game show of the time period, *Entertainment Tonight*.

In the 1960's, talk shows and game shows became the engines that drove the first-run syndication business, and re-

main two of the dominant forms. Westinghouse (Group W) syndicated the popular *Mike Douglas Show* and Metromedia distributed *The Merv Griffin Show*. Many of today's talk hits position themselves as serious, topic-driven shows, such as *Oprah Winfrey* and *Donahue*.

The appeal of talk wasn't lost on the networks, particularly NBC. In 1952, under the guidance of NBC President Sylvester (Pat) Weaver, NBC launched *Today*. Two years later, it introduced *Tonight* with host Steve Allen. Almost 40 years, and many evolutions, later, both programs are still on the air. (The network also introduced *Tomorrow* in 1973; it was canceled in '82.)

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The evolving contributions of blacks

The role of blacks on television has been a subject of some controversy. The first TV program to star a black performer was *Beulah* on ABC (the Fox of its day). The show, which debuted in 1950 and lasted three years, was about a maid, and starred two of the finest actresses of their day, Ethel Waters and Louise Beavers. CBS's once popular *Amos 'n' Andy* sitcom was removed from syndication in the mid-1960's after charges that it stereotyped blacks.

At about the same time, *I Spy*, on NBC, was credited with breaking the "color barrier" by putting Bill Cosby in a co-starring role in a network series. In 1968, Diahann Carroll became the first black woman to star in a network series (in a role perceived not to be stereotypical) as *Julia*. The ensemble cast of ABC's *Room 222*, which debuted in 1969, featured black actors in leading roles. In the '70s, several black sitcoms followed, including *Sanford & Son* in 1972 and *All in the Family* spinoffs *The Jeffersons* in 1975, and *Good Times*. One of the most extensive treatments of the black experience also proved to be one of TV's most watched programs: the megaminiseries *Roots*.

Today, two of television's top performers/executives are Bill Cosby, whose *Cosby Show* is one of the most successful sitcoms of all time, and Oprah Winfrey, whose talk show is a syndication powerhouse.

Cable comes into its own

In the 1970's, cable program services began to emerge and would, over the next decade, become a serious competitive programming force. In 1972, Home Box Office began as a regional service, going national by 1976, the same year Ted Turner created the superstation by putting a local Atlanta station, WTCG(TV) (later changed to WTBS) on a satellite. There are now close to 60 pay and basic cable program services and networks. Broadcast network ratings, which once accounted for around 90% of viewing at the start of 1980, have dropped to about 65% of viewing in the current season.

But cable isn't the only factor. In 1987, Fox Broadcasting Co. launched a two-night-a-week prime time program service. Several shows caught on with viewers, including *Married...with Children*, *21 Jump Street* and *Tracey Ullman*. Five seasons later, the fourth network has expanded to five nights a week, commanding an average 13% of viewership in prime time. The network has established itself as a place for "leading edge" television with shows such as *The Simpsons*, *In Living Color* and *Beverly Hills 90210*.

Syndication's growing success

With a big boost from the prime time access rule, adopted in 1975, syndication continues to grow as a major factor in television programming. While regulations have fueled stations' appetites in the 7-8 p.m. time period, demand for quality programs has fueled growth in other areas. A consortium of stations banded together in the late 1970's to fund a series of prime time miniseries known collectively as *Operation Prime Time*. Local station development has proved a growing factor. *Oprah* was nurtured at local stations in Baltimore and Chicago before going national. The Fox station group developed *A Current Affair* and, more recently, *Studs*. Station consortiums are



Bart, Fox, take aim at networks

becoming a more popular way to develop or acquire programs. MCA, KCOP-TV Los Angeles and WWOR-TV New York have collaborated on shows under the Hollywood Premiere Network banner. A new consortium lead by Renaissance Communications is using Warner Bros. Domestic Television Distribution programming to develop a Wednesday night block, while Viacom and Katz Television have formed a consortium to develop new strips such as *How's Your Love Life?*

In recent seasons, children's programming has been the fastest-growing segment in syndication. Disney launched *Duck Tales* in 1987, the first half-hour of which became the anchor block for the two-hour Disney Afternoon block. Fox, meanwhile, launched Fox Children's Network, a program cooperative between the network and its affiliates that now programs cartoons for both Saturday morning and weekday afternoons.

Chasing after the cutting edge

Television has touched on just about every topic imaginable, and matured in the process. From the rather unlikely separate beds of Rob and Laura Petric (*The Dick Van Dyke Show*) to the interracial

pairing of Zoe and Jonathan (*L.A. Law*), the medium has changed with a changing society. Contributing to that growth were producers like Norman Lear, who gave ignorance and prejudice a familiar face, and more than one dimension, with the character of Archie Bunker in the seminal sitcom *All in the Family*. And the producers and writers of *M*A*S*H* used the Korean War as an opportunity to comment on the Vietnam War in that black comedy, which stands as one of the medium's most popular shows.

In 1981, Steven Bochco's *Hill Street Blues* pioneered editing and sound techniques as it ushered in the era of the critically acclaimed ensemble dramedies, whose descendants included *L.A. Law* and *thirtysomething*.

Television has run the gamut of subjects—and gimmicks—in its search for the hearts and minds of its audience. There have been shows about cops (*Adam 12*, *Car 54*) and robbers (*It Takes a Thief*), about doctors (*Ben Casey*, *St. Elsewhere*), lawyers (*Perry Mason*, *L.A. Law*) and even Indian chiefs (*Broken Arrow*). There have been shows about the Army (*Combat*, *M*A*S*H*), Navy (*McHale's Navy*), Air Force (*12 O'Clock High*) and Marines (*Gomer Pyle*).

There have been shows about singles (*That Girl*, *Mary Tyler Moore Show*), couples (*Bridget Loves Bernie*, *He & She*) and lots of shows about families: perfect ones (*Donna Reed Show*, *Father Knows Best*); not-so-perfect ones (*Married...with Children*); and downright weird ones (*The Addams Family*, *The Munsters*); big ones (*The Waltons*, *The Brady Bunch*), and little ones (*Alice*, *The Courtship of Eddie's Father*). There have been shows about ghosts (*Topper*, *The Ghost and Mrs. Muir*), witches (*Bewitched*), genies (*I Dream of Jeannie*) and aliens (*My Favorite Martian*, *Mork & Mindy*). There have been shows about planes (*Sky King*), trains (*Iron Horse*) and automobiles (*Knight Rider*, *My Mother the Car*). There have been shows about dogs (*Lassie*, *Rin Tin Tin*), horses (*My Friend Flicka*, *Mr. Ed*), a bear (*Gentle Ben*) and even a porpoise (*Flipper*).

Television programming has often cycled through genres. As the drama, the western, the variety show, the detective series, the action/adventure, the rustic comedy and the doctor show have all had their day, so arguably has reality programming become the latest form celebre, with shows such as *Rescue: 911*, *America's Most Wanted*, *Unsolved Mysteries*, *America's Funniest Home Videos* and syndication's *Hard Copy* and *A Current Affair*.

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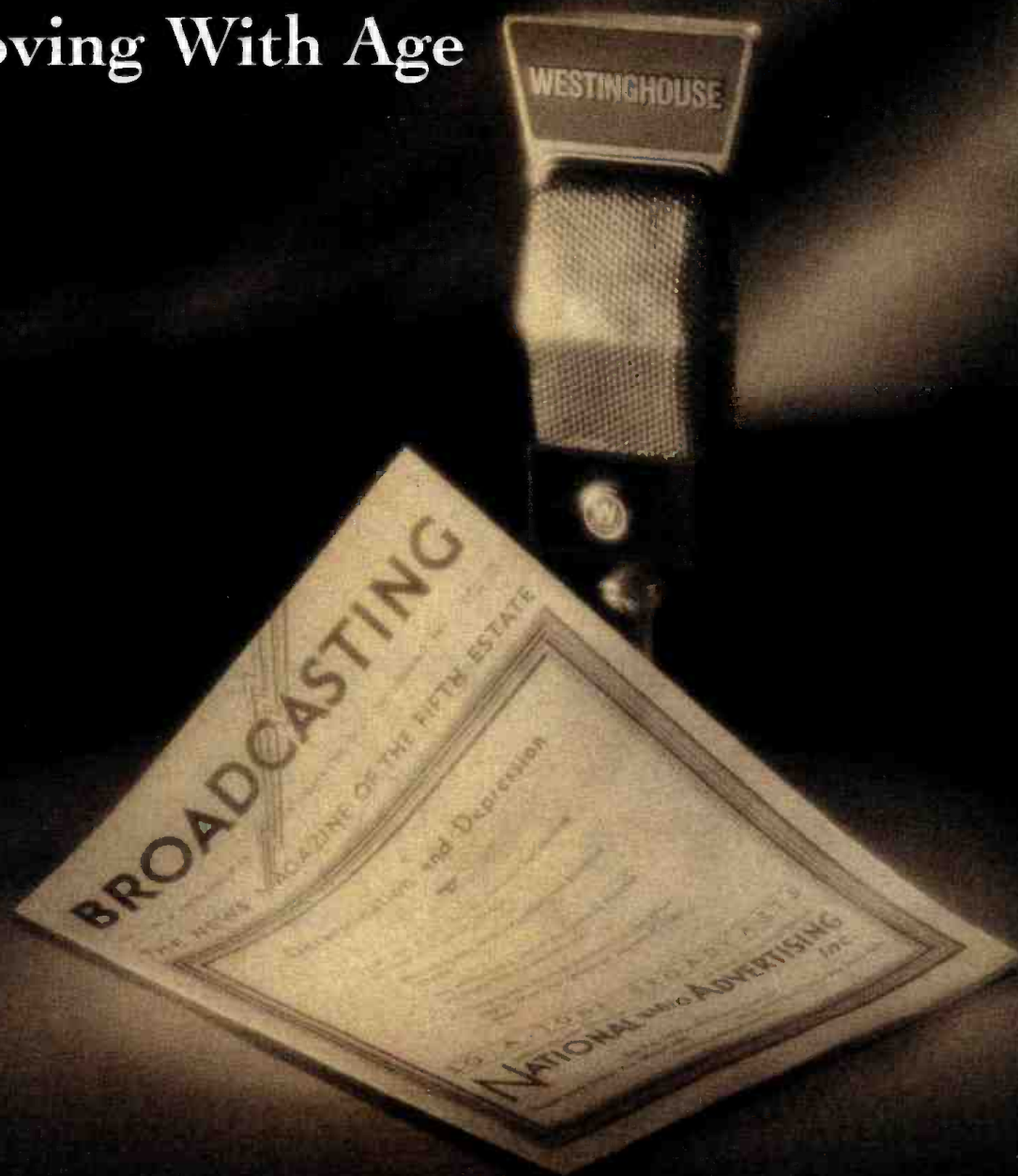


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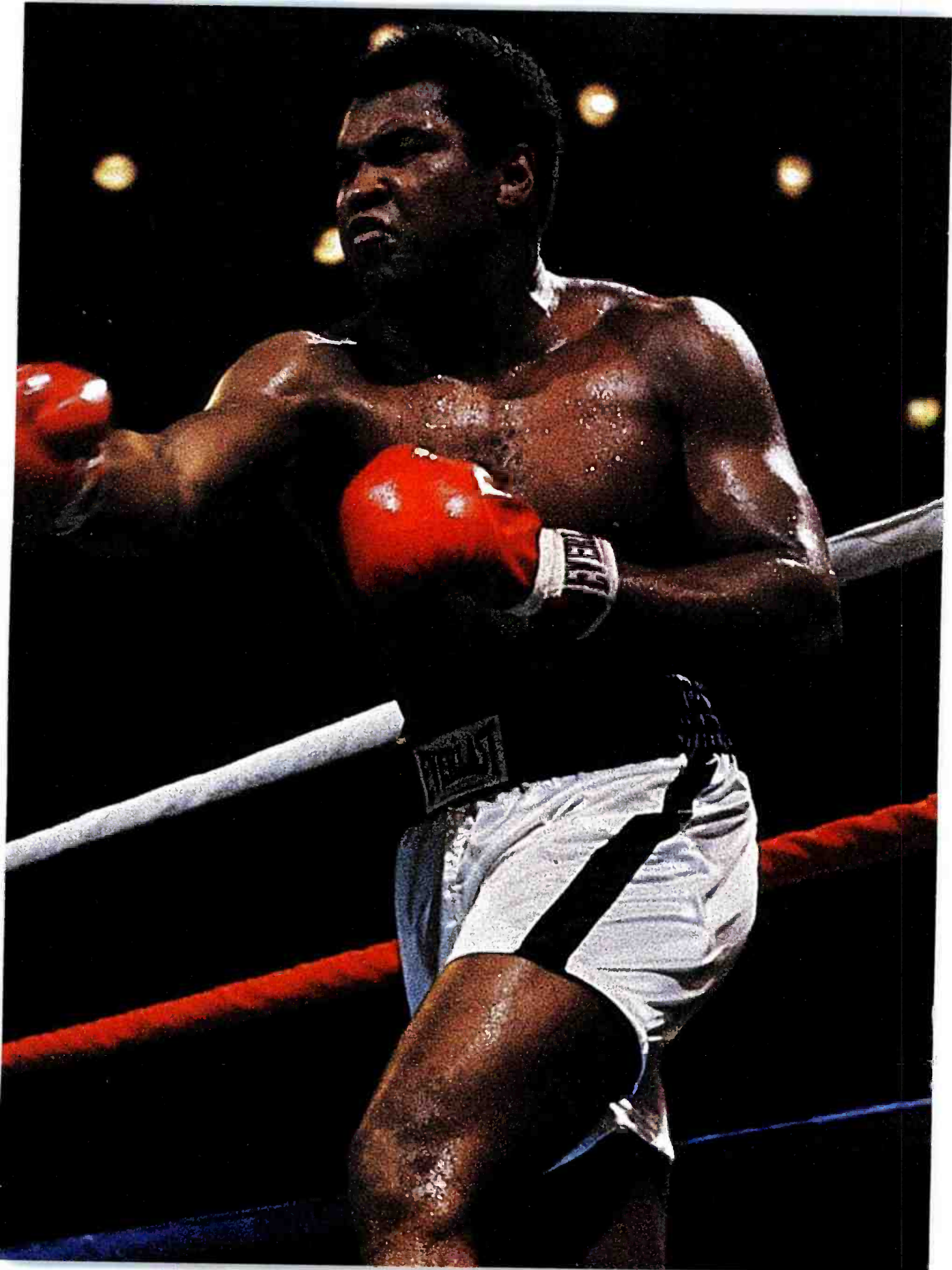
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These sixty men and women were chosen by the editors of BROADCASTING for their lifetime contributions to the Fifth Estate. They are the first to be named to the magazine's Hall of Fame, which will recognize broadcasters, cable operators, visionaries, statesmen, engineers, entrepreneurs, journalists, programmers, entertainers and others who have made the media better for their being there. Capsule biographies of the top 60 begin on page 40.



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FRED ALLEN



"If the United States can get along with only one vice president, why does NBC need 26?"

Fred Allen was a humorist who often made radio network vice presidents the butt of his jokes, and was at least on one occasion cut off the air for it. Allen entered show business as a juggler and appeared in several Broadway shows before his radio debut in 1932 with his wife, Portland Hoffa, in NBC's *Town Hall Tonight*. After a series of successful radio programs, Allen's popularity began to drop in 1948 as the giveaway quiz show craze began to rise. ABC programed the hottest giveaway, *Stop the Music*, against his Sunday night slot. He went off the air in June 1949, while the quiz show mania took over network radio's audience. Allen thought giveaways cheapened the medium: "In the beginning radio was static. Out of the static came words and then entertainment. When the shyster element got in, they gave away everything but entertainment." He never found a television format to fit his wit and was unable to make a successful dent in the new medium until he became a panelist on CBS's *What's My Line?* from 1954 until his death in 1956.

EDWIN ARMSTRONG



"The continuous good fortune which has followed me, providing second chances at inventions when the first was missed, has been all that a man could hope for and more than he has a right to expect."

Edwin Armstrong invented many of the major elements of broadcast transmission and reception, including FM. Yet in 1954 when he jumped from his 13th floor apartment in New York, he believed himself a failure. As an undergraduate at Columbia University in 1912, Armstrong carefully measured the properties of Lee de Forest's Audion vacuum tube. His observations led to the invention of the regenerative circuit, which amplified the Audion's signals 1,000 times. Armstrong further improved the regeneration process with the superheterodyne circuit in 1918 and the superregenerative circuit in 1920. Lee de Forest challenged Armstrong's regenerative-circuit patent in 1914 in a bitter legal battle that ended with a 1928 Supreme Court decision in de Forest's favor. Armstrong was awarded four patents for the key components of a wideband FM system in 1933. He built the first FM station in 1939 and in 1940 the FCC agreed to open a band for FM. A year before his death, Armstrong and an assistant, John Bose, discovered multiplexing, which cleared the way for FM stereo.

ROONE ARLEDGE



"Broadcasting—radio and television—should be one of the most important aspects of a person's daily life. But all too often it isn't. It's necessary that we make use of all of the technology at our disposal, not only to entertain, but to inform and draw people closer together."

In the summer of 1961, an experimental show with a 20-week commitment aired on ABC. Roone Arledge's thinking behind ABC's *Wide World of Sports*, at a time when the networks were fighting over a limited number of sports packages, was to present interesting or unusual sporting events that most people had only heard or read about. Vital to the series was to present the sports as breaking news rather than as past events. In addition to ABC's *Wide World of Sports*, other additions to his sports dossier include the weekly prime time *Monday Night Football*. He is also credited with implementing many technological advancements including instant replay and slow-motion. Arledge also oversaw the production of 10 Olympic games. In 1977, after 10 years as president of ABC Sports, Arledge was named president of ABC's news division. Since then he has introduced *World News Tonight*, *Nightline*, the first nightly network news program in the late-night time period, as well as *20/20*, *This Week with David Brinkley*, and *Primetime Live*.

LUCILLE BALL



"I am not funny. My writers were funny. But I am not funny. What I am is brave. We were innovators. People told us we were committing career suicide. I didn't listen."

After pursuing a Hollywood film career in the 1940's, Lucille Ball joined CBS Radio in 1948 in *My Favorite Husband*. The association with the network would last until her retirement in 1974. She and husband Desi Arnaz wanted to work as a team and *My Favorite Husband* triggered the idea that a TV comedy about an actress married to a band leader might be the answer. The result was *I Love Lucy*. Premiering in October 1951, it took only four months for TV's first sitcom family to be on top of the ratings. The show was also a technical trendsetter, filmed live with multiple cameras.

Using film also made it the first to be syndicated and translated into other languages for international distribution. The series ended in 1957 and in 1962 she began *The Lucy Show*, later renamed *Here's Lucy* (it ran until 1974). Also that year she gained controlling interest in the Desilu production company (co-owned with Arnaz), making her the first woman president of a major Hollywood production company. She died in 1989.

60 is too cold
for sunbathing.

60 is too fast
for a school zone.

60 is too big
a drop in the Dow.

60 is a terrible day
on the Back Nine.

60 is too many
floors to walk up.

60 is too many
house cats.

But **60** sure looks good
on you *Broadcasting*.
Congratulations.

USA
NETWORK

RED BARBER



"Joe DiMaggio up, holding that club down at the end. The big fellow, Hatten, pitches...a curve ball, high outside for ball one."

From his "catbird" seats above the infields of major league ballgames, Red Barber called the action from 1934 to 1966, creating with his words images of the Brooklyn Dodgers and New York Yankees that live on in the minds of millions of fans to this day. The Yankees management, trying to cope with the end of its dynasty, summarily fired Barber at the end of the 1966 season. Rather than try to start over somewhere else at the age of 58, Barber decided to retire to Florida and devote himself to his gardening, reading and writing.

But National Public Radio lured him back to the microphone in 1981. And so now each Friday morning, he demonstrates that he can still enthrall audiences with his distinctive southern voice and manner in brief chats about sports with *Morning Edition* host Bob Edwards. "No one called baseball better than Red Barber," said the *Washington Post* in a 1988 profile of the sportscaster. "He was literate and lively, descriptive and dispassionate, conversational and colorful."

MILTON BERLE



"I'm not for censorship, but I am also not for vulgarity. I'll do double entendre, but that's it. Vulgarity is a wrong beginning for a young comic. The joke better be funny before you add the curse."

From playing Buster Brown in shoe ads to being labeled "Mr. Television," it's said that Milton Berle sold more TV sets than any advertising campaign. After the 1948 summer try-outs for NBC's *Texaco Star Theater*, Berle won the position as permanent host in September. He appeared outrageously dressed, played on sight gags and kept up running banter with a mixture of acrobats, singers and other comedians. Through the years the show underwent several title and scheduling changes, ending up in 1954 as *The Milton Berle Show*. Having been heard on radio shows since the 1930's, Berle was no stranger to his new TV audience. The show was a ratings winner in the late 1940's and mid-50's.

After TV began to be dominated by westerns and dramatic anthologies, "Mr. Television" began losing the ratings race. An unsuccessful attempt was made to revive his comedy series in the 1960's, but the entertainer-extraordinaire still keeps plugging away with occasional guest appearances.

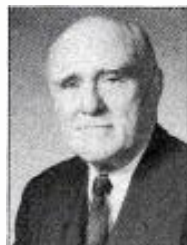
JACK BENNY



"I never look back at life. I don't indulge in nostalgia. The hell with the past. I'm only concerned with how good my last show was, and how good the next two will be."

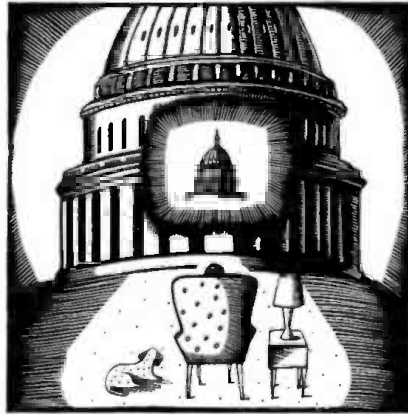
A peer once described Jack Benny as "not one who said funny things but one who said things funny." Benny began in vaudeville and made his first radio appearance in 1932 as a guest of Ed Sullivan. Within a few weeks, and for the next 32 years, he was a weekly feature on radio and later television. Through most of his 40 years in broadcasting, he carried along his entire radio family, including his wife, Mary Livingston. His program's show-within-a-show setup allowed him to act in a relaxed, natural manner and gave him the option of shifting back and forth from variety to sitcom. Familiar skits included his "annual 39th" birthdays and a running on-air fake feud with comedian Fred Allen (the two actually admired each other). Originally on NBC, his *Jack Benny Show* was one of the first radio programs that CBS lured away from NBC with capital-gains deals in the famous 1948-49 talent raids. Two years later Benny made a successful transition to television and stayed there until 1965. In 1959 his show received an Emmy for best comedy series.

JAMES BLACKBURN SR.



"I get a kick out of making a good small deal as much as I do out of a multimillion-dollar deal."

The media brokerage industry as it exists today can be traced to one firm—Blackburn & Co. Jim Blackburn Sr. "developed a service we felt was needed" when he and partner Ray Hamilton started the first media brokerage in 1946 in Washington. The firm was the industry until Hamilton became the competition, leaving in 1957. Since then, Blackburn & Co. has consistently been one of the top brokers in both number and dollar volume. Blackburn entered the industry as a salesman with Hearst Newspapers in Chicago and New York. Starting a brokerage business because he didn't have the money to buy a radio station, Blackburn spent much of his time canvassing the country and putting deals together ("a deal a week," he advertised) and selling broadcasters on his services. His firm went from representing \$50,000 sales in 1947 to brokering an \$81 million, two-station sale from Keymarket Communications to Noble Communications in 1988. Sons Jim Jr. and Richard have been at the helm since his death in 1981.



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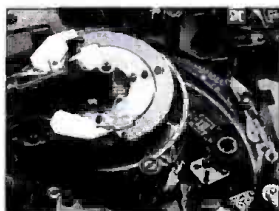
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JOHN BLAIR



"The key to the business however, was being able to get good stations to handle. Fortunately I was good at doing that."

Today, the company that John Blair co-founded in 1933 employs more than 500, represents 140 stations and will bill in excess of \$800 million in 1991. Considered one of the pioneers of the broadcast representation business, Blair recognized the potential revenue in exploiting advertising possibilities in radio. Blair's first client was KNX(AM) Los Angeles, and shortly thereafter the company expanded to New York and Chicago. In 1935 Blair purchased the majority of the company from his two partners. In addition to expanding into FM representation in the 1940's, Blair was one of the first reps to expand into television. His first TV station was WTVR Norfolk and Blair became the first rep firm to establish a separate division to handle television stations. As a result of Blair's handling the ABC Radio O&O's, he was able to secure the ABC TV O&O's. And as many of Blair's radio clients moved into television, he was able to secure their television business as well. He also helped establish the Television Bureau of Advertising in 1954. Blair died in 1983.

GEORGE BURNS



"If you think I was entertaining in this century, wait'll you catch me in the next one."

George Burns's show business career has spanned nearly the entire century, beginning in vaudeville and prospering in radio, television and film. Born Norman Birnbaum in 1896, Burns was one of 14 children and quit school at 13 in order to help support his family. He met and formed an act with Gracie Allen on the vaudeville circuit in 1923 and married her three years later. The act would last 35 years. In 1933 the pair launched *The Burns & Allen Show* on radio. In 1950, they made the jump to television with the program airing on CBS until 1958 when Allen retired. The series featured the pair in the Burns household, with Burns playing the straight man to the scatterbrained Allen. Burns attempted two other series following *The Burns & Allen Show*. The first, titled *The George Burns Show*, which aired on NBC and ran for seven months in 1958, brought back many of the cast of the original show. The second attempt, a comedy anthology series hosted by Burns, debuted in 1985, but lasted just four months.

DAVID BRINKLEY



"Except for the fact that there were two of us rather than one [on The Huntley-Brinkley Report], every news program on the air looks essentially as we started it. We more or less set the form for broadcasting news on television. No one has been able to think of a better way to do it."

David Brinkley's 51-year career in journalism began in 1941 as a news writer for United Press's radio wire. His 38-year association with NBC began in 1943 writing the news for announcers. In addition to writing the news, Brinkley also covered the White House as a correspondent, delivering a daily 10-minute broadcast for NBC Radio. Brinkley grew with the development of television and was the Washington correspondent on the 15-minute news broadcast *NBC News Caravan* hosted by John Cameron Swayze. In 1956, NBC teamed the affable Brinkley with the more stern Chet Huntley as the anchor team for that year's convention coverage. The pairing drew critical acclaim and the *Huntley-Brinkley Report*, for almost the next 14 years, was the nightly network news program that most of the public tuned in. Following Chet Huntley's retirement in 1970, Brinkley served as co-anchor on the *NBC Nightly News*. Brinkley moved to ABC in 1981 to host *This Week with David Brinkley*. In addition to the Sunday program, he has served as co-anchor on ABC's election coverage.

JOHNNY CARSON



"I'm 50 now [in 1976], and I'm sure I won't be doing the show in 10 years. I doubt that I'll be doing it at 55."

During his nightly program, Johnny Carson, the quick-witted host of NBC's *Tonight Show Starring Johnny Carson*, comes across on TV as cool and unflappable, but he's really a man in motion sitting behind a desk. His hands move constantly, usually with a pencil beating a rhythm in time with band leader Doc Severinsen and his band. Opportunity didn't come knocking until he was asked in 1958 to serve as substitute host for Jack Paar for three weeks. After waiting out an ABC-TV contract, Carson took over the *Tonight* program in October 1962. Before then he was host of ABC's daytime game show, *Who Do You Trust?*, made the rounds as a panelist on *What's My Line?*, *Password* and *I've Got a Secret* and appeared as a stand-up comic on *The Ed Sullivan Show*, *The Steve Allen Show* and *The Garry Moore Show*. His show has been a late-night ratings leader for over 25 years despite increased competition. His final telecast will be May 22, 1992, and departing with him will be long-time sidekick Ed McMahon and Severinsen.

FRANK CONRAD



" 'Sure I could read a voltmeter,' I answered. All the time wondering what a voltmeter was."

Frank Conrad is one of a few radio pioneers given the title "father of broadcasting." The Westinghouse Electric Corp. engineer began wireless experiments around 1912 and put experimental station 8XK on the air from his garage in the Pittsburgh suburb of Wilksburg in 1916. After the interruption of World War I, his interest in radio was encouraged by Westinghouse vice president, Harry P. Davis, who envisioned a market for Westinghouse's radio receivers. Conrad put 8XK back on the air in 1919, broadcasting programs of phonograph records every Wednesday and Sunday evening. Programs being received by his engineer colleagues and amateurs. The next year Westinghouse filed an application with the Commerce Department, and on Oct. 27, the station, now with the calls KDKA Pittsburgh, was licensed. It went on the air Nov. 20 broadcasting the Harding-Cox presidential election returns. Conrad was the announcer-engineer. Holder of more than 200 patents, Conrad was assistant chief engineer at Westinghouse for over two decades prior to his death in 1941.

WALTER CRONKITE



"Thanks to satellites, we've seen a growth of syndicated providers of news. We're on the threshold of sort of an Associated Press of local station cooperatives. [The networks] have the ability, although they're dissipating it rather quickly."

CBS's news division, once regarded as the crown jewel of "The Tiffany Network" in the minds of many, reached its pinnacle during the 19 years (1963-82) Walter Cronkite anchored *The CBS Evening News*. Edward R. Murrow and Eric Sevareid set the tone for CBS's dominance in radio. But Cronkite became the most visible practitioner of Murrow's brand of accountable and objective journalism, at least in the eyes of the millions who made Cronkite's newscasts a top-rated habit during his last 14 years. From John F. Kennedy's assassination in 1963 to the growing unrest against the Vietnam War...the riots at the 1968 Democratic Convention in Chicago...Watergate...Nixon's resignation...the Iranian hostage crisis, the nation relied upon Cronkite's chronicling of turbulent events. Today, at 75, Cronkite, an avid boating enthusiast, remains extremely active professionally, serving as a CBS director; contributing election analysis; narrating cable and network documentaries, and acting as a senior ombudsman.

JOAN GANZ COONEY



"We were trying to produce an educational show like no other—fast, funny, quintessentially American....We couldn't know then that Sesame Street would become an international institution."

Joan Ganz Cooney reinvented children's television in 1969 when her Children's Television Workshop introduced *Sesame Street* to public television and millions of preschoolers. *Sesame Street's* cast of lovable monsters, mischievous muppets and understanding grown-ups not only enthralled the pre-K set, but had them racing through the alphabet and counting up to 12 in short order. *Sesame Street* was the outgrowth of a study Cooney did in 1968 for the Carnegie Corp. on TV and the preschooler. Her research discovered a need that *Sesame Street* would fill.

Cooney got her start as a reporter in her hometown of Phoenix in the early 1950's. She went to New York in 1954, eventually landing in the publicity departments at RCA and NBC. She jumped to U.S. Steel in 1955 to promote the *U.S. Steel Hour*. Seven years later, she joined WNDT-TV New York (now WNET) as a producer and began acquiring the programming know-how and contacts that would combine with her Carnegie study to produce *Sesame Street*.

BILL DANIELS



"They generally give me credit for making it [cable] a real industry and getting the big money in and making it what it is today. I get credit for that, I guess."

Bill Daniels has been tagged the "father of cable TV" more often than any of the medium's other pioneering executives. And it's been with good reason. He has been involved in virtually every phase of the business from its earliest years. The son of an oil insurance businessman and a decorated naval flyer, Daniels went to Casper, Wyo., after the Korean War to expand his father's business there. Since Casper had no television, Daniels and some partners built a cable system and fed it with TV signals from Denver. By 1958, Daniels was ready to abandon the insurance business for the greater potential of cable. That year, he founded Daniels & Associates, which has thrived to this day as a cable brokerage, cable system owner and operator, and consultancy. Daniels has also been in and out of the broadcasting business over the years. He was an early volunteer in cable industry affairs, becoming the second president of the National Cable Television Association. In recent years, Daniels has been investing in regional cable sports.

LEE de FOREST



"You, little Audion, have been a supporting companion...you rest on the table before me excelling all devices which man has achieved in sensitiveness to the infinitesimal forces I have built you to detect."

As the inventor of the Audion three-element vacuum tube, Dr. Lee de Forest is often called "the father of radio." De Forest completed his most important invention in 1906 at age 33, building on Guglielmo Marconi's trans-Atlantic wireless telegraph transmissions five years earlier. The Audion—which serves as a combination signal detector, oscillator and amplifier—was an essential step in the advancement of both wireless and wired voice communications and was later incorporated into the invention of television, radar and computers.

De Forest was awarded more than 300 patents during a long career as an inventor. Other inventions included the Movietone system for sound-on-film recording in the 1920's and a system for transmitting color television pictures in the 1940's.

Late in his career de Forest sharply criticized broadcast programming and commercials as "a stench in the nostrils of the gods of the ionosphere."

CHUCK DOLAN



"DBS and cable are both suppliers of channel capacity to the service provider [who] shouldn't care whether the capacity comes from a wire or a bird."

For close to 25 years, the visionary if maverick chairman of Cablevision Systems Inc., a top-10 MSO, has been at the forefront of delivering a diversified menu of cable services—including its six owned regional sports services, SportsChannel America, Bravo, American Movie Classics and Long Island News 12—to some 1.6 million basic subscribers in a dozen states. As cable was evolving from its infancy as a rural phenomenon (1954-61), Dolan was helping Sterling Television, an industrial film supplier, transform itself into a major-market cable operator. As president of Sterling Manhattan Cable (1961-72), Dolan organized a subsidiary that leased terrestrial microwave circuits to distribute movies as a pay service to cable systems, a service—later transmitted by satellite—that became Home Box Office. When Time Inc. bought Sterling and HBO, but couldn't unload the Manhattan cable franchise, Dolan used his portion of the breakup proceeds to buy some Long Island systems that became the foundation of Cablevision Systems.

BARRY DILLER



"I fight to keep my instincts clean. Instead of allowing our natural instincts to flow, we tend to relate to what we've learned. What I try not to do is base future decision on past successes. I must judge in the abstract."

Barry Diller's legacy of successfully launching a fourth network some 30 years after the failure of the DuMont network will probably obscure the Fox Inc. chairman's other contributions to television. In the late 1960's as an ABC programming executive at ABC, Diller suggested the network begin producing movies to air weekly in series form. The movie-of-the-week quickly became a fixture on the other networks as well. In 1972, Diller's idea that the network could hold viewers' attention over a period of nights brought about ABC's plan to develop novels for television. Diller acquired the television rights for *QB VII*, and that project became the first miniseries. ABC followed with *Rich Man, Poor Man*, *Roots* and *The Winds of War*. After nearly 10 years at ABC, Diller, who got his start in Hollywood in the mailroom at the William Morris Agency, joined Paramount Pictures Corp. as chairman in 1975. Since joining Fox Inc. in 1985, Diller has overseen the launch of Fox Broadcasting Co. and the acquisition of seven TV stations.

ALLEN DuMONT



"This great 'eye of science' [the cathode ray tube], which is still in its infancy, is today one of the foremost inventions of man and promises to father a host of marvels yet unborn."

As the founder of both a research lab and a network in the 1930's and 1940's, Allen DuMont was at the forefront of TV technology and programming. DuMont Laboratories is credited with perfecting the first practical and affordable cathode ray tubes and the first all-electronic TV receivers. His DuMont Television Network introduced viewers to Bishop Fulton Sheen and Jackie Gleason, among others. DuMont first began experimenting with TV in the late 1920's. In the 1930's he began working in his garage on an inexpensive CRT that would last for thousands of hours. He incorporated DuMont Labs in 1935 and was granted experimental TV licenses in Passaic and New York in 1942. Those stations, along with later ones in Washington and Pittsburgh, became the DuMont Television Network in 1946. DuMont's attempt to overtake ABC as the third network failed after the 1951 ABC-United Paramount Theaters merger. The network ceased operating in 1955 and some of the stations were sold to John Kluge to form Metromedia TV.

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JOHN FETZER



"You don't have to police a man's work if you make your policies clear at the beginning, and you can conserve your own energy by eliminating the bluster of high-pressure supervision."

The architect of one of the country's earliest radio groups, John Earl Fetzer believed in a hands-on approach to station operation and is largely credited with the development of localism as the linchpin of the American system of broadcasting. Fetzer began experimenting with radio in 1918 as a ham operator at Purdue University. A few years later, he moved to Emmanuel Missionary College (now Andrews University) in Berrien Springs, Mich., where he designed and built 500 watt daytimer KFGZ(AM). In 1930, Fetzer moved that station to Kalamazoo, Mich., and changed the calls to WKZO(AM). Fetzer went on to amass a portfolio of properties that eventually numbered six radio and six TV stations. During World War II, Fetzer served as a U.S. radio censor in Washington. After selling his major holdings in the 1980's, Fetzer, who died earlier this year at 89, endowed a handful of nonprofit organizations. Carl Lee, a long-time associate, bought some of his holdings and operates four radio stations under the Fetzer Broadcasting banner.

ARTHUR GODFREY



"If you want to last, you have to grow. That little screen is merciless and if you aren't constantly more interesting and intriguing, the public will drop you, ruthlessly."

The redheaded ukelele player, whose gift for gab was a favorite of audiences for five decades, started his radio career in 1929 at WFBR Baltimore as "Red Godfrey, the Warbling Banjoist," earning just five dollars for each performance. He moved to Washington and eventually landed at CBS's WJSV(AM) (now WTOP) for an early morning program and lifelong association with the network. Godfrey came to national attention in 1934 when columnist Walter Winchell tuned in to a Godfrey all-night program and told readers he was impressed. Godfrey remained in Washington until 1941 when he moved to New York and CBS's WABC(AM) (now WCBS). In 1945 he began his CBS Radio daytime series, *Arthur Godfrey Time*. He added TV to his domain in 1948 with a spinoff of his 1946 radio program, *Arthur Godfrey's Talent Scouts*, followed in 1949 by the debut on CBS-TV of *Arthur Godfrey and His Friends*. His folksy humor along with his ever-present ukelele and greeting of "Howaya, howaya" brought him enormous popularity that persisted until his death in March 1983.

JOSEPH FLAHERTY



"In the terminal years of this century, broadcasting will face a host of dramatic changes; our ability to meet and manage them will largely determine broadcasting's character and may mark its survival."

Joe Flaherty is the first citizen of the world in broadcast engineering. Specifically, he is the person most responsible for the development of electronic news gathering and the promotion of high-definition TV, but even more important has been his key role in mobilizing the international engineering community behind whatever technological advance was most on his mind. He received the 1975 Technical Emmy, the 1979 Montreux Achievement Gold Medal and the 1983 NAB Engineering Award in recognition of his ENG concepts and implementation. In the 1980's, Flaherty was a leader in the development and the final passage of the first worldwide digital video standard. He was awarded an Emmy Citation for the CBS Minicam color TV camera and in 1985 won France's highest decoration, the "Chevalier de l'Ordre National de la Legion d'Honneur." Flaherty, son of a Kansas radio engineer, joined CBS in 1957 and was the top engineering and development executive from 1967 to 1990. He was named senior VP, technology, CBS/Broadcast Group, last year.

LEONARD GOLDENSON



"I think it's highly important that a network be held in the hands of broadcasters. You can't operate a network like a bank. You've got to be in a position where creative people are given their head."

Among the three original captains of the television networks, Leonard Goldenson's public reputation lagged behind his accomplishments. But within the Fifth Estate the retired chairman of ABC has in many respects left more lasting accomplishments and done so in a shorter period of time. As the head of Paramount Theaters, he merged that company with the American Broadcasting Co. in 1953. At that time ABC's TV network, including its five owned stations, covered only 35% of the country. Under Goldenson's stewardship it grew to take the lead in the late 1970's. In addition, Goldenson's ABC produced many innovations such as multiple radio networks in 1967, the miniseries format in the mid-1970's, and buying an interest in ESPN and launching the predecessor to Arts & Entertainment in 1981.

Since selling ABC to Capital Cities in 1985, Goldenson has been chairman of the Capcities/ABC executive committee. He has also given his energy to the United Cerebral Palsy campaign of which he and his wife, Isabelle, were co-founders.

MARK GOODSON



"If all the game shows held their prize money to \$1,000, I don't think it would affect the ratings one bit. Greed plays a minimal role. The most important aspect of a game show is the person's desire to be seen."

The 1992 *Guinness Book of World Records* recognizes Mark Goodson as "the most prolific producer in television history," with over 20,800 total broadcast hours. At least one Goodson-produced show has appeared on national television in the United States every week since February 1950. Goodson was raised in California by Russian immigrant parents. After graduating cum laude from Berkeley in 1937, Goodson passed up a chance to study law and joined KCBS(AM) San Francisco as a disc jockey. He created his first game show, *Pop the Question*, two years later while working as station manager and announcer for KFRC(AM) San Francisco. He co-produced a radio game show, *Winner Take All*, with the late Bill Todman for CBS in 1946. The resulting partnership, Goodson-Todman Productions, flourished in television, with Todman [who died in 1979] acting as salesman for Goodson-created shows, including such long-running shows as *I've Got a Secret*, *What's My Line?*, *Concentration*, *To Tell the Truth*, *Password*, *Match Game* and *Family Feud*.

JACK HARRIS



"The secret of survival is not winning that last war forever; the secret is making sure that you don't lose that last war forever."

Jack Harris, general manager of the *Houston Post's* KPRC-TV Houston for 37 years (1947-1984), has often been called the best broadcaster in the business by his peers. "Certainly one of the three or four finest—in every sense of the word," said NBC Vice Chairman David C. Adams in 1979, the year Harris won the National Association of Broadcasters Distinguished Service Award. Harris is regarded as one of the first to recognize the value of television news and public affairs programming. He insisted on the most advanced technology available for the KPRC-TV news department, and led most of the nation in using film for news coverage, weather graphics and later videotape and all the equipment necessary for electronic newsgathering. In 1956 Harris organized the meeting leading to the formation of the Association of Maximum Service Telecasters (now the Association for Maximum Service Television), watchdog group for commercial TV spectrum allocations. Harris was its chairman for the first 16 years.

RALPH GUILD



"With radio there's little waste and who can afford wasting anything these days?"

Devotion to a career goal doesn't always lead to fulfillment, but in Ralph Guild's case, persistence and dedication paid off, producing in the process one of the most ardent supporters of radio in the land. In 1948, Guild began selling time at KXOB (now KJOY) in Stockton, Calif. More than 40 years of persistence and dedication later, Guild is chairman and chief executive officer of the Interep Radio Store, one of the major rep firms. Stockton not only was the launching pad for Guild's career; it was the start of a friendship with Daren McGavren that would develop into a long-term business relationship. And at McGavren's suggestion, Guild opened up a New York office for the firm, then called McGavren-Quinn. In 1962 he was named vice president and general sales manager and the firm's name was changed to McGavren-Guild. In 1973, he was named president and chief executive officer. Eight years later, Guild formed Interep. Guild is a trustee of the Museum of Television & Radio and the Armstrong Memorial Research Foundation.

RAGAN HENRY



"I really have never taken the viewpoint that I work. What I do, I like to do."

Breaking barriers for minority broadcasters, Philadelphia-based radio entrepreneur Ragan Henry got his first taste of broadcasting in 1971 when he acquired 12.5% of Sheridan Broadcasting, a black radio network. In 1974, he founded Broadcast Enterprises National Inc. Since then he has parlayed his experience in buying and selling broadcast properties, so that currently the Harvard-educated lawyer owns 10 AM's and 14 FM's. For the past 13 years, he has been a partner in the Philadelphia law firm of Wolf, Block, Schorr & Solis-Cohen where he is a member of the corporate law department, specializing in corporate financing and communications. Henry is also chief executive officer of US Radio LP.

Last year, he ventured into programming, developing a children's radio format in conjunction with the Children's Literacy Initiative. Henry is on the boards of directors of several corporations as well as a number of educational institutions including Syracuse and LaSalle universities.

BOB HOPE



"All I know about television is that I want to get into it as soon as possible—before Milton Berle uses up all my jokes."

Bob Hope is a performer who has triumphed in five major entertainment media—vaudeville, stage, radio, motion pictures and television. Born in Eltham, England, in 1903, his first professional stage appearance was in 1924. His Broadway debut came in 1927 with "Sidewalks of New York," followed by a succession of hits. Hope's radio career was launched in 1934 with a guest appearance on *Rudy Vallee's Thursday Night Show*. He became the star of his own show in 1938 (*The Pepsodent Show*). During the next 18 years he would perform in 1,145 radio programs, for various sponsors at NBC Studios, military bases and special broadcasts for Armed Forces Radio Network. He made his television debut on Easter Sunday on NBC in 1950. He hosted *The Chrysler Theatre* variety show on NBC-TV in 1963-67 and has hosted or appeared as a guest on many variety series and specials. He was honored for his years of bringing entertainment to troops overseas when the U.S. Naval Academy dedicated the Bob Hope Performing Arts Center.

STANLEY E. HUBBARD



"The biggest trouble in this broadcasting business is we've had too many weak men at the top, too many politicians at the top."

One of broadcasting's true pioneers, Stanley E. Hubbard put WAMD(AM) Minneapolis (now KSTP) on the air in 1923 and used it as the foundation for a thriving family-owned broadcasting group that now numbers nine television stations and two radio stations. Hubbard was also a pioneer of the air of another sort. He served as a flyer during World War I, and after the war he flew for the Internal Revenue Service, tracking down bootleggers and drug smugglers.

When television emerged in the 1940's, the outspoken Hubbard was among those quick to embrace the new medium and to urge, with varying degrees of success, his radio broadcasting brethren to follow suit. KSTP-TV is said to have been this nation's third commercial TV station and the first to broadcast exclusively in color. Hubbard turned his back on cable, believing the medium was built unfairly on the backs of broadcasters. The 94-year-old Stanley E. has relinquished control of the company to his son, Stanley S., who possesses the same passion and spirit of innovation as his father (see right).

AMOS HOSTETTER



"The first and foremost thing we [cable] have to do is tell our story well, tell our story frequently and tell it broadly—and the story is that this industry has done a helluva lot for the American television viewer and has behaved in a generally respectable way."

Amos (Bud) Hostetter discovered cable TV in 1963 and quickly determined it had potential greater than that of a docile broadcast-reception service. With a partner, he built a cable system in Fostoria, Ohio. From that beginning, Hostetter's Continental Cablevision has grown to become the nation's third largest cable operator, right behind Tele-Communications Inc. and Time Warner. Hostetter is widely considered cable's most respected citizen—the result of running hundreds of cable systems without setting off howls of protests about rates and service. That reputation and a moderate attitude has served the cable industry well in its Washington battles over the years, helping to win deregulation and to hold the line against reregulation.

Hostetter has been a leader within the National Cable Television Association, serving continually in top policymaking roles. He has also been a key player in the cable industry's good works projects, such as the Cable Alliance for Education. Hostetter is also a former chairman of C-SPAN.

STANLEY S. HUBBARD



"It's very comfortable to do nothing but look at the bottom line and say you're not going to upset that. But it has a way of catching up with you."

As his father blazed trails in radio and TV (see left), Stanley S. Hubbard is determined to lead the way in satellite broadcasting. Since the early 1980's, he has spent millions of dollars trying to be among the first to offer television via high-power direct broadcast satellites. The effort has had its ups and downs, but just last summer it looked almost certain his dream would become reality when he and his partners plunked down more than \$40 million for five channels on a Hughes Communications broadcast satellite scheduled for a 1994 launch.

Hubbard was also a leader in satellite news gathering during the 1980's, promoting the use of small-dish SNG trucks among stations and founding Conus, a cooperative satellite news exchange.

Although his DBS ambitions have absorbed increasing amounts of his time, Hubbard still runs the family broadcasting business, which includes nine television and two radio stations. The flagships remain KSTP-AM-FM-TV in his hometown of Minneapolis.

NOBODY EVER accused Bill Daniels of putting limitations on himself. Or, putting his dreams on the back burner. As "the father of cable television" he has made immeasurable contributions to our industry. He's a perfectionist, impatient, and tough as nails. Still, he's fair-minded and sees beyond his own perspective. And, his sense of humor, philanthropic values, and soft-spoken words have been a constant inspiration to all of us who are proud to be called his associates. And now, appropriately, he enters the Broadcasting Hall of Fame, with our love.



Bob Ross
 Macky Brown
 Liz Stading
 Lynette Pope
 Elizabeth Ferguson
 Kenny Boyer
 Beulah Egan
 Pat Boyer
 Tim Boyer
 Pat Boyer
 Jamie Brown
 Terry McLeary
 Kit Gulley
 David Palmer
 Cindy Cullen
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 Barbara O'Connell
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 Fred O'Connell
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 Valeri O'Connell

Alan Voth
 Azah H. Bell
 Bill Fyfe
 Jay M. French
 John O'Connell
 Bill O'Connell
 Greg O'Connell
 Tom O'Connell
 Dick O'Connell
 John O'Connell
 Dick O'Connell
 Jennifer O'Connell
 Andrew O'Connell
 Jodi O'Connell
 James L. O'Connell
 John O'Connell

GENE KATZ



"The most important thing a representative can do is employ television's four-dimensional effectiveness of sight, sound, motion and immediacy to create new television accounts from [print] advertisers and from companies which have not used any national advertising medium."

Aside from being the oldest and largest advertising representative firm, Katz Communications Inc. was the first to represent radio, the first to make use of market research data and one of the first to set up a separate television department. It's a record of innovation, and much of it is due to Eugene Katz. Founded in 1888, the company started out representing newspapers nationally. The grandson of the founder, Eugene joined the firm in 1922. After a fact-finding tour of radio stations in 1929, he was able to convince his father and company head G.R. Katz to expand into broadcasting. The first stations in the agency's stable were owned by its newspaper clients. In the 1940's, Katz urged his radio clients to apply for television licenses and then followed them into the TV rep business. When Katz assumed the presidency in 1951, he soon found himself in a pitched battle with the TV networks for dominance of the spot market. The battle ended in 1958 when the FCC effectively prohibited the networks from functioning as spot reps.

BRIAN LAMB



"With just three networks, if you're a U.S. senator from Colorado, you had to say something obnoxious, ridiculous or irresponsible or you never got on the air."

Through the creation of C-SPAN in 1979, Brian Lamb brought another dimension to cable television, the often strained relationship between reporters and politicians and to the political process itself. C-SPAN started with the promise to carry gavel-to-gavel the proceedings of the House of Representatives. It made good on that and filled the time when the House wasn't in session with a panoply of Washington-oriented speeches, seminars and call-in shows (wired to 54.8 million households). The C-SPAN promise was extended to the Senate in 1986 with the launch of a second channel (26 million households). C-SPAN's nonstop menu of public affairs reflects Lamb's life-long interest in government and the media. He arrived in Washington in 1968 as a radio reporter for UPI. Three years and a stint on Capitol Hill later, he joined the Nixon administration's Office of Telecommunications Policy. After Nixon's resignation, he became a cable trade reporter. That job gave him the contacts he needed to persuade a critical mass of the cable industry to support C-SPAN.

JOHN KLUGE



"I think it is very important to have imagination and very important to dream, but I also think it is important to keep ideas to yourself until you are implementing them."

German-born John Kluge, who worked on an auto assembly line while growing up in Detroit, in 1991 topped the *Forbes* 400 list for the second straight year as the wealthiest individual in the U.S., worth \$5.9 billion. He began building a station group after reading in the *Wall Street Journal* that \$15,000 could buy a radio license; his first was WGAY-AM-FM Silver Spring, Md. (Washington), in 1946. In 1959, Kluge purchased a stake in Metropolitan Broadcasting Co., which included WNEW-AM-FM-TV New York and WTTG(TV) Washington, and changed the name to Metromedia. He consolidated it with his outdoor advertising business, and in the 1960's bought major-market independent TV's, proving that indies could offer a viable alternative in large TV markets by programming network reruns, sports, old movies and news at 10 p.m. In the 1980's, Kluge added a cellular telephone and paging division; its sale to Southwestern Bell for \$1.65 billion in 1986 culminated two and a half years of asset spin offs totaling \$4.715 billion.

NORMAN LEAR



"I want to be involved with TV every other decade. I was there at the dawn of the 1970's and it will be fun being there at the dawn of the 1990's."

Just as America was riding the crest of its self-examination at the end of the turbulent 1960's, Norman Lear was developing *All in the Family*, a network sitcom that is still regarded by many as the most biting, socially relevant comedy ever to achieve air time on a broadcast network. From 1971 to '79 on CBS, *All in the Family* ruled the ratings roost, frequently achieving a 55% share of audience in 1971 (at 8 p.m. on Saturdays), a feat largely due to Lear's ability to script a politically barbed satire with crossover appeal to all economic and social classes.

The 1970's were Lear's years in Hollywood as an independent producer. The success of *All in the Family* spawned network spinoffs *Maude*, *The Jeffersons* and *Archie Bunker's Place*; original series *Sanford and Son*, and syndicated first-run series *Mary Hartman, Mary Hartman* and *Fernwood 2-Night*. Act III Communications, under his ownership, also maintains eight TV stations as part of its roster of group holdings, among other media interests.

HALL OF FAME

GERALD LEVIN



"Our Japanese partners will help us build businesses abroad in a way we couldn't have done as an American company. It's a new age for doing business that most companies will have to understand in addressing the marketplaces around the world."

It was Jerry Levin's idea to put HBO up on a satellite, an idea that rocketed the cable television industry from a local rebroadcaster of TV station signals to an international (and worldwide) communications network. A consummate Time Inc. man, Levin has seen his fortunes rise since Time merged with Warner in 1989. He was named vice chairman and elected to the board of the newly merged Time Warner, adding the title of chief operating officer in May of this year. Levin spent much of the 1970's at Home Box Office. He was deeply involved in the blueprint for the network, and successfully persuaded Time management to deliver the service by satellite as opposed to phone company land lines, the traditional delivery system. After one year, he became HBO president; by then it was under the control of Time Inc. Levin, who graduated fifth in his class at the University of Pennsylvania Law School, worked for several years as an attorney on Wall Street; and then at an international consulting firm before moving to HBO.

JOHN MALONE



"When people ask me an engineering question, I like to repeat what Einstein said: Education is what's left after you have forgotten everything else they taught you in school."

Starting out as an electrical engineer, John Malone is now arguably the most powerful person in cable. As president-CEO of Tele-Communications Inc., the country's largest MSO (which will grow even larger through its acquisition of United Artists Entertainment), little goes on in the industry that does not include TCI and Malone's input. Malone's in-depth engineering training has served him well, but he is a self-described "organization and finance man." Shortly after getting his doctorate in operations research at Johns Hopkins University in 1969, Malone was named president of Jerrold CATV, a subsidiary of General Instrument Corp. Malone got an early look at the telcos, working for Bell Telephone Laboratories during much of the 1960's. He brought this experience to the cable industry as a pivotal force behind the creation of CableLabs, the research and development arm of the cable industry that is now working on a standard for digital compression that will revolutionize television.

We proudly salute Broadcasting Magazine
and the Hall of Fame inductees.

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Secretary/Treasurer



BECK-ROSS COMMUNICATIONS, INC.

WHCN-FM
Hartford

WBLI-FM
Long Island

WSNE-FM
Providence

AL MASINI



"All of my ideas come from studying what's not on the air. Most people think the simplest way to sell a show is to say it's like another show. My attitude has always been to look for what's missing."

Twelve years selling ad time at a TV sales rep firm provided Alfred M. Masini with everything he needed to set up his own shop. In 1969, TeleRep, of which he is president, was launched as a subsidiary of Chris-Craft, and is now owned by Cox Enterprises. It has become not only a major TV rep but also one of the foremost syndicators of first-run programming. Masini learned the trade at Edward Petry & Co. (now Petry Television), where he helped develop spot-by-spot pricing of advertising time, replacing the then-standard broad time period pricing.

In the 1970's, Masini saw a need for network-quality programming for independent stations, so he created Operation Prime Time, which produces miniseries and specials. In 1980, *Solid Gold*, created by Masini originally for OPT, became the first weekly series of Television Program Enterprises, a division of TeleRep. Through TPE, Masini created and produced, among other shows, *Entertainment Tonight*, *Star Search* and *Lifestyles of the Rich and Famous*.

GORDON McLENDON



"It all begins with creativity and programming. You can have the greatest sales staff and signal in the world, and it doesn't mean a thing if you don't have something great to put on the air."

Gordon McLendon was a radio format pioneer, who by 1965 recognized the profitability and desirability of niche formats and superserving an audience. During the 1950's and 1960's, McLendon built up his family-owned group of five AM's, seven FM's and one TV. He used his stations to test new format possibilities, including Todd Storz's idea of collecting lists of the most popular records and adding colorful disc jockeys, flamboyant promotions and contests. That technique evolved into modern top-40 radio. In Chicago, McLendon was the first to try an all-news format on WNUS(AM).

That format would soon be adopted by Westinghouse Broadcasting and evolve, with great success, at stations that would become long-time market leaders: WINS(AM) New York and KYW(AM) Philadelphia. He is also credited with being among the first to editorialize on his radio stations. McLendon sold his last station in 1978 and invested in the precious metals business; he died in 1986.

DONALD McGANNON



"It is my contention that the broadcasting industry must work more vigorously to meet our responsibilities to the public and to fulfill the extraordinary capability we possess...in view of our profitability."

When Donald McGannon retired as chairman of the Westinghouse Broadcasting Co. in 1981, it was said that no one else ever had a surer knowledge of the nuances of broadcasting. When he first became president of Westinghouse Broadcasting, he was responsible for the retrieval of KYW-AM-TV Philadelphia from NBC, which was found by the FCC to have coerced Westinghouse into swapping the properties for the network's smaller Cleveland facilities. During a 30-year career, McGannon led the fight for the creation of the prime time access rule. He also fought resistance to the expansion of early evening network news into local time periods. He was at the helm when the Westinghouse stations implemented all-news formats, starting with WINS(AM) New York. McGannon also took on the NAB and other broadcasters when it came to commercial content. He unsuccessfully opposed the acceptance of ads for Preparation H and was also a vigorous supporter of the fairness doctrine. McGannon retired from Westinghouse as chairman in 1981. He died from Alzheimer's disease two years later.

TOM MURPHY



"As broadcasters, we associate with an extraordinary group of talented, intelligent and high energy people. And let's face it: This business is fun."

Thomas S. Murphy has made Capital Cities/ABC synonymous with the well-managed company. In methodically building a large and successful media enterprise, he has rewarded the company's shareholders and made the path easier for those broadcasters who follow. More than a few seek to emulate not only the profitability, but management style and moral leadership set by Murphy. The company's television stations have long reported large margins while at the same time being news ratings leaders. While the company showed operating earnings growth in every year of his 26-year presidency, it has also excelled at public service. Murphy, Capital Cities' first employe in 1954 and its current chairman, was largely responsible for building the company from a UHF TV station and AM radio station in Albany, N.Y. That building process included two mergers he initiated; the 1971 acquisition of Triangle Broadcasting and the 1986 acquisition of ABC. All of this was accomplished with a small corporate staff but a reputation writ large.

EDWARD R. MURROW



"Potentially we have in this country a free-enterprise system of radio and TV which is far superior to any other. But to achieve its climax, it must be both fair and enterprising."

Almost 27 years after his death, Edward R. Murrow is still often described as the man who did the most to establish and uphold the standards of broadcast journalism. He could also be one of its harshest critics and was unafraid to stand up to both public figures and his own superiors. Murrow established himself with his CBS Radio broadcasts from London during World War II. In 1951 he made the move to television with *See It Now* and in 1954 made his most famous broadcast when he took on Senator Joseph McCarthy (R-Wis.) and the senator's campaign against what he said were communist influences in government. On March 9, 1954, *See It Now* aired an exposé on McCarthy and his tactics, and the senator's influence faded rapidly after the broadcast. In 1960 Murrow made his last great broadcast, *Harvest of Shame*, a documentary on the exploitation of migrant farm workers. In 1961 he left CBS to head the U.S. Information Agency. Poor health hampered Murrow and years of heavy smoking took its toll. He left the USIA only three years later and died in 1964.

EDWARD PETRY



"The fact is I've never been a pro-network man and I've never been anti-network. I've been pro-broadcasting."

It's no overstatement to call Edward Petry the founder of station sales representation as it's known today. Petry started Edward Petry & Co. on March 15, 1932, and remained at the helm until 1963 when he sold the company to his employees. He retired as chairman in 1964 and died in 1970. Petry, born in Brooklyn in 1896, served in World War I. Afterwards he sold newspaper space and then joined WGL(AM) New York in 1926 and originated what many said was the first daily local participation program. He later became a talent agent at NBC, then went to buying time for Biow Co., bypassing brokers and working directly with the stations. After finding success with his methods, he formed his firm with a core of 13 major radio stations. Petry was also the first rep to open a separate television division and a separate promotion-research-sales service unit for TV. Petry was also one of the leaders in the successful effort to drive the networks out of representing independently owned stations.

WILLIAM S. PALEY



"There wasn't much that could happen inside the family circle that we weren't relating to through radio and TV and getting their attention and making their lives fuller and, I hope, educating them."

William Paley contributed to and lived through the growth of the broadcasting industry. He and his family bought into the struggling Columbia Phonographic Broadcasting System in 1928, not long after it was founded. Soon, as its energetic and visionary president, he transformed the radio network into a dominant force. Paley lent not only business acumen to a youthful industry but the cachet of style as well. That style, along with the force of his personality, helped him attract a wide array of performing talent. CBS's TV programming was also overseen by him, and partly because of his sense of what would play in Peoria (and New York), CBS dominated the TV network competition from the mid-1950's through the mid-1970's. In returning to the CBS chairmanship in 1987 after retiring in 1983, Paley proved that the right to program a network's airwaves was worth fighting for. Paley also gave of his wealth and time to found the industry's archive, The Museum of Television and Radio, and donated land for the new quarters into which it moved this year.

IRNA PHILLIPS



"The story has to come from the characters, to the point where your viewers will get to know a character so well they can predict his or her behavior in a given dramatic situation."

Those words come from the Godmother of Soap Operas, the long-time head writer for the CBS daytime serial *As the World Turns*. Phillips worked in the world of soap operas for over 40 years, getting her start in 1930 after a brief stint as a radio actress did not work out. Recalled Phillips in a 1972 interview: "The station manager told me my voice was not pleasant, that it was too low for a woman." But he was smart enough to eventually offer her a job as a writer and performer on a serial called *Painted Dreams*. After seven years she decided to make writing a full-time occupation. "I finally had to give up acting to devote full time to my work as a writer. You might say I never stopped acting, though, because I dictate my scripts. That allows me to play the parts of all my characters." Phillips, who kept writing into her 70's, tried to avoid the steamy side. "The daytime serial is destroying itself...with rape, abortion, illegitimacy...all of which is often topped by a drawn-out murder trial." She died in 1974.

WARD QUAAL



"Our only censor should be that peerless combination of quality enriched with good taste."

As a top executive at Tribune in the 1950's and 1960's, Ward Quaal emerged as one of the country's hardest-working, most innovative and vocal broadcasters. He took early retirement from Tribune in 1975 only to re-emerge in a few years as one of the country's most influential and powerful broadcast consultants and lobbyists. In his first incarnation, Quaal is credited, among other things, with creating the modern independent television station, turning WGN-TV Chicago into a major force without benefit of a network affiliation contract.

In his second, he shares with his clients considerable management and strategic good sense as well as extensive Washington contacts. Quaal's influence increased geometrically the day his long-time friend Ronald Reagan entered the White House in 1981 and did not seem to diminish when Reagan returned to California eight years later. His endorsement is prized by anybody attempting an FCC appointment or reappointment. Topping his list of clients is the company he rode to prominence: Tribune.

J. LEONARD REINSCH



"You reach more people, faster and with greater impact than all other media combined. Your responsibilities...are fearsome, ranking next to those of our elected officials and our courts."

James Leonard Reinsch was the quintessential "Fifth Estater." The long-time head of Cox Broadcasting was a pioneer in radio, television and cable as well as a major player in the Democratic party during the 1950's and 1960's. After college, Reinsch helped then Ohio Governor James Cox put WHIO(AM) Dayton, Ohio, on the air in 1934. In so doing, they laid the foundation for Cox's cable-broadcasting empire. Reinsch became chairman of Cox in 1939 and held that position until his retirement in 1973. Reinsch served Presidents Roosevelt, Truman, Kennedy and Johnson in a variety of capacities. It was Reinsch, as TV-radio director of the 1960 Democratic presidential campaign, who played a major role in arranging the first televised presidential debates between Kennedy and Nixon, which permanently changed the nature of political campaigning. On his death in May 1991, BROADCASTING commented: "He was a broadcaster [who] cared deeply about his medium and his country, and he had a vision for both."

RONALD REAGAN



"We must rely upon competition in broadcasting to insure that all reasonable views are presented. Further efforts to deregulate broadcasting, and treat it like the print media, will insure freedom of the press."

Inauguration Day 1981, featuring within the same hour the swearing in of Ronald Reagan and the release of the American hostages in Iran, was called by an ABC news producer "the single most complex day in broadcast history." For broadcasters, it was the day one of their own became President. The shoe salesman's son from Tampico, Ill., began his career in 1932 announcing University of Iowa football for WOC(AM) Davenport, Iowa, and a year later was at WHO(AM) Des Moines. In 1937 he left for Hollywood. A stalled movie career afforded Reagan the chance to try television. He hosted CBS's *General Electric Theatre* from 1954 to '62. His charisma was apparent in a rousing, nationally televised speech supporting presidential candidate Barry Goldwater in 1964, and it sparked the campaign that led to the California governorship in 1966. Reagan made effective use of broadcasting throughout his years in public service, including his weekly radio program as President. He supported broadcasters to the end when he vetoed the fairness doctrine in 1987.

ROBERT ROSENCRANS



"The cable business goes well beyond the concept of just retransmission of signals."

As the head of UA-Columbia Cablevision, Bob Rosencrans played a pivotal role not only in nurturing a major cable multiple system operator from infancy, but in the development of cable programming as well. UA-Columbia Cablevision encouraged Home Box Office's plan to distribute its service via satellite in 1975, installing earth stations at two cable systems to receive HBO's first feeds. The marriage of satellite communications and pay programming gave birth to the modern cable industry. The winner of the National Cable Television Association's first Distinguished Achievement Award, Rosencrans co-founded Columbia Television Co. in 1962. Its merger with United Artists in 1972 gave birth to UA-Columbia Cablevision. Rosencrans was an early player in pay TV, not through cable, but through theatrical closed-circuit television. It was only after closed circuit foundered in the early 1960's that he decided to give cable a shot. Rosencrans left UA-Columbia several years ago and began building another cable company.

DAVID SARNOFF



"We can wear our competitive scars with the pride of veterans, for they have been earned on a great battlefield for a common cause—the advancement of the electronics art and sciences for the public benefit."

David Sarnoff was called "General" for his service as a brigadier general and special consultant on communications to Eisenhower during World War II. But he was also the commanding force behind RCA during its growth years and if the broadcasting industry had a general, Sarnoff would have been given that command as well. His unique service to the industry began at least as far back as 1916 when, wrote BROADCASTING in 1932, he "submitted a suggestion to his chiefs which outlined every one of the basic principles of broadcasting as it is today. He called it a 'radio music box.'" It was Sarnoff's vision and determination that resulted in the development of the first all-electronic television system and, years later, the adoption of compatible color technology. The "General" also fought for regulatory and public acceptance of the innovations. Sarnoff also helped shape the network's programming, using a portion of RCA's profits to program the Metropolitan Opera. He died in 1971.

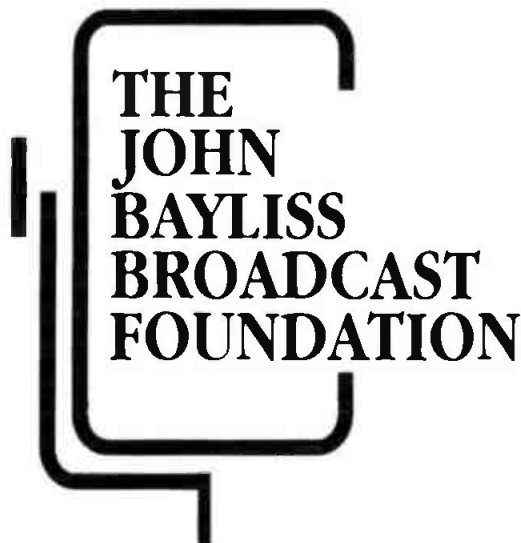
AARON SPELLING



"If you give them realistic drama every night of the week, there will be a lot of fuses blown in our society. Those people need some escapism."

From *Johnny Ringo* in 1959 to *Beverly Hills 90210* in 1991, Aaron Spelling has been churning out the stuff of prime time network programming at a prodigious pace. By the latest count, he is responsible for some 2,500 hours of dramatic series, sitcoms and made-for-TV movies. As the volume attests, he has been a regular producer of hits. In the 1960's, there were *The Guns of Will Sonnett* and *Mod Squad*. With partner Leonard Goldberg, he helped define television in the 1970's with *Charlie's Angels*, *Starsky and Hutch* and *Fantasy Island*. And in the 1980's, he and Esther and Richard Shapiro contributed *Dynasty* to the prime time soaps. That *Beverly Hills* has scored solidly for Fox suggests that there is at least one more decade of prime time in Spelling. He arrived in Hollywood as an actor in 1953, appearing in 50 TV shows and a dozen films. But after selling a script for Dick Powell's *Zane Grey Theatre*, he turned to production. He worked nine years at Four Star before going off on his own in 1965.

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FRANK STANTON



"The fact that television and radio stations are licensed by the government does not deprive the broadcast press of First Amendment protections."

Frank Stanton's contributions to the broadcasting industry have been many and diverse, with a lasting impact both within and outside CBS, where he was president for 25 years. It was as Dr. Frank Stanton that he first arrived at CBS in 1935 with pioneering research on audience measurement. In 1960, his efforts resulted in Congress suspending the equal time rule, paving the way for the historic televised debate between John Kennedy and Richard Nixon in the studios of CBS-owned WBBM-TV Chicago. At numerous times during Stanton's tenure as president he singlehandedly took on those who would limit or regulate broadcasting's First Amendment rights. In the year before he became vice chairman, 1971, Stanton risked jail by refusing to hand over to Congress outtakes from the CBS News documentary *The Selling of the Pentagon*. The most renowned corporate residence of the Fifth Estate, CBS's "Black Rock," also bears Stanton's imprint, as does the design of the CBS eye. Seven years after retiring from CBS in 1973, the CBS President Emeritus founded the Center for Communications.

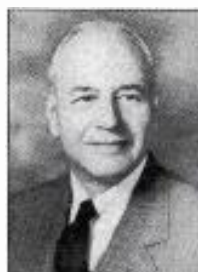
TODD STORZ



"It became necessary to find a formula that would succeed in spite of television and network radio. The formula found was one that succeeded because of network radio and TV."

Todd Storz's "formula" was the format now known as top-40, and he "found" it in an Omaha restaurant. As legend has it, he was sitting in a restaurant in the late 1940's listening to people play the same few songs over and over on a jukebox, when he got the idea to program a radio station by spinning only top-selling records. He bought independent KOWH(AM) Omaha in 1949 (taking a chance by getting into a market where there was stiff competition from new TV's and established network radio affiliates), and programed it with a select group of songs, upbeat jingles and no dead air. The technique, which today has evolved into contemporary hit radio, quickly caught on; it soon featured fast-talking disc jockeys aimed at a young audience and a playlist confined to top-selling records. His station was a success and he did the same thing with two more. Combined billings of the three grew from \$100,000 in 1949 to over \$2 million in 1955. Storz died in 1963 at age 39. His father, Robert H. Storz, ran Storz Broadcasting until the last of six stations, WQAM(AM) Miami, was sold in 1985.

GEORGE STORER



"There was a hominess, intimacy and corniness about radio that those who have been in it a long while never quite get over."

George Storer started in the family business, the Standard Steel Tube Co., of Toledo, Ohio, but was soon drawn to the more glamorous charms of broadcasting. He purchased WTAL(AM) Toledo in 1928—an investment that laid the cornerstone for the nation's first major station group, Storer Broadcasting Co. Storer was also a pioneer in television—among the first to lease a major-market television station. By 1949, he had three television stations on the air, while most of his radio colleagues were still denigrating the new medium. Rather than fight cable, Storer embraced it, adding cable systems to the Storer portfolio.

The broadcasting industry called Storer to service often. In 1941, he was named assistant chairman of the Broadcasters Victory Council, which drew up policies for station operation on behalf of the war effort. In the early 1950's, Storer was active in developing the National Association of Radio and Television Broadcasters' new television department. He died in 1975, a few days before his 76th birthday.

LOWELL THOMAS

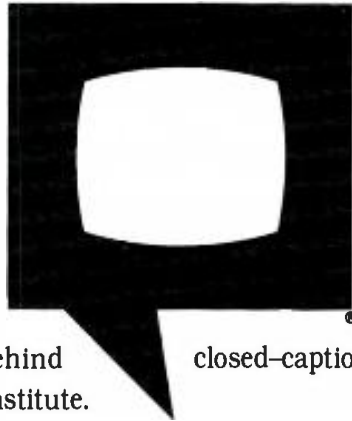


"It was clear before midnight that Harding was the overwhelming winner; it took somewhat longer for Americans to realize why the broadcast was more important than the election."

Even before KDKA(AM) Pittsburgh launched commercial radio in 1920 with its broadcast of the Harding-Cox election returns, Lowell Thomas was a well-known journalist and raconteur. He had made T.E. Lawrence (of Arabia) and himself famous with a series of illustrated lectures about Lawrence's exploits during the Great War—many of which he had witnessed. But it was broadcast news that was to be Thomas's vehicle to lasting fame.

Thomas's first broadcast report—the first aerial circumnavigation of the globe by four U.S. Army planes—aired on KDKA in 1925. Thomas's career in network news began five years later. His distinctive voice was heard nightly on network radio with newscasts that ritually ended with "So long until tomorrow." In the beginning, he was on both NBC and CBS. He subsequently did exclusive stints on each. Thomas was also on television with a CBS series, *High Adventure*, in 1957-59, and a 39-week telecast, *Lowell Thomas Remembers*, on PBS in the 1970's. He died in 1981.

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GRANT TINKER



"If you give them something good and you leave it there and promote it properly, they will find it."

Grant Tinker will always be inexorably linked with the efforts to improve the quality of television. His tenures as president and co-founder of MTM Enterprises and as chairman and chief executive officer of NBC solidified his reputation as a purveyor of quality programming. Under Tinker's aegis in the early 1980's, NBC experienced a renaissance from a qualitative and ratings standpoint. The network debuted several series that would define critical and ratings success, including *Hill Street Blues*, *Cheers*, *The Cosby Show* and *St. Elsewhere*. Prior to joining NBC, Tinker ran MTM Enterprises, which he co-founded in 1970 with his then wife Mary Tyler Moore and Arthur Price. The company was considered a haven for writers and producers seeking to take creative chances and avoid the bureaucracy of other production companies. After NBC, Tinker formed GTG Entertainment, a joint venture with Gannett. The partnership ended in 1990 after a highly publicized but unsuccessful attempt to produce a TV version of *USA Today*.

PAT WEAVER



"Am I a visionary? Yes, if you mean someone who can foresee what probably is going to happen given what's going on right now. I've always been able to do that."

If Sylvester "Pat" Weaver did not revolutionize network programming, he certainly stretched its time limits. As president and later chairman of NBC in the 1950's, he developed the early-morning *Today Show* and the late-night *Tonight*. Known as one of the more flamboyant and outspoken executives in the industry, Weaver also is credited with bringing Bob Hope, Groucho Marx, Sid Caesar and Jack Webb's *Dragnet* to NBC. Weaver had hoped to move up to NBC's parent RCA to help implement plans for home video and satellite broadcasting. But it was not to be. He left NBC—the network's firing of a close friend being the last straw. "I left with real regret," he said. "I built the whole program structure, and I knew it would fall apart."

Weaver tried to start a fourth network, but, failing that, he returned to advertising with stints at McCann-Erickson and Wells, Rich & Greene.

In the mid-1960's, he launched an STV pay television service in California, but, like the fourth network, it was ahead of its time.

TED TURNER



"I'm at my best when my back's against the wall. I don't like it when things are going too well."

In just 15 years, Ted Turner took a faltering Atlanta UHF television station and built a media empire. Early recognizing cable's potential, Turner put WTBS(TV) on a satellite, making it available to virtually every cable system in the country. In 1980, he parlayed the success of the superstation into a 24-hour-a-day cable news service. Ridiculed at first as the Chicken Noodle Network, CNN grew steadily in stature during the 1980's.

During the Persian Gulf War, it proved the equal, if not the better, of broadcast networks' operations.

Turner's \$1.7 billion purchase of MGM-UA Entertainment in 1986 almost broke him financially. But the MGM film library formed the basis for another successful cable network: Turner Network Television. Turner's latest expansion came this year with his purchase of Hanna-Barbera. Turner is on a roll: With fiancée Jane Fonda at his side, Turner this year watched his previously hapless Atlanta Braves win a pennant, and almost a series.

FREDERIC ZIV



"A constantly increasing demand for superior radio programs on the part of advertisers, agencies and station management will not only attract audience but sell maximum merchandise."

Widely recognized as "the father of syndication," Frederic Ziv founded the first radio transcription service and built it into the first major TV syndication company during the early years of television. Having opened a small advertising agency in his hometown of Cincinnati, Ziv partnered with John L. Sinn in 1937 to produce a local radio show on WKRC(AM) called *The Freshest Thing in Town* with Rubel Baking Co., an advertising client, as sponsor. Soon after, *Freshest Thing*, via transcriptions, began perking on local radio stations all over the country. From that, Ziv and Sinn became the radio packaging mavens of the infant syndication business. Once the broadcast networks established an early toehold in television, Ziv determined to be the strongest "outside" player in the TV business. He formed Ziv-TV and his revolutionary strategy of producing, acquiring and distributing series and telefilms paid off impressively. In 1959, Ziv sold 80% of his company to Wall Street investment firms for \$14 million. A year later, the entire company was bought by United Artists.



MEDIA ABUNDANCE: FOUR VISIONS OF THE NEXT 60 YEARS

It is an age of geometric advances. Digital video suddenly promises to multiply services and to dwarf previous efforts to make video as big and real and interactive as life. Satellites promise to deliver services to jets flying 500 mph. Some of the wisest TV and radio forecasters now balk at predicting anything beyond the next several years.

But BROADCASTING Assistant Editor Peter Lambert found four minds daring enough to travel well into the next century and commit their visions to the record.

Digital video artist Tom Burns sees a couple using three-dimensional mapping technology to enter the movie "Ben Hur," choosing their own camera angles, while their son co-programs a "virtual world" channel with colleagues halfway around the globe.

Inventor Robert Jacobson sees a pair of headset projectors beaming 4,000-line, 3-D images directly onto the retina of the human eye and devices that create tactile sensations.

Professor Eli Noam envisions global adoption of First Amendment rights. And futurist Charles Handy foresees skyrocketing demand for specialized media among a burgeoning mass of self-employed "telecommuters."

It's easy to dismiss such freewheeling musings, but sometimes the visionaries hit the mark. Arthur C. Clarke saw the planet ringed with transmitters relaying signals among nations from 22,300 miles up. That was in 1945, two decades before such birds flew.

VIDEO 'IMMERSION': PROGRAMING VIRTUAL WORLDS

Walking into 'Ben Hur' and the Everyman Channel

Tom Burns is technical marketing manager for Alias Research Inc. in Toronto, Canada. A veteran creator of digital images, first through video facilities, then through computer technology—and in recent years a creator of full-motion, three-dimensional virtual world imagery—he is probably at the vanguard of future television and computer, or telecomputer, programers.

Having had a hand in the development of computer-assisted design systems for a variety of industries, including automobile and airplane manufacture, Burns predicts mass applications of virtual reality technologies. He foresees an age in which 3-D mapping software will allow viewers to "insert" themselves into video, synthesizing their own camera angles, riding, perhaps, a chariot in "Ben Hur." And, in a fibered world with ever-expanding bandwidth, two-way interactivity and "tiers upon tiers" of narrowly targeted networks, increasing numbers of digitally minded consumers will become programers, creating his or her own Tom, Dick or Jane Channel.

Can you tell us about Alias Research?

We do high-end 3-D computer modeling and animation and rendering software for a whole bunch of markets—from desktop 3-D packages all the way up to high-end industrial design systems for automobile styling. Probably 70% of the world's auto makers have our high-end system. But we also have a little \$2,000 package that runs on the Mac for doing free-form 3-D surface modeling and rendering.

We make images entirely synthetically, and that's one of the things I think is going to be a really strong future TV trend. We're talking about mixing synthetic or generated imagery with live imagery. I'm not a technical person, although I do have a very technical job. I've always been around the fringes of professional video, but always concentrating on just making images.

Where do you see the evolution of synthesizing images standing now, and where is it headed?

Way back in the days of the Moog



Created by Meredith Bricklen

This 3-D tour of Seattle portends 'deep video' at higher resolutions.

synthesizer, audio artists were creating wave forms from physical bases from scratch. And then—BOOM—along came digital, and all of a sudden you were sampling. You no longer needed to create a sound by layers and layers of wave forms that you were practically sculpting. You just grabbed something, screwed it around a bit digitally and put it out as a whole new thing.

Barry Mazer of Advanced Imaging draws a parallel that this is what's happening in computergraphics. We've been working at the generating, or synthesizing, level for a long time. Now we're getting into particle systems and volumetrics and new ways to synthesize what's actually physically happening when our eyes see an image. What happens when we get that good at sampling?

Sampling—is that how live or taped video fits in?

We do a lot of work here with the combining of real live video, frame grabs from video, and try to integrate that with computer graphics images that we generate.

But we don't just do collage stuff, 2-D blending; we try and blend the 3-D into the perspective of the grabbed video, because the best thing about video is that it's kind of a shorthand for reality. We've all grown up on

TV, and we all know that context at a cellular level.

How will that cellular understanding change?

I think we're going to get closer and closer to the stage where we will be able to insert either a synthesized analogue of our own image into "Ben Hur" or something like that—or we're just going to be blending the currently 2-D aspects of video, and it's solely by matching perspective.

You blend in 3-D just by matching perspective the way you blend in 2-D just by anti-aliasing the edge lines.

In any case, the blending of generated or synthesized—or even if you extend Mazer's argument, sampled imaging and graphics—the blending of sampling and generated stuff with real video, shall we say, grabbed in live television time, that's going to continue and the ability to play back and forth.... People talk about virtual reality as being able to insert yourself into a video environment. So video is going to get deep, and we're going to have ways of blending in 2-D and 3-D.

Will interactivity become dominant?

Absolutely. But some people think that "interactive" just means being able to select from a number of available camera angles, and I think, no, we're going to be able to synthesize

THE FUTURISTS

any camera angle we want from an internal virtual camera that has knowledge of the video scene.

What does all this mean for distribution? It sounds like all the 3-D and interactive information will require a lot of bandwidth.

The most exciting thing I see in hardware terms is that discussions are happening right now about video dial tone—the ability for the regional Bell operating companies to provide services that have traditionally been the jealously guarded principle of the cable operators. And I don't want to put the cable people out of business, but I like the phone company, because it's one great big computer, and so I'm a little more comfortable with that notion.

The bandwidth to provide integrated services.

Yes, absolutely—more bandwidth than we can even imagine right now.

This 200 lines, black and white, is that 3-D full motion?

Yes, 3-D real time. Real time being the sense that the computer tracks your motion and generates enough images to keep up. So, as the graphics hardware increases, obviously you'll be able to drive color, you'll be able to drive higher resolution, and the visuals will just get better and better.

But the big thing about VR is that it's an immersion technology rather than a stand-back-and-look-at-it type of technology. And so, increasing the visual definition with color and more lines of resolution—I mean, it makes it nice, but we're creating things that do the job right now, just with very low resolution stuff.

The ultimate goal, say the cyber punks, is the direct neural computer interface. I don't think that's going to happen in my lifetime.

net, or from the commercial television producers, and mess around with them, sampling and rearranging, and then upload them back for somebody to download them to some kind of a recorder—whether it be a tape recorder or just a great big chunk of random access memory.

Do you see the audience having to have a complicated computer in his home to indulge in virtual reality, or is it the kind of thing that the distributor can invest in all the computer hardware, the processing?

There are two ways to look at that, and, again, it's driven by cost. I actually foresee a business for people with a \$60,000 work station who are professional employees, producers, technicians, whatever. For example, somebody might make a business of taking old flat, 2-D movies like "Ben Hur" and processing them, giving them depth, outputting a new signal which has all of the 3-D depth cues for a very simple decoder at home, to permit this blending of physical, three dimensional space, and virtual in-the-movie space.

Continues on page 72.

"There will be tiers upon tiers of special interest areas...people can exchange pieces they've done, download from the network or commercial television, sample and rearrange, then upload them back."

Actually, the thing that's exciting here is the advances in compression. With compression technologies and with intelligent coding and with a two-way channel. Maybe why I'm biased against the cable companies—because they've always been very hierarchical, top down, one-way delivery systems.

And the phone system is two way, and I just kind of feel a little better with a two-way system, especially since the phone system is just one gigantic computer network.

Are applications headed eventually to film resolution?

If we're truly talking this kind of interactive blend of deep TV and synthesized imagery, it will happen at a low resolution, current NTSC.

Eventually when we get the bandwidth problem licked, it might happen at film resolution. But film resolution is overkill; it is reality. Video, as I said, is kind of shorthand for reality. But so is film for many people.

Let's say I'm sitting in my living room in the United States in the year 2025 or 2050. What kind of entertainment do you see me indulging in, and how am I getting my signals, and what am I doing with them? Is it all interactive?

I would think so; I would think there is going to be a number of levels all accessible, depending on how much you want to pay. That kind of thing is going to go because it's cheap to produce—if all you're doing is letting people be part of an audience while sitting in their living room.

The need to get the lowest-cost way of entertaining the largest number of people. That's always going to drive the technology, and to a lesser degree, the creative. You'll always have one level of basic service that will provide two-dimensional shows for the masses.

But there will be just tiers upon tiers of little special interest areas in the network where people can exchange pieces that they've done themselves, take interactive pieces that they've downloaded from the

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RETINA PROJECTION, TACTILE FIELDS AND OTHER TOYS

The merger of the computer and TV will change the fundamentals

Robert Jacobson is associate director of the Human Interface Technologies Laboratory in Seattle. Using tiny video screens for each eye and handheld or glovelike devices that work like a computer "mouse" attachment, HIT Lab has developed hardware that allows a viewer to "walk around" inside a three-dimensional "virtual reality" and to manipulate images—to reach out and "touch" and alter them—and to control sounds within those "virtual worlds." Other devices to create tactile virtual experiences are in development.

For now, the images are computer generated, and applications are, for most industries, prohibitively expensive. But Jacobson says the fundamental theoretical breakthroughs are past tense. "Importing" video into virtual worlds and reading 2-D video and transforming it into sophisticated 3-D representation are in the offing—as is projecting images directly onto the retina at the back of a viewer's eye.

We're hearing about virtual reality and creating three-dimensional virtual worlds with computer imaging and surround audio. Where does that technology stand now?

We're about at conventional TV resolution, about 700 lines, in black white, 3-D. We've got 3-D sound. And there is hardware at a commercial level. A company down in Redwood City [Calif.], VPL, is marketing a headset with color. We don't have a tactile field yet, but we're working on that.

Tactile field?

That means we have devices for creating physical impressions, attached somewhere on the body, so that you actually can feel it.

The virtual reality participant right now wears a kind of helmet with screens before his eyes and a glove of some kind?

Helmet would be overstating it. There's a headset, very light. I should say that VR is getting popular, with lots of participants in developing software. There are different kinds. It's getting to the point where pictures you're getting on the computer screen are virtual reality.

What we have now is the headset with screens and the Dataglove,



HIT Labs Principal Scientist William Bricken manipulates a virtual world.

which you use to manipulate images within a virtual world. We're developing a device that can go on the hand and would include bladder-like elements, that kind of thing, to create tactile fields.

Is there a desire to develop higher resolution levels?

Certainly. Initially we want to go up to about a thousand by a thousand lines for computer resolution and 1,200 by 1,200 for high-definition television. And eventually we want to use compression technology to get to about 4,000 by 4,000.

At that point, we expect the projection to be through the cornea of the eye, creating the image right on the viewer's retina, as opposed to projecting onto a screen before the eye. Our director, Tom Furness, wants to accomplish this in about a three- to five-year project. That's the future, really. The device of the future will be lightweight, portable, personal and nonobtrusive. It will also be a device that creates very high resolution images and probably will make even better use of sound.

Is there much of a thrust toward merging source material? Live video or videotape or film?

There are two trends in that regard. One is to import video into the virtual world. One way to do that is to create the illusion of a 2-D TV screen within

the 3-D world—pull down a video screen within your virtual world. That would feature CD ROM applications, perhaps HDTV, or traditional television.

Another solution is to take the video and, in some way, match it up with a 3-D database. Which means while I'm viewing 2-D video the computer is calculating my exact position within it and mapping out perspective from my position.

Would that translate to taking 2-D video and picking your own camera angle?

Yes. That's what it is. The computer is collecting information from the video and with information it's already got, the computer is computing the camera's position. What would make that possible in the future is the fact that almost all manufactured objects and many, many natural objects have common construction. As I look around my kitchen, I see that the blueprint could have been created in a virtual world. An architect could walk through a virtual building and say, "Let's make this wall longer," and use a manipulating device to do that in real time, including the effect on the adjacent room and the whole building. Then he could walk through the room again and see how it feels.

It sounds like the initial applications of virtual reality will be industrial—auto design, architecture, and then move to-

Joel Levin

THE FUTURISTS

ward mass consumption?

That's my theory. The immediate applications will be for people willing to spend a good deal of money and put up with suboptimal performance. But there are constant rumors that some Japanese company is working on developing a mass consumption device.

In any case, we don't have any fundamental, theoretical breakthroughs we have to make, because we're there now. We just have to do better and better engineering.

We hope to see a network created and eventually see a network subscriber with a computer in his home be able to dial in a virtual world. By that time, we'll have commercial applications well established.

Right now, does it take a lot of computing power and bandwidth to go 3-D and transmit it?

Yes, although it takes a lot of bandwidth to go video. The difference is not substantial. Compression technol-

ogy will tend to take care of delivering that, gaining efficiencies, and it won't be an issue. By the time our technology is ready, the cable companies and telephone companies will have merged and their fiber connections to the home will be able to handle our highest resolutions.

Could compression eventually allow over-the-air multichannel services at high resolutions?

Yes and no. We're looking at ultimately creating regional or local bay stations into which individuals could tap. The idea would be to free up the individual from all the hardware required.

The more likely scenario is to have a bunch of people hooked up by fiber to a local transmitter co-located with large switching and computing hardware. There's a lot more bandwidth available on the ground, at least currently.

But eventually the idea is also to make this portable, so you can take your virtual worlds anywhere. Doing

it all with broadcasting would be very difficult, but putting the two together would be optimal.

With a service explosion and very splintered audiences, do you see a mostly pay-per-view world?

I see a free-per-view world. The telephone companies have reached the point where switching is no longer the issue. And they're laying fiber, so bandwidth becomes, eventually, virtually a non-issue. It's also gotten to the point where people are asking whether it makes sense to charge customers per call, even long distance.

Base it on an average use?

Yes.

Can you see virtual world technology ever translating to, say, live sports coverage?

There's a question of levels of absurdity. Would you sacrifice the drama of a live event for the illusion of participation? There's a certain thrill to sitting in a dark place with other

developing the devices. And the idea is we will create a de facto standard for operators, with network and individual applications.

This all sounds like evidence that the merger of the computer and TV is already happening.

Frog Design, which designed the Apple computer, already has developed the Frox, a computer that looks like a TV. It's got four megabytes of RAM and very high processing capability. And they intend to use it for HDTV and digital television, CD ROM-based, interactive standalone applications. Nintendo is also creating a TV-computer.

But instead of a TV screen in every home, you see the interactive virtual world headset and glove?

Yes, everyone with his own headset, each viewing from his own perspective. Technology really is not the issue. It's capital—what resources are used by organizations to create the future environment. It will all come down to who you're calling and what you're calling for. You, the viewer, will have access to a gradually exploding range of those resources. ■

"We expect projection to be through the cornea of the eye, creating the image right on the viewer's retina, as opposed to projecting onto a screen before the eye. That's the future really."

people and sharing in watching the action. And people are willing pay to do that.

Without control of the content.

Right. Without control of the content. But there might be a middle ground using 3-D mapping data to broaden the possibilities for point of view.

That data is in software form?

Yes, but there is a history of software turning into hardware. Whatever the process is, you just burn it onto silicon chips.

And the more you compress software into hardware, the closer you get to mass manufacture?

That's right. But you have to get a standard, and people have to want to buy the hardware. There's a software package emerging out of and toward the computer-assisted design market. Our lab is one of the labs putting that package together, the first product out of our lab. It's designed to allow x number of computers to collaborate in creating virtual worlds. We're also de-

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GLOBAL EXPLOSION: INFORMATION, STANDARDS, FREEDOM

Director of the Columbia Institute for Tele-Information in New York, Professor Eli Noam predicts the growth of fiber distribution and global interconnection will remove much government leverage to regulate media at home and abroad. And, foreseeing an explosion of information and information sources, all competing for limited consumer time and attention, he also suggests that the most successful programmers will be those who cram the most information into the shortest time.

Noam is professor of finance and economics at the Columbia Business School of Columbia University and former commissioner for the New York State Public Service Commission with jurisdiction over cable television providers.

According to common wisdom, multichannel television, and integrated audio, data and other services, will be delivered to most homes by wire early in the next century. Do you see digital compression technology eventually allowing multichannel competition over the air later in the next century?

Compression is clearly going to squeeze a lot more action out of the spectrum. And pressures on broadcasters themselves to vacate spectrum for other uses are going to be reduced, because everybody else would also be squeezed into more efficient use of spectrum.

It appears, though, that open spectrum gives birth to whole new sets of services, many of them mobile, competing for frequencies.

Yes, the whole notion of portability and mobility—which will also be part of the video landscape, by the way—is going to increase in the future; we'll be voracious users of spectrum.

For example, I would expect more people in a middle income to buy camcorders, which means, on one level, a democratization and spreading of the production aspect of television. It used to be very complex, expensive and specialized. And now it's coming down to a few hundred bucks for people who sometimes get their home movies shown on prime time TV.

But you could imagine that it will become a tool of people as they move around. In the future, soldiers are likely to carry a camcorder that will



Jordan Karp

Eli Noam, director of the Columbia Institute for Tele-Information.

transmit exact views of the situation to a commander in the rear. And so what you then have is portable video transmission.

And you can see the idea would have usefulness in civilian applications, where the plumber or sales representative or insurance adjuster wants some video link. That means there will be increasing demands on spectrum usage, and broadcasting therefore is not likely to get a lot more. Market forces may lead simply to somebody offering a broadcaster a lot of money to get use of the spectrum, raising the question of whether that's going to be an offer that can be resisted.

Because of its essentially instant, ubiquitous reach, does over-the-air spectrum become totally used for mobile applications?

No, I don't think so. The first pressure will go to various governmental applications. Government has been fairly wasteful, because there was a zero price attached to it, so why not just use it and warehouse it? So that's likely to be the first to go, as part of the peace dividend. And of course we're moving increasingly to high frequency spectrum.

As to broadcasting versus mobile, I am not sure what the market equilibrium is likely to be. Obviously it has to do with the profitability of over-the-air television. The telephone compa-

ny will bid for more spectrum for mobile. I doubt that the first place to go to buy up additional spectrum would be broadcasters; those frequencies are very high priced.

A critical element of regulation of video and audio services in the United States is the assumption that spectrum is a national trust and must be used in the public interest. How do you see government regulating media delivered on the ground?

Well, I think the content regulations are going to wither away virtually entirely. I mean, what will be left is libel and things of that kind. I see a virtual application of the publishing model to broadcasters and cable.

When it comes to the conduit, there's likely to be some regulatory involvement left. But mostly to deal with interconnection issues—the separation of carriers. All these boundaries are going to go away and we'll have a transmission system that interconnects cable and telephone companies and broadcasters in a variety of complex ways, so that you have multiple ways to get to individual homes.

And those interconnection arrangements are likely to be subject to some regulatory supervision for technical interoperability and certain rights of access and financial solvency and so on. An example is the discussion over must-carry. The family of interconnection issues is going to get larger,

THE FUTURISTS

and the interface points are going to become more numerous. Particularly once you start merging the telephones and cable of the future

Are those issues fairly synonymous with Sherman Act issues, making sure there's diversity of control of the conduit?

There will be some room for antitrust laws, yes. But I think there will also be some roles for FCC type regulation of interoperability—a residual role assuring a national system.

What's the role of the states? Localities? Well, declining. Reluctant declining. Obviously, the localities as well as the states cling to their jurisdictional prerogatives. But even the FCC, or its national equivalent, are likely to have to cede some authority

"I think content regulations are going to wither away virtually entirely. What will be left is libel and things of that kind. I see a nearly complete application of the publishing model to broadcasters and cable."

to some regional or international arrangements because of the globalization of media in general.

Right now there's momentum in Congress for cable regulation. Do you see that as Congress's early perception that their powers to regulate TV and radio may disappear?

I think there is inherent conflict in the notion of local governments regulating the economic well-being of media which are charged with reporting on the activities of those local governments. I think there was a case in Texas? The state sued some soft core pornography satellite service?

Alabama. Home Dish Only took its national Tuxedo Network down and closed up shop.

Right. Now, the notion that the lowest, not even common, denominator, the strictest guy is going to call the tune, is clearly ludicrous. It means basically the Ayatollahs in Teheran are going to set the standards for the rest of the world's watching. Therefore I think you would have to have for video transmission at least national standards. And it raises an interesting question: Is the First Amendment a local ordinance? Or is it a global principle? So far, in recent years, speech freedoms have been spreading around the world, so we're in an up-

swing. But it could change in some countries—become more restrictive for various domestic, internal reasons.

Can you see some potential technological solutions? Lock boxes?

Absolutely. These are areas that lend themselves to technology fixes. Once you have television that is significantly more closed, in the sense of subscription-based, pay-based TV, you have the ability to exclude.

I think the TV sets themselves are going to become incredible—in effect, specialized computers with a lot of intelligence and program ability from distances and directly. And most subscription type of arrangements are likely to be portable. If you

travel, you might actually carry a preference card insertable into a hotel TV set. And TV's will be able to store and to edit and to transmit and to select and to fix standards.

And concomitant with that, I think that you won't have a single TV transmission standard. But rather you will have a system of open standards, where all service providers—like in the computer business right now—basically can pick their own standards. As long as the viewer's set can receive multiple standards.

And with the smart TV, the viewer becomes his own scheduler?

I think first the transmission bottlenecks will be overcome, in that there won't be a shortage of transmission capacity at low cost. But the most critical one is what I call the last bottleneck—the last 20 inches, which is the human ability to absorb and process information. It's one thing to give the individual in the home 200 simultaneous channels. But obviously the ability to absorb is limited.

That means the main solution would be to change the way in which information gets presented, the way your program gets presented, and also the way in which the programs get selected by the viewer.

When it comes to changing the way

information gets presented, people's attention span is shortening. Part of the coping strategies for the inundation by all kinds of programs means programs become more attractive when you can tune in and out relatively easily, where you can browse. Programs which are simply shorter and faster paced. And I think that is likely to continue and may change how media productions are done.

So programmers bump into a ceiling inside the viewer?

Today we still have that model of the two-hour movie, and maybe two hours is too much in the future. So you cram more and more into the time that you have. There might be an increasing common vocabulary of images and symbols, so you don't have to show images at length. People do remember when you say, "Where's the beef," for example.

The triumph of the sound bite.

The sound bite is exactly the point. It's a consequence of more and more people competing for less and less time. You have to edit out your message, whether it be advertiser, political figure or programmer. ■

THE BENNY HILL SHOW

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THE AUDIENCE: MOVEABLE FEAST FOR A MOBILE WORLD

London Business School professor, author, consultant and futurist Charles Handy has specialized in studying organizational structures and the people they affect. In his 1990 book "The Age of Unreason," he predicts widespread adoption by business and government of the sham-rock organization—the three leaves representing a small core of essential staff, an array of subcontractors and a large pool of self-employed "tele-commuters," or "portfolio people."

In this interview with BROADCASTING—in addition to forecasting the end of giant media companies that attempt to do it all—Handy foresees some fundamental changes in consumer lifestyles, forged by a burgeoning demand for increasingly specified public information services and a widening gap between the technology and education have's and have-not's.

What will the groups of workers you identify in your latest book—fewer core organizational staff, more independent subcontractors and more independent telecommuting workers—demand in the way of entertainment and information services? How will it differ from now?

Something like half of the working population will be inside of the organization running things, but the other half will be outside. It seems to me very clear the outsiders are going to rely on the media for a lot more information about the world around them than they have needed to do in the past.

The insiders will continue to have information fed to them, filtered through the organization—summaries of events in the outside world, clippings from magazines, briefing conferences, seminars. That will continue to go on for the people inside the organization.

But of course, it probably won't get very regularly to the people outside, who will be much more independent. And so they are going to have to rely increasingly on the public media, I would think. Many of them will probably subscribe to private networks which will give them, again, filtered information events relevant to their interests.

Then there is going to be a large section of people in what I call the "third age." I think there are going

to be three stages in life. The first stage of education, which will go on until your mid-twenties because there will be more and more qualifications needed. And then the second stage of really hard work, mostly inside the organization, but some professionals or craftspeople or semi-professionals outside. But that will end increasingly in one's late forties or early fifties.

And then there will be this third age—a chunk of life, something between 20 and 30 years, which is after full-time parenting and after full-time work inside the organization. They will have a mix of leisure and differ-

going to change the marketplace quite a lot I think.

I also hear you suggesting that media services will be more and more informational.

I think so, because all the evidence is that people will need more and more information to do their work. And I'm projecting that everybody will need to continue to do some work. Perhaps only one or two days a week.

And an awful lot of that work is going to be information of some sort or another. I mean, the most likely growth sectors of your economy and our economies are in business and

"We will all be subscribing in one way or another to specialist things...in health and education...brokers.... And it won't be in newspapers, but over the wire and air."

ent kinds of work, but they'll have a lot more discretionary time. They will watch television, read books and newspapers and listen to the radio.

Will these third-agers have particular characteristics?

They are going to be very much better educated than their predecessors were. Of the people over 55 in Europe, 85% of them left school at 15 or 16, and have not really had any serious education since then.

That changes dramatically when you're looking at the generations now in their 20's and 30's and the early parts of their 40's. These people—in America about 50% of them—have gone to some kind of college. And increasingly in European countries, it'll be 80% with higher education. The quality will be mixed, of course, and we all know there are serious worries about education in America and here in England, too.

Will they have disposable income?

Yes. People at that stage in life will, in my view, not be buying things any more. They will have most of the things they want. They will be buying time in one way or another. Time to travel, time to study, time to indulge in other kinds of interests, including the media of various sorts. And that's

professional services, in health and in education. We will all be subscribing in one way or another to specialist things. Academics subscribe to magazines and journals in their field; brokers subscribe to various kinds of wire services and so on. It seems to me everybody is going to have to do that. And it won't be in newspapers, but over the wire and air.

The much heralded merger of the television and computer appears to fit in well with the demands you see coming.

Absolutely. It will get more interactive in the sense that you will be questioning the sources of your information either by telephone or by keying things in on the television set into a modem or something like that.

It all sounds fairly high tech at the moment, but in 20 years time we will be using modems going down the wire just as other people are using telephones now. And we'll all be carrying everywhere things not much bigger than a pocket calculator, and that will be a telephone. In the future, every time you call somebody, you will call a person, not a place. That's going to have a very dramatic influence; it will mean that people can be very much more mobile in their work.

Your book addresses the "telecommuter" using media to merge home and

THE FUTURISTS



Elizabeth Hardy

Charles Handy sees the future workforce 'telecommuting'

work. Do you see an increasingly fragmented culture?

I think the good news in a way is that the physical community, the place where we live, will become increasingly important. I mean, it has just been a dormitory, a place where one went to sleep, and we went a long way to work quite often, and a long way for leisure.

I think increasingly, these things will come together as they used to be. The farmer and the professionals and the local stores grouped around the church and the little towns, and work and pleasure marrying together.

The bad news I suspect is that those communities may become increasingly specialized, and the different income brackets will live in little ghettos, as it were. You're going to have rather rich and pricey little communities where all the IBM types live and work and play, and then you're going to have rather more squalid communities where the people who wait in the restaurants and so on live and play, and sometimes work, and they may well be commuting in to the richer areas.

So there is some danger that a large underclass will get larger and larger?

I see that as almost certain to happen. And the only way of avoiding it is to pump education into people to develop any skills that people have so that they can escape from the underclass trap. That's why education becomes incredibly important, particularly I

think actually the first seven or eight years of it, when we've got to build into people self-confidence and a capacity for learning. Leaving it until you're 18 or 20 is really too late.

What are the ramifications for media providers?

Well, there will be two markets. There will be the rather rich market which I think will be largely independent people and well-educated people. I think they are going to need quite up market services and entertainment and so on, and then there is going to be a lot of low stuff. But people will not on the whole be able to pay very much for it. The underclass will be hungry for entertainment, but there won't be an awful lot of money in it.

What you're saying seems to make a pay-per-view world unlikely. It will be too expensive for most.

It will be pay per view for the privileged, professional classes and the portfolio livers, who are doing quite well and will want to be much more selective in their viewing. They will have the money to pay for it. It will be quite selective, I suspect.

Whereas the mass market will be increasingly low brow. They won't have an awful lot of money; they won't all necessarily own a television set. They certainly won't be able to afford pay television or cable television of any selective sort.

Will TV and radio distributors and programmers need to become "shamrocks"?

Well, they need to section themselves in the shamrock; that's for sure, because it gets incredibly expensive to employ all the people you might conceivably need all the time.

The very interesting question is: who are the people who will be in the core? Who are the vital people that you want to hold to yourself? Now I suspect they are not going to be the providers of the material, because I think those are going to be very plentiful and you can bring them in from the outside as and when you will.

I think these organizations are going to become highly technological and not the kinds of creative, exciting places that they have been or were thought to be in the fantasies of those who want to get into them.

The creative bits will be small partnerships and small groups, indepen-

dents selling into them. But the larger broadcasting organizations will be very technological and very managerial.

Leaving room for program diversity?

I think you're going to get an awful lot of diversity. For enormous companies, the cost is going to be too high. And they'll never get it right all the time, and they will lose their flexibility.

So what you're actually going to do is quite a lot of small shamrock organizations, which will grow and then die quite quickly. So yes, a lot of diversity I think. And I happen to think that is good news. But it does make for a precarious life for anyone who wants to work for these organizations. The mammoth giants will disappear. The idea that you will join one and they will take your life and shape it for you over the next 45 years just won't happen. ■

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BURNS

Continued from page 65.

I see that as actually a pretty good career path for when I'm about 60 years old, the way colorizing movies is happening now. We'll be giving old movies depth for this home delivery mechanism, so that somebody can experience the full surround of "Ben Hur" with a very simple box. That's at the kind of basic level of user-pay

type of things.

But the hackers—or the computer modem bulletin board habitues—will have a slightly more complex computer; what we dream of today as being the multimedia PC. Apple has always been of the opinion that the computer that is capable of playing back these multimedia pieces, whatever they may be, is the same computer that should be able to produce them.

IBM is very much the other way;

IBM figures the producers will always have more sophisticated hardware; all we want to deliver is a simple, low-cost thing for people to play them back.

I think both of those options will exist. The simple, easy to use one for mom and dad, the hacker son downloading a bit of video from a bulletin board in Berlin, going out there and shooting his own stuff around his home, making hypertextual links between it to come up with some kind of art piece (and here again I betray my bias) and then uploading it for somebody else to watch or experience or download, screw around with and upload again.

And you can see because of this sampling and resampling and republishing thing, the copyright laws are just going to explode. Whenever you have a two-way transmission medium, the copyright is just going to die.

So you really see, in a sense, everybody in the audience becoming a programmer?

Having the potential to become a programmer. Not everybody will be. If there are skilled program producers out there, then at age 75, or whatever we're talking about, I'll be quite content to watch somebody who skillfully goes through "Ben Hur" and gives it depth so that I can position a synthetic camera inside that depth anywhere I want. I'll play around while watching the movie, moving my little joy stick. That'll be kind of recreational.

But for people who really want to get into it, I foresee that they will have the ability to make the "Tom Channel" 24 hours a day. Of course, nobody is going to pay them for their images unless they're good.

The real problem in terms of culturally assimilating all of this huge explosion of information and bandwidth: how do you get rid of the dreck? But there are a few solutions. You could have pseudo artificial intelligence agents acting as a "smart" *TV Guide*. If you could invent that, you could make a fortune.

A thought for our readers.

Just a way to customize your viewing habits and let it sort through the huge amount of stuff that's out there on the airwaves, download whatever you want, and then watch it when you want. ■

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Best wishes to Broadcasting Magazine on its 60th Anniversary.

THE FIFTH ESTATE'S FOURTH ESTATE

From 1931 until last week, 596 individuals have given BROADCASTING its motive force—in the editorial ranks, in advertising, production, circulation, administration and all the other disciplines that go to creating a weekly magazine. Their names are listed

below; their accomplishments are beyond measure, but they animate the 2,868 issues BROADCASTING has published since Vol. 1, No. 1. Those names are brought together for the first time in this anniversary issue, in celebration and in remembrance.

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