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TELEVISION PRODUCTION

The Creative Techniques and Language of TV today

By

Harry Wayne McMahan

HASTINGS HOUSE, PUBLISHERS, NEW YORK

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—To Carol, Steve and Kip,* born of Television's

first decade. May the very young on *both* sides

of the viewing screen grow up with mutual respect . . .

*
(with staunch friend and avid Rin-Tin-Tin fan, "Patches" McMahan)

Acknowledgements

More than 300 authorities throughout the television industry have given aid and counsel on this book. Indeed, two "pilot" editions were made in mimeographed form (the first in 1955, the second in 1956) so that these people might review the text and suggest improvements—incorporated in this final version.

In the preparation of the three manuscripts, my good right arm has been James Manilla, whose own *Film Handbook and Glossary* is a text at McCann-Erickson, Inc.

S. Rollins Guild is due special credit, not only for his contributions to the chapters on "Art" and "Live Production," but for his preparation of the illustrations and special charts used throughout the book. A credit list for the many photographs is given on page 16.

Chester H. Glassley was my third invaluable assistant, giving freely of his time in re-checking technical data on all phases of "Film Production," "Editing" and "Special Effects." Chet has done much to make this a practical working tool for the craftsmen of the industry.

In addition to the work of Jim and Rollie and Chet, there were many other valuable contributions. Charles W. Curran, author of *The Handbook of TV and Film Technique,* handled the perspective revision between the first and second versions.

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And many, many more.

Secretarily, thanks go to Bernice McQuown, Betsy Buffington and Marion Lennox who nurse-maided the long, tedious preparation of the three successive manuscripts.

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To all of these, and many more who gave encouragement, a Websterian bow for the television industry. You put the words in my mouth.

Harry Wayne McMahan

September 2, 1957

Foreword

By Marion Harper, Jr.

The best way to be an expert in television is always to be a student. This is the function and the need for this comprehensive handbook of Harry McMahan.

For television has grown with almost its own speed of light; and persistence in adding to present knowledge of the medium may be quite as fine a credential as seasoned experience.

In just ten years television has built a hall that holds some 40 million families. It has assembled audiences that number more than 100 million for a single show. It stages a performance that goes on from early morning till late at night—with more hours of entertainment in a week than all Hollywood produces in a year.

Because people give television so much of their time (over five hours in the average home each day) advertisers give it their sponsorship (with an investment of more than a billion dollars each year).

Here—as the country can see from coast to coast—is a theater with ample room, on stage and backstage, for all the glittering and workaday talents, skills, and props of show business.

For television is history's most versatile theater. The movies freed the stage from the limits of the proscenium; but along with free-ranging movement, television has added all the impact of immediacy—bringing events in progress to viewers who are also eye-witnesses.

This very flexibility has called for the broadest range of production skills.

Viewers have watched the exciting progress of techniques that have added electronic magic to the fades, dissolves, split screens, and rear projection of the movies. They have seen nimble camera work catch a sacrifice bunt, a surgeon's beads of perspiration, a U.N. delegate's huffy exit—as well as the mooring of a ship on the North River, or, across the country, a Tournament of Roses. They have seen the realities of a political convention and the fantasy of *Peter Pan.*

The medium—and the technicians who bring it to life—have been more than equal to the task. Oscar Hammerstein said of television in doing his musical, *Cinderella,* "Being ignorant of the medium, I wrote

this show on the assumption we could do anything, and nothing has been refused me yet."

This is a remarkable tribute, it seems to me, to the skill and inventiveness of today's craftsmen.

To keep pace with continuing advances, improvement will depend on continuing inventiveness—but also on mastery of all the progress made so far. We can be sure that next year's best produced shows and commercials will be based on the best applications of what we know today. In few fields is "handbook" knowledge more important.

Harry McMahan's career has paralleled the whole development of television. He has concentrated in these pages experience gained as creator of commercials and as a consultant in the television field—along with the exposition skill of a good teacher. The book's clarity will make it valuable for a beginner—just as its thoroughness will make it a basic reference tool for the experienced professional.

Marion Harper, Jr.

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Introduction

One of the working titles of this book was "The Slang, Sweat and Secrets of TV at Work." This fairly well describes the intentions in analyzing the *words* and *working procedures* of a lusty young industry.

Television's first hectic decade created or appropriated more than 2,000 words along with more than 100 highly specialized new jobs, interrelated in a complex pattern.

This book attempts to depict the working relationships in the 16 fundamental operations of television, at the same time defining the pertinent terms. It might be called a *Step-by-Step Dictionary* because it is written to be read as a running text while also serving those who search for the meaning of a random word. The alphabetical Index (at the end of the book) refers to the page on which a **bold-faced** word explains itself amidst other words that amplify and relate its meaning.

Television's "tower of babble," of course, is still beset by some confusion of jargon. As Breal has pointed out, *"In matters of language, the errors of the people gradually become the truth."*

Perhaps some of the colloquialisms herein have no right to be recognized as "truth" as yet—but remember, a dictionary is a kind of history: it does not create, it records.

Certainly few people will read this book from "cover to cover." But from chapter titles and sub-heads, points of interest can be readily determined. Many sections may seem too obvious to experienced personnel in various phases of TV, but there will be other portions where they can find new and valuable information.

This book, then, is intended for such selective pursuit of information.

As to its writing style: there is an obvious attempt to avoid the ponderous and highly technical. Sometimes it oversimplifies or a frivolous note intrudes. Sometimes it is prone to editorialize. Sometimes slang takes brazen license with the scientific term and has the temerity not to apologize.

So be it: for this is a book about a living and changing language . . . the slang, sweat and secrets of TV . . . *at work!*

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TELEVISION PRODUCTION

AUDIO MEETS VIDEO
WORDS TO WORK BY
HOW TELEVISION WORKS
TRANSMISSION METHODS
NETWORKS AND STATIONS
FEDERAL REGULATIONS
OPERATIONAL TERMS
OTHER FORMS OF TELEVISION

1

The Basics of Telecasting

AUDIO MEETS VIDEO

Television, in its derivations from Latin and Greek, means *to see at a distance.*

The word was coined about a half-century ago (1909) but the invention was long past the dream stage even then. In 1875, two years before the phonograph and a decade before the movie projector, a man named George Carey in Boston built a crude device that some consider to be television's earliest forerunner.

Edison, Einstein and a score of other inventors and scientists contributed to the theory that pictures could be converted to electrical impulses and transmitted through the air, but it was to be a full fifty years later before the experimenters were successfully transmitting pictures, at first from movie film. The following year, 1926, the first live television demonstrations were made.

J. L. Baird in Britain and Vladimir Zworykin and Philo Farnsworth in the United States, each working independently, claim credit for the invention. In the U.S., the first experimental broadcast stations were operating regularly in the early 1930s and commercial licensing for paid broadcasting started in 1941.

However, a restriction on the manufacture of receiving sets during World War II held up development of the industry for the next four years,

so the actual start of commercial television in the United States was to begin its first full year in 1946. Public interest spread rapidly, and TV receiving sets were soon selling by the millions. Inter-city programming by connecting telephone lines developed two years later and became feasible from coast-to-coast in 1951.

At the end of the first decade of commercial broadcasting, 40,000,000 receiving sets were reaching 100,000,000 viewers weekly. The average family was watching television five hours a day and America's advertisers were spending $3,000,000 a day on the still-growing medium.

► WORDS TO WORK BY

This was just the first ten years. A new means of communication had been launched. It was a new means of entertainment, a new means of advertising. It was a new industry that required a whole new vocabulary.

More than a hundred new job classifications were created. More than two thousand words were commandeered for new connotations.

The words came from everywhere. Borrowed, like a cup of sugar, from the neighbors: Stage, Radio, Movies, Advertising and the whole new field of Electronics. Created, like a lightning flash, in the heat and excitement of Television's deadline production.

Technical terms had to rub shoulders with the vivid, volatile vernacular of the business so that engineers, artists and craftsmen could work together in a complex operation.

The early inventors had labored for 39 years before anyone found time to name it *television,* but now words could no longer wait.

It all started simply enough:

Audio means *what you hear,* the sound portion of television.

Video means *what you see,* the picture portion of television.

TV is, of course, the popular short form for television. Like many words in a hurry, it typifies the pace of the business.

Telecast, as a noun, refers to any TV program and, as a verb, means the act of transmitting it over the air. *Broadcast* is the parallel word in radio and it can be used in TV where the two media are considered together. For instance, advertisers refer to radio and television as *broadcast media.* (At the same time, they sometimes use a more high-sounding expression, **Electronic Media.**)

The **Electron,** in our atom-powered world, has become popularly understood as the negative electrical charge of the atom. *Electronics,* the science of the electron, has come to mean the many advanced fields of engineering, including television.

► *HOW TELEVISION WORKS*

In telecasting, the electronic beam converts light to electric current as it "reads" or follows along each Line or horizontal unit of the picture. There are 525 such horizontal lines in a full television screen, according to United States standards. It is as though you had sliced a photograph into 525 horizontal strips, then put them back together.

The number of lines selected for telecasting standards in other countries varies. England's standard is 405 lines, France uses 819 lines and Germany 625 lines. North and South America standardize with the United States on 525 lines (excepting Argentina and Venezuela: 625 lines).

Scanning Line is the full term for *line,* since the electron beam *scans* or "reads" each line as you would a page of a book, left to right, line after line, from the top to the bottom of the television picture.

Interlacing or **Interlaced Scanning** refers to the method by which the scanning is done in alternate sets of lines. In other words, suppose you read every other line on a page, then return to the top and read the alternate lines in between. The first set of lines (1, 3, 5, 7, etc.) is scanned in a total of only 1/60th of a second, and then the alternate set (2, 4, 6, 8, etc.) is interlaced to complete the picture in another 1/60th of a second. Total: 1/30th of a second for the full picture.

Each set of lines constitutes a **Field.** The two fields, completing the full picture, comprise a **Frame.**

The sets keep alternating continuously, so there is one completed picture of the action 30 times a second (by comparison, motion picture film presents a completed picture 24 times a second). Every fraction of movement in front of the cameras is caught as the succession of pictures is presented.

In color television, the three primary colors (red, blue, green) must be transmitted, so the first field is red, the next blue, the next green. Then the alternate red, blue and green fields are transmitted to make the first **Color Frame** or completed picture in color. Hence, a total of 6 fields make a *color frame,* as against only 2 fields per frame in black-and-white television.

Sync (pronounced "sink") is short for *sync*hronization and refers to the electrical pulses which interlock the scanning beam of the receiver in rhythm with the live TV camera. But note that *sync* also refers to the relationship of picture and sound in film work, as later chapters discuss. (Check the alphabetical index at the end of the book for such cross references.)

Signal is the engineer's term for any material or so-called Information transmitted electronically—either picture or sound.

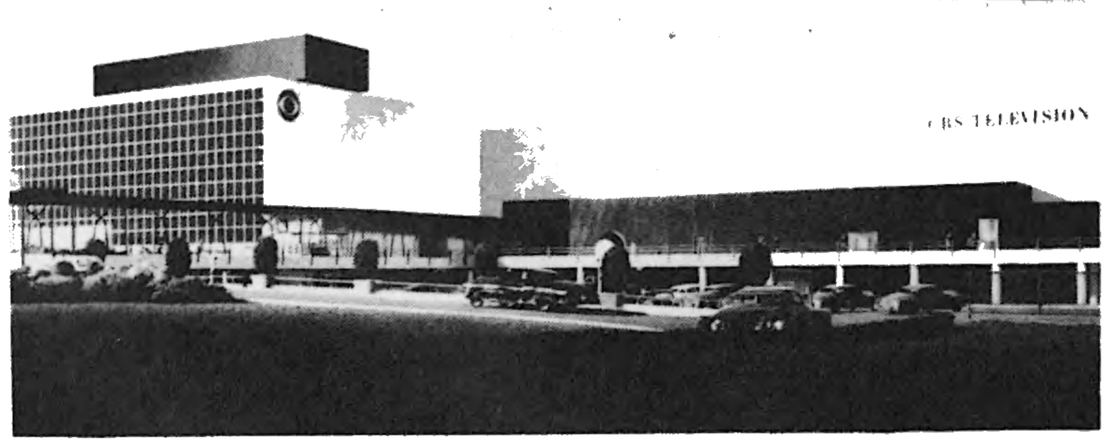
Image is another word for *picture*, the photographic likeness of the scene as transmitted by the camera lens, whether in live TV or film TV.

► TRANSMISSION METHODS

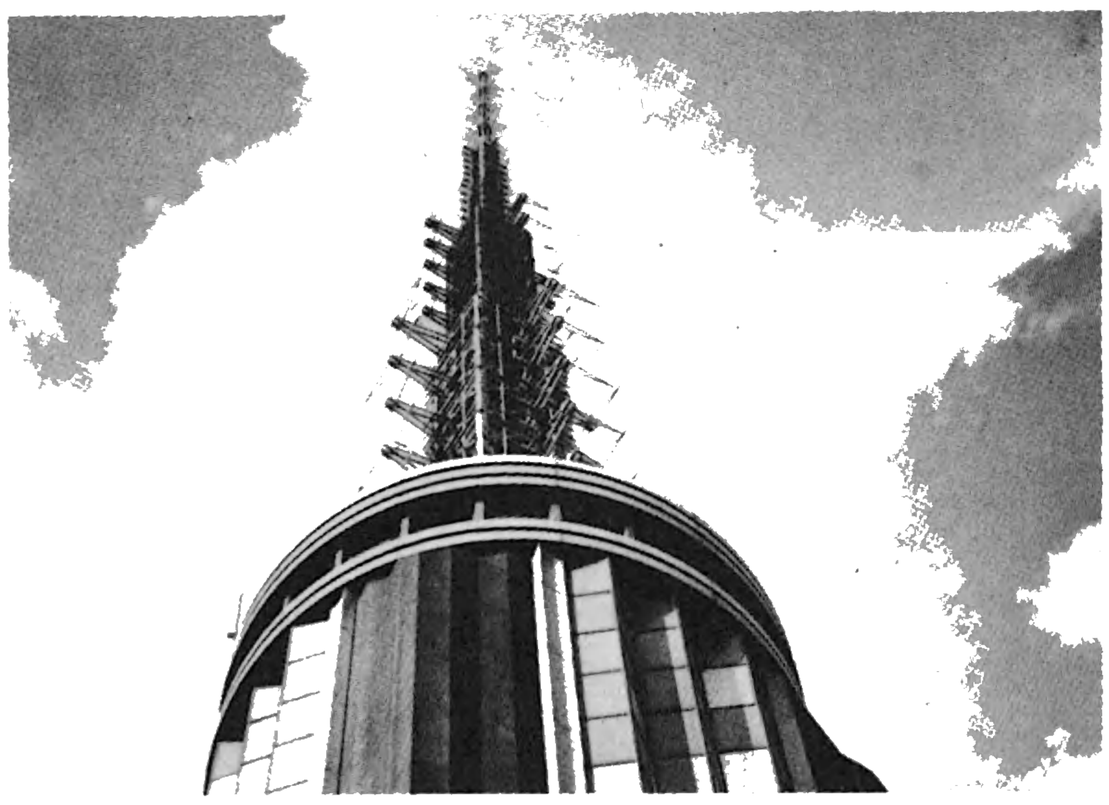
Transmitter refers to the station's physical facility for sending the signal out on the air, for receivers in that area to tune in.

Television signals normally cannot be tuned in beyond the horizon or line-of-sight area as seen from the top of the transmitter tower (about 30 to 50 miles is normal). An intervening mountain or building will stop or distort the signal on the receiver.

Transmitter towers, therefore, are located in the highest possible positions. New York stations transmit from the highest building (Empire State) and Los Angeles stations use the highest mountain (Mount Wilson) for this reason.



CBS *Television* City, Hollywood



Transmitter Tower (Empire State Building)

Cable or **Wire Pairs** are terms for the electric wire carrier which conducts signals between the studio and transmitter, between interconnected network stations (these are generally supplied by the telephone company) or between the live camera and the control room.

Line, mentioned earlier, also is a word for *connecting wire.* Slang terms are **Telco** and **A.T.&T.** (from American Telephone & Telegraph, the supplying telephone company).

Coaxial Cable, sometimes nicknamed **Coax** (pronounced "co-axe"), is the special telephone line containing a number of smaller cables around a *co*mmon *ax*is. This is capable of carrying many signals simultaneously without distortion or alteration in picture and sound. The telephone company can carry 600 two-way telephone conversations on one pair of lines within a coax. For television, the one pair of lines can carry only *one* two-way transmission.

Microwave, another method of transmission between studio and transmitter or between network stations, sends the signals through the air rather than by wire. Relay towers spaced at strategic lines-of-sight points pick up and re-transmit signals, covering the intervening distance.

On the Cable and **On the Net** are slang expressions used to refer to either a station or a program carried *on the network.*

On the System, however, refers to the transmission of a signal to be seen only within the studios, as in the case of a rehearsal or audition, or to check filmed programs for quality before they are transmitted at a later time on the air.

Closed Circuit is the term for any broadcast between two or more points for paid or private viewing: not released over the air for free public reception.

Stations transmit either from live production or from previously produced film. It is also possible to make a film recording of a live production for later transmission or private screening. The name for this is **Kinescope Recording,** generally shortened to **Kinescope** and nicknamed **Kine** (pronounced "kinny" and used as both noun and verb). The kine is made by using a motion picture camera to photograph the transmitted broadcast as received on a television picture tube, called a **Kinescope Tube,** hence the derivation.

TVR, short for *tele*vision *r*ecording, is the official name for kinescope film at CBS-TV. Lesser used names in the industry include **Kinerecording, Telefilm, Teletranscriptions, Air Check** (borrowed from radio) and **Tele-Recording,** the British equivalent.

Kines are especially useful in solving the time zone problem, since California time is 3 hours earlier than New York time. For instance, a 7 p.m. telecast in New York would be on the air in Los Angeles at 4 p.m.

But this is too early to reach the audience desired, so California makes a kine off the network line during the 4 p.m. telecast, and this kine is held for transmission in the Pacific Time Zone at, say, 9 p.m.

Should this kine be rushed through developing and then telecast from the negative (without waiting for a positive print) it is called a Hot Kine. The negative image appears as a positive picture on TV when the engineers *reverse*, by electronic magic, the blacks and whites. Quick Kine is another term for hot kine and this is often shortened to Q.K.

The use of this kine at 9 p.m. may be called a Repeat, the term for any rebroadcast. Sometimes it is called a Delayed Broadcast, or D.B. In programming on a network, it is possible that certain stations cannot clear a desired time because of prior commitments or lack of interconnecting facilities. Such a station would use a D.B., possibly a week or a month later, when the kine is available. Note that D.B. is not to be confused with *db*, the sound engineer's symbol for *decibel*, a measurement of sound.

Video Tape Recording, which initials down to VTR, is the industry's newly-developed method of recording pictures as well as sound on magnetic tape or so-called electronic tape. This method of making a kine fully replaces motion picture film and has the great advantage of being immediately available for rebroadcast, without the delay of processing required by film. It also has superior quality to a kine.

► NETWORKS AND STATIONS

Television as we know it today would have made slow progress without network competition. This competition forced greater engineering development, created national coverage faster, brought color television to the public, encouraged better writing and programming and finally convinced top talent from Broadway and Hollywood to join the new medium. Without this constructive rivalry between the networks, television might have taken thirty years to do what it did in ten.

Network, as it does in radio, refers to two or more stations interconnected (by cable or microwave, for instance) to handle the same broadcast. Network also refers to the company that organizes and performs this function. A network at the same time creates programs, develops engineering advances and handles sales of programs and time periods to advertisers and their agencies.

Net, Web, Chain and Hookup are slang words for *network*.

A network may be national or regional in its coverage area. Split Network indicates a partial group of stations (for instance, those selected by an advertiser to cover an irregular market area).

Basic Network refers to the minimum number of stations an adver-

tiser can buy. Beyond these key-city stations, he may select other stations to fit his budget or market requirements.

Leg indicates an outer portion of a network, covered by a single extending cable or line. Thus, interconnected stations in Florida might be called the "Southeastern leg" of a network. The term **Loop** is sometimes used to refer to an outer, circular portion of a network but because of other confusing connotations of this word, it might be well to avoid it.

The major national networks in television are:

NBC Television, a division of National Broadcasting Company which in turn is a subsidiary of RCA, the Radio Corporation of America;

CBS Television, a division of Columbia Broadcasting System; and

ABC Television, a division of American Broadcasting Company, affiliated with Paramount Theaters.

Outlet is one term for a network station, as in saying: WFAA-TV is the Dallas outlet for ABC-TV.

Affiliate indicates a station which uses the programming of a particular network. It is possible where only one station exists in a city for it to be both an NBC-affiliate and a CBS-affiliate, using programs from more than one network.

Independent Station indicates no network affiliation. It therefore must create its own programs or buy independent film programs.

Satellite is a popular term for a station which does not originate programs but only re-transmits the signals of another station some distance away. In mountainous country or anywhere TV reception is difficult, the satellite extends the coverage of a station. Another name for this is **Translator Station.**

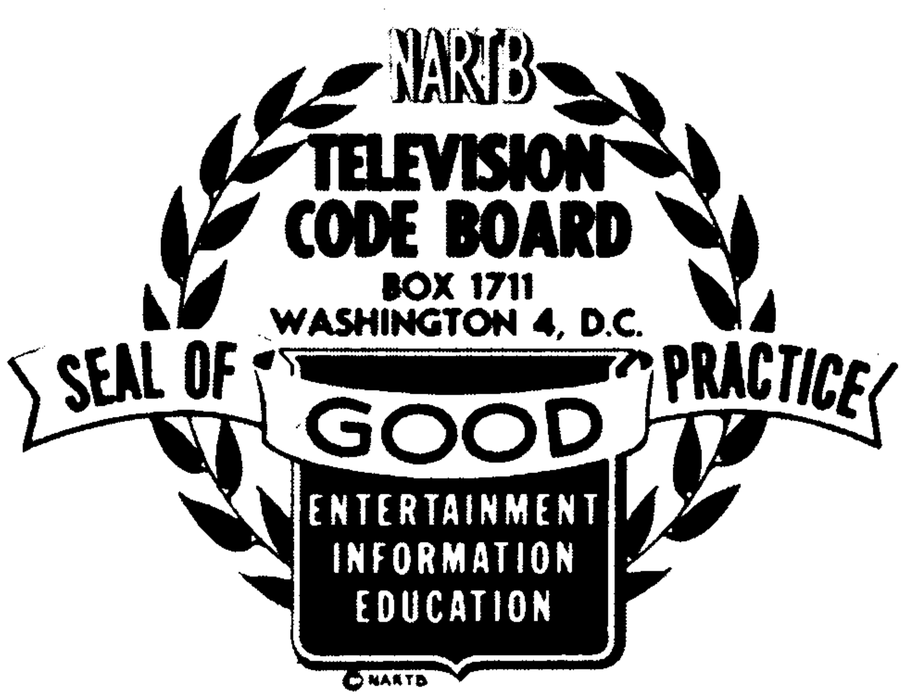
O & O indicates a station is *o*wned and *o*perated by a network. **C-O** for *c*ompany (network) *o*wned and **M & O** for *m*anaged and *o*wned occasionally are used. Federal restrictions limit a network's ownership to seven TV stations.

► FEDERAL REGULATIONS

The **FCC** or **Federal Communications Commission** is the governmental authority responsible for licensing and regulating television (and radio) stations "in the public interest."

Each station is supposed to provide its community with a balanced schedule of commercial and non-commercial shows, covering the fields of entertainment, news, education, religion and public service. Television stations are licensed for one year (radio stations for three) and the FCC may refuse to renew the station license if its performance has been unsatisfactory.

No exact balance of programming is specified by the FCC but the industry has performed its own task of self-regulation by determining ideals that meet the broad concept of FCC jurisdiction. The **NARTB Code,** adopted in 1953 by the National Association of Radio and Television Broadcasters, sets standards of good practice and good taste for programs and commercial content. This code, reprinted in part at the end of this book in Appendix "A," is subscribed to by the majority of the approximately 500 television stations in the United States.



NARTB Seal

Other federal authorities which affect television advertising include the **FTC** or **Federal Trade Commission** which has a special committee to study untruthful or conflicting claims and copy in all advertising media; the **FDA** or **Food and Drug Administration** which is concerned with the labelling and instructions on all foods, drugs, and cosmetics; and **Alcohol and Tobacco Tax Division** which, among other things, is the arbiter of beer advertising.

Channel refers to that portion of the waveband spectrum (the allocated range for broadcasting sound and picture) assigned to each TV station for transmitting its signals. Each different channel is on a specific frequency (the measurement of vibration cycles per second in the broadcasting signal) and TV engineers must keep the station on that frequency to avoid interference with other assigned channels.

Until 1952, all U.S. television stations were on **VHF** or *V*ery *H*igh Frequency channels, numbered 2 through 13. Since then **UHF** or *U*ltra *H*igh Frequency channels, numbered 14 through 83, also have been allocated by the FCC. Due to the fact that older TV receiving sets could not receive UHF stations without a special tuning adapter, the limited audi-

ence forced more than half of the UHF stations to cease operation during the first three years on the air. Most modern TV sets now receive both VHF and UHF stations.

FM or **Frequency Modulation** is the method of transmitting sound signals in television (and one form of radio), as distinguished from **AM** or **Amplitude Modulation**, which is the sound transmission method of standard broadcast radio.

Call Letters refer to the group of alphabetic letters which identify each station. The call letters are assigned to the stations by the FCC, working under international agreements. As a general rule, call letters begin with the letter "W" in the Eastern United States and "**K**" West of the Mississippi; "C" in Canada, "X" in Mexico. This applies to both radio and TV stations. Example: WOR (radio) and WOR-TV, New York; KTTV, Los Angeles.

Station **Identification** is the term for the practice of a station to announce its call letters, by audio and/or video, periodically during its operation. This is required by the FCC and is normally done at thirty- or fifteen-minute intervals, according to programming. It must be done at least once each hour.

Log refers to the minute-by-minute record kept by networks and stations of their schedules of both commercials and program content exactly *as broadcast*. This, along with copies of scripts and program materials, must be made available to the FCC.

► OPERATIONAL *TERMS*

"As Broadcast" is the final version of a script including any changes made on the air. Copies of scripts so marked are kept on file by networks, stations, advertising agencies and advertisers.

Sign On is the video-audio announcement required at the beginning of the broadcast day. **Sign Off** is the corresponding announcement at the end of the broadcast day.

Network Time, sometimes called **Option Time** or **Network Option Time,** refers to the specified time period on an affiliated station where the network has first choice to sell and set the program. For instance, 10 a.m. to 1 p.m., 2 p.m. to 5 p.m., and 7:30 p.m. to 10:30 p.m. are established as *network time* by one network (although this varies according to network and time zones, in other instances). If the network fails to sell this time, the station has the right to schedule its own locally-originated show. In special cases a station can pre-empt periods in network option time for a program of special local or public interest to its viewers.

Pre-Emption refers to the practice of a network or station in taking over a previously scheduled time period for a special program "in the public interest, convenience or necessity." This pre-emption also is called **Re**capture and the advertiser who loses the scheduled time period is due a financial adjustment or **Re**bate for loss of time and talent. Such a credit or refund also is due the advertiser when a program or commercial is not telecast because of equipment failure or other reasons. Or an adjustment can be made, called a **Makegood,** by giving the advertiser an equal showing at a later time to *make good* for the lost program or commercial telecast.

Station **Break** or **Chain Break** are station terms for the station identification announcement. Also called **ID** (or *I.D.*, which indicates the pronunciation). Hence, *station break commercials* and *ID commercials,* to be discussed in later chapters.

Local is used as a noun by the networks to refer to these individual station announcements which are interjected at the breaks in network programming. *Local* also is used as an adjective to refer to program time periods not available to the networks, but restricted for the local station's own programming.

Middle Break refers to the station identification which is given (at a mid-point or approximately every half-hour) during any network program which runs longer than thirty minutes.

Cut-In refers to a local station's commercial inserted in a network broadcast (for instance, for a national advertiser's program, a list of local stores handling the product may be cut-in). But note that *cut-in* also means a type of scene inserted in TV production.

Origination is the term for *original broadcasting point.* A network program may originate in Chicago or Miami or any other city (although most live TV programs come from New York and Hollywood).

Pipe and **Feed** are slang terms for *transmit.* So: The program was *piped in* from Chicago or *fed* from Miami.

Loop, mentioned earlier as jargon for a portion of a network, can also mean to an engineer the cable or telephone line linking two points.

OTHER FORMS OF *TELEVISION*

The potential uses of television embrace many fields beyond the obvious public telecasting form. It is used in private industry to perform many unusual functions. Banks use it to identify clients and signatures from remote points. Laboratories use it to study hazardous processes in radioactivity and high temperature experiments at a safe distance. The Armed Forces use television principles in guided missile projects.

Business also uses TV for **Closed Circuit Conference**, wherein executives and salesmen, or company and stockholders or other groups may hold national meetings or conventions, with an identical telecast reaching many remote points by cable or microwave. Yet the telecast is not transmitted by regular TV stations, so is unavailable to the general public on home receiving sets.

Theater-TV is a form of closed circuit, delivering special programs to motion picture theaters in inter-city broadcasts. Football games, prize fights and grand opera, for instance, have used this method successfully, with paid audiences. This is also called **Box-Office TV.**

Hotel-TV is a similar form, with hotels serving the function of theaters.

Toll-TV is a paid form of television for home receivers. With no commercial sponsorship to pay the program costs, the viewer pays individually to receive the program, as he would pay to attend a movie or a sports event. Stations telecasting Toll-TV programs prevent unpaid reception by using an extra electronic signal to distort picture, and, in some cases, also the sound. Hence the nickname **Pig-Squeal TV.** To "unscramble" the sound and picture, the viewer must *buy* the program by such means as dropping a coin or inserting a special card in a box attached to his television set.

Other terms for this paid type of television are: **Subscription-TV, Fee-TV, Pay-TV** or **Pay-As-You-See Television.**

Phonevision is Zenith Radio Corporation's trade name for this plan. **Telemeter** is Paramount Pictures Corporation's plan, through their subsidiary, International Telemeter. **Subscriber-Vision** is Skiatron Electronics & Television Corporation's plan.

Receiving set methods of presenting the picture to the viewer include two special types, in addition to the familiar method of the picture-on-the-tube:

Projection TV refers to the method whereby the picture is viewed on a large screen at a theater (or at home). This utilizes a special mirror, such as the Schmidt lens-and-mirror system, to enlarge and project the picture from the receiving tube.

Mural TV, a new principle now in development, utilizes a large electro-luminescent sheet (somewhat similar in appearance to a movie screen). This revolutionary new receiver can be hung on the wall—like a mural—and holds great promise in television's future.

TWO PRODUCTION CATEGORIES
ADVERTISING TYPES OF PROGRAMS
PROGRAMS BY CONTENT, FORMAT
MUSIC AND DRAMA TYPES
PROGRAM "CREDITS"
PROGRAM SCHEDULING TERMS

2

Programming

TWO PRODUCTION CATEGORIES

Programs are the life blood of television and the industry forever fears anemia. Transfusions, from every field of entertainment must constantly be made.

A TV station, telecasting 16 hours a day, uses up 5,824 hours of programming a year. By type of production, there are two categories:

Live TV is the term used to describe program material which is seen by the viewers at the very instant it is happening.

Film TV is the term used to describe program material which has been previously recorded on motion picture film.

There are distinct advantages in each of the two types of production:

Live TV can claim these points:

- Generally less costly for one-time production.
- Can be produced in less time, from script to screen.
- More flexible to changes in wording at the last minute.
- Talent and production crew find it exciting in its *unpredictability* and often work more closely as a team.
- The viewer sees it *as it happens*. He is an "eye-witness" as it were.

Film TV, on the other hand, can claim these points:

- Generally less costly for repeat telecasting.

- Can be reviewed before broadcast to eliminate errors.
- Has better lighting, more careful choice of camera angles.
- More flexible in production schedule to suit the availability of talent.
- Has broader opportunity for locales, hence can achieve greater realism especially on exterior scenes.
- More flexible in programming to meet the needs of individual stations and for repeat use.

Other advantages have been credited to both Live TV and Film TV, but this early debate between two opposing camps has fairly well resolved itself. Networks, at first believing Live TV was their primary opportunity for existence, today program more than half their prime time with Film TV. Meanwhile, Hollywood—long the staunch defender of film as the answer to every problem—now originates a high share of network Live TV. Top talent works in both with almost equal facility.

Many programs combine the two techniques. Live TV programs often rely on film portions to extend their scope. Film TV programs may have live commercials. Live TV programs may have film commercials.

The *kine* film recording of Live TV program material, as described in the previous chapter, has improved in quality through the years to solve most of the problems of repeat telecasting.

Video Tape Recording, the new method of recording a live program, in both picture and sound, on magnetic tape offers a combination of many of the advantages of both Live TV and Film TV.

ADVERTISING TYPES OF PROGRAMS

But whether TV is live or film, *program* may be too commonplace a word for you to use, depending on your point of view. Telecast is the engineer's word for it. Show is more glamorous, from talent's standpoint. And Package may be the program owner's term especially indicating that the talent and the program idea and the production supervision are included as one selling item.

As in radio, the term **Sponsored Program** indicates that the cost of the program and the broadcast time are paid for by the advertiser. The opposite is a **Sustaining Program** which indicates it is sustained or paid for by the network or station, often with the hope it will prove worthy of sufficient public attention to merit sponsorship later.

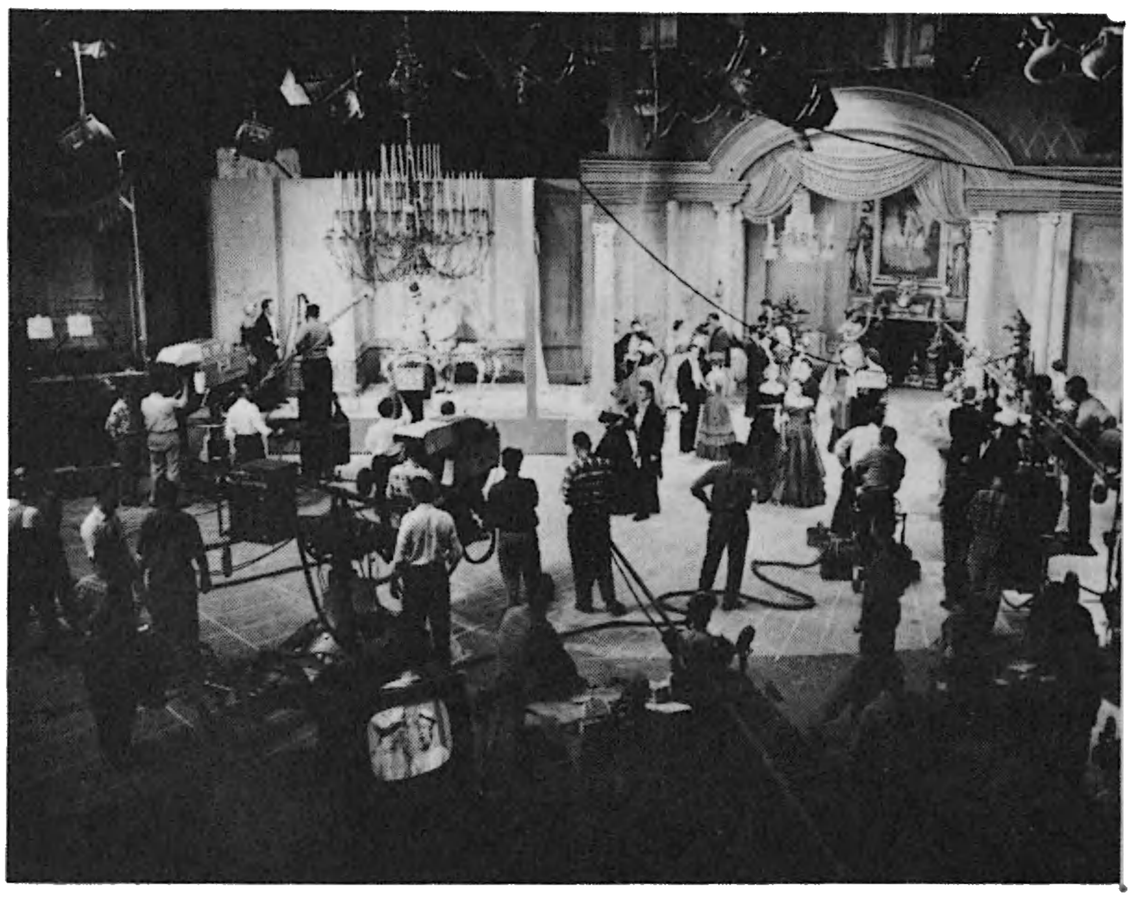
Co-Sponsorship or **Shared Sponsorship** indicates two or more advertisers buy the same program and mutually take part in each telecast. **Split Sponsorship** is a CBS term for such equal sharing.

Alternate Sponsorship indicates two sponsors rotate on successive

telecasts of a program. Normally, this gives one advertiser major concentration on the first program (the other taking minor mention at the end of the show). Subsequent telecasts reverse their major and minor positions in turn.

Multiple Sponsorship, as might be suspected, indicates three or more sponsors on a single program.

Only about one sponsor in four, on national networks, has *exclusive* sponsorship (that is, *not* one of the above forms).



Live TV Goes "Spectacular"

Magazine Concept refers to the principle of buying television advertising, much as magazine advertising is bought, without regard to specific position. On successive shows, the multiple advertisers within the program then are generally rotated to varying positions. Sometimes the term Participating Sponsorship is used to indicate multiple sponsorship, but note that *participation program* means a show in which the audience itself participates or takes part.

Co-op Program is used by CBS to indicate a broadcast originated by the network, with the advertising sold and cut-in by the local stations. Here again are confusing connotations, because some advertisers use this same term to indicate an advertising plan partly paid for by the manufacturer and partly by the local dealer. A better term for this latter is Manufacturer-Dealer plan or program.

Open-End Program is a description of film (and radio) shows which have openings or "breaks" into which commercials can be inserted for any of several sponsors.

Syndicated Programs are shows, generally on film, made available to a variety of sponsors. A bread company may use the program in

Louisville, a dairy in Salt Lake City. The syndication of new and re-run programs is now a major factor in the operation of the local TV station.

PROGRAMS BY CONTENT, FORMAT

By content, programs may be classified under the headings of news (including sports), education, religion, public service and a broad category of entertainment.



Audience Participation (Steve Allen)

Quiz Show ($64,000 Question)

By Format or physical structure, programs may be classified in literally dozens of variations of basic forms of music, drama, speech, audience participation and special events.

Audience Participation is the industry's term for any show in which persons from the studio audience become the performers on camera. In this classification are such labeled types as the **Stunt Show** or **Contest Show**, which has the performers from the audience competing in ludicrous exhibitions; the **Vox Pop** (from *vox populi*, Latin for "voice of the people") and the **Man-on-the-Street**, where the interviewed audience members speak out about themselves or their opinions.

Special Event is the common term for any timely broadcast of unusual news interest: an inauguration, a parade, a disaster reported on the spot, etc. Most networks and stations have a *special events department* to handle such programs which interrupt and replace the regular schedules. These events sometimes are termed simply **Specials**, although this word also creeps over and finds itself applied to entertainment programs staged on a *one-time*, rather than a weekly basis.

Any one-time broadcast, whether keyed to news or entertainment,

may be referred to as a **One-Shot.** NBC used the word **Spectacular** to apply to its one-shot entertainment programs, 90 minutes in color, and now this word (as a noun) is generally used throughout the business to refer to any type of entertainment *special,* an hour or longer, not necessarily in color.

Telethon was coined (from *tele*vision and mara*thon*) to describe a long, continuous broadcast which might run 12 hours or more, using a variety of guest talent to solicit contributions for charity.

Public Service Broadcasts describe those programs presented without commercial sponsorship for public information or for the public good. Civic programs, civilian defense, Red Cross and Community Chest drives are typical subject matter. **Public Service Announcements** are short messages for the same purpose. **Service Features** is a term sometimes used in this area, but it has a conflicting connotation in advertising where it refers to "how to use" a product.

Anthology, in television, refers to a series of dramatic shows presenting a different cast and different story each week. Such a series has an overall title (i.e., "The Loretta Young Show") and a continuing host or master of ceremonies. The anthology is in contrast to a series which has the same stars playing the same roles, week after week, in related stories (i.e., "Wyatt Earp" or "The Danny Thomas Show").

Soap-Opera or **Soaper** is jargon from radio for the daytime stories especially designed for a feminine audience. Soap companies, it seems, are the traditional sponsors.

Cliff-Hanger is trade talk, from movie days, for an adventure serial which ends each episode on a point of suspense (the heroine is "hanging on a cliff")! This ending action itself also is called a *cliff-hanger.*

Quiz Show, in case anyone is still inquiring at this late date, is the popular term for all question-and-answer type shows where prizes are awarded (although minor gifts may be a part of other audience participation shows.) **Giveaway Show** is jargon for any program that awards money or prizes to contestants or audience.

Obviously many of these definitions overlap. Hence, a single program could be so constructed that it might be labelled a *quiz show,* a *stunt show,* a *giveaway show* and an *audience participation show,* all in one.

Panel Show indicates a program built around a moderator or central figure who is surrounded by a group of celebrities, "experts" or special guests. **Forum** or **Discussion Show** are terms for panel shows which are concerned with topics of public interest.

Interview Show indicates a program where celebrities and special guests are questioned and drawn out in conversation. The term does

not apply, however, to any audience participation show, even though these include interviews.

Mr.-&-Mrs. Show is slang for a program featuring a husband-and-wife team. On the other hand, **Kid Show** does not necessarily refer to the featured performers but to the desired audience: children. Similarly, Women's **Shows** include those slanted toward a daytime feminine audience.

Newscasts give the news, differing from **News Commentaries** which interpret the meaning behind the news. For instance, a **Sports Event** may be a play-by-play telecast of the game, **Sports News** will give the results of this and other of the day's contests in sports, while a **Sports Commentary** will be devoted to a discussion of sidelights of the game, the players' backgrounds or perhaps the significance of today's games in terms of future contests.

MUSIC AND DRAMA TYPES

Musical Programs may be orchestral, symphonic or song shows, among other specific classifications.

Variety Shows take their name from the variety bill of vaudeville days, presenting a diversity of entertainment acts.

Musical Variety or **Comedy Variety** suggest an emphasis in either of these two directions.

Drama is a broad term from the theater, embracing many forms of staged dialogue and action with actors. Among its sub-divisions are romantic-historical drama, mystery-comedy, etc.

Comedy includes everything that amuses an audience, from slapstick (broad physical action such as whacking the posterior of a man bent over) to **Satire** (subtle intellectual humor which pokes fun at our customs and way of life). **Musical Comedy** is the song-laden form, with just a smidgin of plot. **Comedy Drama** is the play form. This in television often becomes **Situation Comedy,** wherein the embarrassing involvements of the players cause laughable complications. "I Love Lucy" is a situation comedy, keying much of its amusement to the ludicrous situations in which Lucy finds herself. By contrast, a Bob Hope monolog depends on puns and laughable observations for most of its humor.

Drama types include **Melodrama,** action-type stories of excitement and suspense, such as "**Private Eye**" (private detective), crime and gangster stories. Sometimes called "**Blood-and-Thunder**" stories, the comedy melodrama form is appropriately yclept "**Thud-and-Blunder**".

Mystery, a melodrama dealing with an unknown culprit, is often jargonized as a "Whodunit"—well, who *did* do it?

Adventure is a broad term used to cover action dramas which take place largely outdoors. It includes the familiar American Western **Drama**, slangily known as a Horse **Opera** or **Oater** (they have to have horses in a Western and horses eat oats, don't they?).

Documentary refers to an apparently factual, sometimes fictitious, story told in a realistic reporting style, often with special social significance. Also called in one TV series "**Actuals**". Another has coined the word **Telementary.**

Psychological Dramas are a category in themselves, dealing with conscious and subconscious emotional problems. These are often built around a "twisted" character as well as plot and such dramas may be jargonized as "**Psychos**" or "**Neurotics**" in the trade.

"**Frontal Lobe**" is more jargon, used in referring to a drama which presumably appeals to the brainy viewer.

Many other types of drama of course exist. These are only a few of the more popular classifications in television. There are also many cross-breeds and even such qualifying identifications as **Adult Western** (meaning that the appeal includes story-inclined grown-ups as well as the typical Western audience: action-loving children).

► PROGRAM "CREDITS"

Various terms are used in describing the opening and closing portions of a program, where title, stars and production personnel are named.

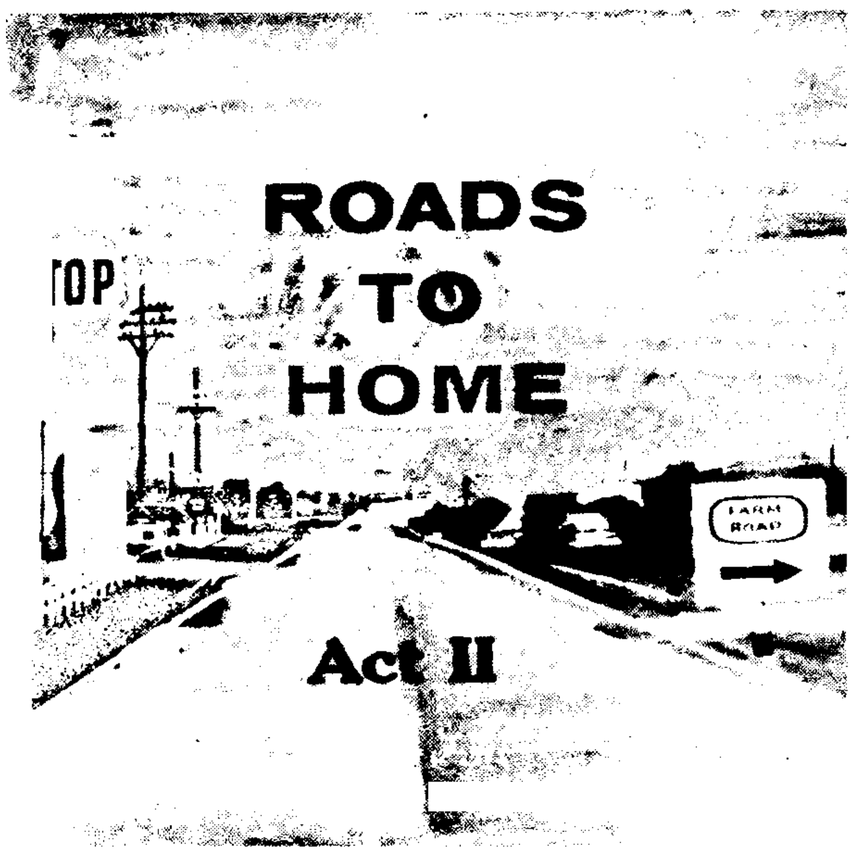
The opening title or **Main Title** is sometimes called the **Billboard** (because it is like a poster in show business that heralds theatrical events) or **Marquee** (because it is like the theater's electric canopy out front that lists the stars and attractions inside).

Billing, in the programming rather than financial sense, refers to the relative importance in title display of the stars and talent to each other and to the show title. *Who gets the biggest type?* This has long been a problem of show business. By movie custom, and so specified in many talent contracts throughout the entertainment world, a performer is a *star* if his name appears *above* the title. He is a *featured performer* if his name is *below* the title—unless, however, the word "starring" precedes the name!

Proportionate size of type may be defined in a contract. For instance, the contract may demand the star's name must be twice as high in type as the title of the show (and lawyers have been known to get out their yardsticks on this point!) In TV it is not unusual for the star or director or a production executive to demand a separate frame of the title for his name, with no one else's name on screen at that time.

In some instances the "star" above the title may be the producer (Max Liebman, for instance), the writer (Ernest Hemingway), the composers (Rodgers & Hammerstein) because their names are considered of such importance to the viewing public.

Cast **T**itle is obviously the listing of the performers (and the names of the characters they play in dramatic shows). These may be listed in order of importance, in the order of their appearance, or—if there are too many stars and conflicting contract demands—alphabetically. Generally only star names are presented at the program opening, the full cast title being held until the end.



Title



Credits

Credits is an industry term for such title listing. What *credits* do you have? It is used both by performers and production personnel but, more accurately, **C**redit **T**itle is the listing of the executive production names and other unseen talent and craftsmen important to the writing, preparing, staging and transmission of the program. This may run at the beginning or end of a show, or both, according to the importance of the individuals to themselves and the show. Generally, credit titles follow the cast title—hence the expression "**C**ast and **C**redits" in referring to the closing title or **E**nd **T**itle.

"**The C**rawl" is slang for the closing title credits (from the fact that one method of presentation is to have the names *crawl* or move upward from the bottom to the top of the screen). It's nice to have your name on "the crawl".

Functions of the production personnel who earn credits on the screen are discussed in later chapters.

PROGRAM SCHEDULING TERMS

Certain terms are used peculiarly in the scheduling of programs:

Simulcast is both a noun and a verb indicating a program is *simul*taneously broad*cast* on radio as it is telecast on TV.

Strip Show, while it has long been used to describe the bare realities of burlesque, has a unique connotation in radio and television: it refers to a program which is broadcast two or more times a week at the identical time each day. In other words, it is scheduled in the same time *strip* across the weekly calendar. Across-the-Board has a similar meaning but indicates a minimum of five days a week (Monday through Friday).

Adjacencies refer to the programs scheduled before or after a given program or commercial. Back-to-Back indicates the telecast of two programs in immediate sequence.

If three or more programs are in sequence and all are designed to appeal to the same type of viewer, they may be called a Block, as for instance a block of shows appealing to women from 2 to 5 p.m., a block of kid shows from 5 to 6:30 p.m., a block of mystery shows from 9:30 to 11 p.m. Hence Block Programming or Mood Programming to describe such an operation.

House Show may be used to indicate the program is owned by network or station. By the same token, Agency Show or Agency Package means the advertising agency owns it.

Many of the advertising agency terms in TV will be discussed in the final chapter of this book, but a few need to be covered now in regard to program scheduling.

Cycle is used to describe the duration or number of broadcasts. A cycle of 13 weekly broadcasts covers three months, for instance. Most contracts are written with an Option or right to renew at the end of the specified cycles. If the option is "dropped" the program series ends; if it is "picked up," it continues.

Up to the point where an option occurs in a contract, it is said to be Firm, meaning non-cancelable. A broadcast may be bought for "26 weeks *firm*," indicating a commitment for six months before the first option to renew or cancel. Talent may have a "*firm* commitment" for a specified period and cancellation before then obliges the sponsor or network or contract agent to pay whether used or not. This may also be referred to in various branches of the entertainment business as "Play-or-Pay."

Hiatus, in radio-TV program and talent contracts, refers to an agreed lay-off period without pay. Many shows take a Summer Hiatus

of 8 or 13 weeks, then resume in the new fall season without losing the same time period.

Time, as already inferred, is the industry term for the measured broadcast period in radio and television. A network sells *time,* a program is scheduled at the best **Time Slot,** an advertising agency has **Time Buyers.**

Rate Card is the printed schedule of time costs on a network or station. **Frequency Discounts** also are printed on the rate card, advising the deductions in costs when a larger number of programs (or spot commercials) are used within a limited number of weeks. Other discounts may be given when the sponsor uses the full complement of network stations or when he increases the total purchase by using two or more programs simultaneously.

To Clear Time means to arrange for a specific broadcast period, making certain it has not been previously sold. "We're trying to *clear time* at 8:30 p.m. Monday nights."

Availability refers to any unsponsored or open time slot which might be cleared on a network or station. "We're looking for the best *availability* in Class A time."

Class A Time, in this case, refers to choice broadcast time, at premium rates, when the greatest number of viewers are available. Each network or station sets its own evaluation of its time according to the potential audience. CBS-TV, for instance, has set as A time, 6 to 11 p.m. weekday nights and 5 to 11 p.m. on Sundays; Class **B,** a lower rate because of lower potential afternoon audience, runs from 5 to 6 p.m. Mondays through Fridays, 2 to 6 p.m. Saturdays and 1 to 5 p.m. Sundays. The remaining broadcast time, earlier in the day and also after 11 p.m. at night, becomes Class C time, at a still lower rate. Some stations use AA and D to distinguish still higher and lower rates on the card.

It is well to note that Class A, B and C have entirely different meanings in the Screen Actors' Guild contract for actors in TV commercials. This will be discussed in Chapter 6.

THE PRODUCER
THE WRITER
SCRIPTS, STEP-BY-STEP
PLOT DEVELOPMENT LANGUAGE
MISCELLANEOUS TERMS
TV COMMERCIAL TERMS

3

Pre-Production Perspective

THE PRODUCER

Primary responsibility for the success or failure of a television program is vested in one man, the **Producer.** He is the master mind in charge of organization and administration of the complete production. Ideally, he selects the idea or story, the director, and the talent. He must have a keen sense of showmanship to visualize how each will contribute to the final result. Most importantly, he is responsible for the budget.

"The producer," writes Charles W. Curran, "should be a two-sided individual: a shrewd businessman and a sensitive artist. He must recognize and know how to harness and exploit the talents of his writers, set designers, performers, cameramen, and all the studio artisans—and at the same time restrain their enthusiasms so that production costs remain within the budget limits that have been set, without impairing the quality of production. He must be a statesman-diplomat who can reconcile the opposing viewpoints of a group of highly volatile and temperamental creative people without blunting their capabilities. He must know what his audiences want and how best to satisfy their demands."

Not all producers are so well qualified and not all actually have this full authority, but it remains an ideal, whether in **L**ive TV or **F**ilm TV.

There are many variations in usage of the title *produce*r, and it is well to list some of these:

Executive **P**roducer originally meant the studio executive who super-

vised various individual producers. Now it sometimes is used as the top title on a single production.

Associate **P**roducer is a secondary title, at times given as an honor rather than for working contribution to the production. This practice was started long ago by Hollywood movies to please financial "angels" who put money into the project. However, the title may now be earned legitimately.

Production **S**upervisor, in some quarters, is used interchangeably with producer. **P**roduction **D**irector is also used, in some TV operations, along with **TV D**irector, to indicate a person who has the production responsibilities for a program. However, these words are fuzzy in meaning and the one simple word to designate top authority on a production is *producer.*

Assistant **P**roducer, essentially the same as *associate producer*, is a hard-earned title for the man who carries out the decisions of the top man. He takes care of minor problems in coordinating the show in production.

Production begins with an idea. It may be the producer's idea or the idea may be given to him to develop. The idea may simply be to find the right vehicle for a star or it may be to find a specific type of series show—such as a mystery—to fill a thirty-minute time period. **P**roducers are selected in most cases on the basis of their previous successes, often in specific types of programs.

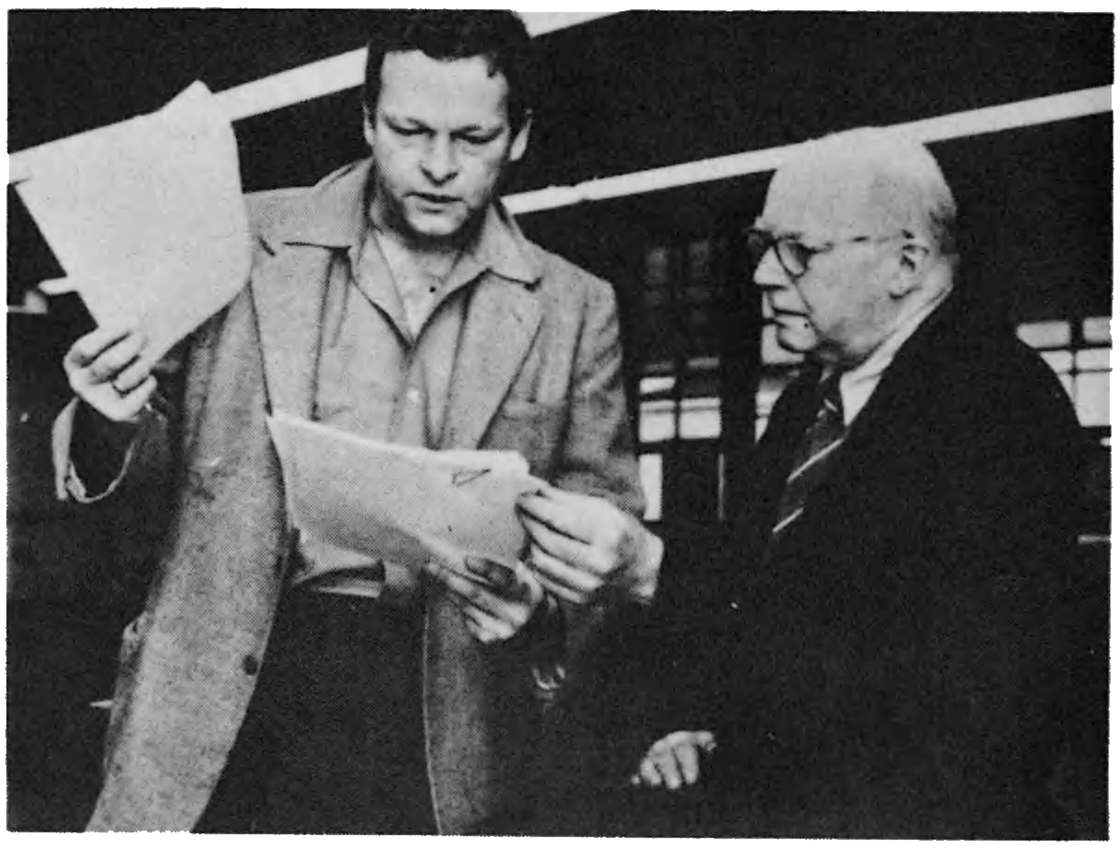
Many conferences must follow. In each such **P**roduction **M**eeting, the producer will guide the key people in bringing the idea to life. He may first meet with the writer and outline his objectives in the development of the script. Meanwhile, the stars, the director and other production staff members are added.

The **C**asting **D**irector or **T**alent **D**irector aids in setting auditions for principal talent, contracts for the rate of pay and performance agreements and takes complete authority in casting minor roles.

On musical shows, the **M**usical **D**irector aids in the selection of numbers, supervises scoring and arranging and finally conducts the orchestra for the show. On dancing shows, there is a **D**ance **D**irector or **C**horeographer to conceive and stage these numbers.

Once the producer has selected his key people, he is expected to give them authority along with responsibility, and his work then may be largely concerned with decisions essential to good coordination and budget control.

Since the functions of a director vary in **L**ive **TV** and **F**ilm **TV**, this will be discussed separately in the next two chapters. **B**ut now, the writer:





THE WRITER

In fact and fiction, information and entertainment, television offers a wider challenge for the development of ideas than any other medium of communications. A program idea may spring from this morning's headlines, a star's special talents, an audience's paradoxical desire to view the unknown and the strangely familiar. Success relies heavily on the skill of the writer in TV.

He must write for both the eye and the ear. He must have creative skill in writing and also craftsmanship in the peculiar techniques of the medium. He must be both artist and artisan.

He must have the gift of writing natural and interesting conversation (for his words are to be spoken) and he must know the interpretative potentials of camera technique (for the action is to be seen). He must think in terms of *moving images* that translate the idea or story with a greater immediacy, empathy, and impact than his work in other writing fields might require.

Through study of the medium and through experimentation, he must know the tools of his trade.

One writer may not do the complete job. A program may give credit "Based on an Idea by . . ." Plays may indicate "Original Story By . . ." or "Adapted for Television By . . ."

As a script designation, **Original** indicates that the story idea has been created for this medium (whether TV, radio or movies). Adaptation indicates the television play is from a book, magazine story, stage play, radio show or motion picture. By the same token, an *original* TV play



Director and Producer Plan and Discuss Various Phases of the Show

may be later *adapted* to a motion picture.

Films have a complicated method of crediting writers. It is not unheard of for 17 writers to work on various versions of a motion picture story, in which case a decision may be required from the Screen Writers' Guild to determine just which ones will receive screen credit on the final version. One writer may be credited for the *original,* two more for *adaptation,* and as many as three or four for the final screen play.

Additional Dialogue is another credit line which may appear on the same film. It indicates this writer has only "polished" another writer's lines, not contributed to the plot.

Special Material is a credit line used in both TV and films, generally referring to bits of comedy, custom-tailored songs, or other unusual writing contributions.

Script Editor or **Story Editor** are titles given to the person at a network, studio, or agency who is responsible for the selection and editing of scripts as well as the assignment of writers to develop special ideas. **Playreader** is the NBC title for the person who reads scripts and program ideas from the outside with a view to rejecting or recommending to the Script Department.

► SCRIPTS, STEP-BY-STEP

Certain terms are used to designate phases in the development of the script.

Script, shortened from manuscript, is the written form of the TV production, describing the settings and action (Video) and the characters and dialogue (Audio) for production. This term is also used in radio,

stage, and film production, but each uses a different style of script dictated by the varying techniques of each medium. Teleplay is another term for *television script*, when it is in play form.

Television uses different formats for Live TV and Film TV, the latter often identical in style with the standard motion picture script. Live TV has no completely standardized form, so writers are wise to check each particular network or producer for preferred style.

In developing an idea or story as a script, certain patterns and terms have come to have certain meanings:

Outline refers to a short (often only one-page) summary of how the idea will be developed. **Research Outline** indicates special background material as to costumes, props, settings, etc.

Story Treatment or **Treatment** is used more specifically with a story than a program idea. A treatment describes in a brief but fluid narrative form the locale, and characters and the basic action of the story, possibly including significant dialogue.

Theme is a sentence or single-word summation of the underlying thought of a plot, such as "Crime Does Not Pay" or "Tolerance", etc. Of course, *theme* also refers to a musical identification for a story or character.

Synopsis is the story, as told in condensed narrative form. It differs from *outline* or *treatment* in that it is normally written after production to provide a quick digest for critics or reviewers.

Scene, on the stage, refers to a division of an act. In motion pictures, it refers to each bit of action as recorded at each succeeding camera viewpoint (for the duration *that* camera is running). Television rather loosely uses both meanings, but favors the film sense of the word.

Sequence is a film term to describe a series of scenes developing one incident—generally in one locale—without a time lapse. The story may have a *sequence* in the apartment, followed by a *sequence* on the street. Each of these *sequences* may contain a number of film scenes.

Scenario is now a seldom used word that came from silent movies. It refers to a story developed in terms of scenes in proper sequence from start to finish.

Title, in addition to meaning the lettering, refers to the name itself by which a program is known. **Working Title** is a tentative name for a program, idea, or story used for identification purposes in the early stages of production. It may or may not be changed.

Scripts may progress through several stages from a **First Draft**, to a **Final Script**, the latter indicating it has now reached approval of all concerned. The *final script* is also called an **Approved Script.**

In **Live TV**, the final script is generally called a **Production Script.**

In films, the final script is generally called a Shooting Script, with each scene numbered for identification in photography and, later, editing. Earlier drafts of film scripts generally do not carry scene numbers, pending final revisions.

Client-Approved Script is a term used by advertising agencies to indicate a commercial script has been initialled "OK" by the sponsor. **"As Broadcast" Script,** a term from radio, is a final version marked with any changes actually made in broadcasting or filming. This version is filed for permanent record.

Continuity is a word from radio which describes the transitions between the segments of any type of program. Occasionally this word is misused to mean the *script* or *commercial* itself.

Continuity Acceptance or **Continuity Clearance** are names for the department maintained by networks and stations to pass upon all scripts and commercial copy. It is a review function that makes sure all material complies with federal regulations, and conforms to industry standards of good practice and good taste.

Music Rights or **Music Clearance** is another department of stations and networks responsible for seeing that permission has been obtained to broadcast the music. Source of music, writer, publisher, and musicians employed in the case of recording, all must be checked and cleared. **Grand Rights** are generally required if a musical selection is broadcast in a production number that runs longer than three minutes. Grand rights are cleared directly with the copyright owner.

► PLOT DEVELOPMENT LANGUAGE

Before a plot thickens, it is well to be familiar with the writer's terms to describe types of characters and construction devices for developing the story form.

Plot is, of course, the dramatic plan of action. It certainly will include **Conflict,** the struggle between two characters or forces and it is apt to add **Suspense,** which keeps the audience wondering how the conflict is to be resolved.

Climax refers to the moment at which the conflict reaches its peak. At the climax of a story the conflict is resolved. **Following** this, in the closing moments, the **Denouement** clarifies the climactic solution of the plot and often indicates the future of the characters. If the denouement becomes too involved it may be called an **Anti-Climax,** meaning that it "fights" or competes with the true climax and so distracts the audience.

Motivation is the impelling force which drives the characters in their actions.

Situation is the term for a complicated state of affairs in which the characters find themselves. *Situation comedy,* mentioned earlier as a popular type of TV entertainment, turns such a state of affairs to amusement.

Locale is the location of the story, or physical background, where the plot unfolds. If it is an unusual locale, it is said to have **Color.** This concerns vividness of interest in the setting, and is not necessarily related to color TV or color film. Atmosphere is used in the sense of such *color,* plus *mood.* It is the colorful "air" that surrounds the play.

Exposition is the term for all relevant material in the early part of the play which tells the audience who the characters are, why they are there, and what they are doing. Most of this is *exposed* in dialogue, but settings, costumes, and other factors can aid the writer.

When the story opens, the actors are said to be **Discovered,** as the audience views them for the first time.

Transitions are the links between situations in the development of the plot. **Pacing** is a critic's term for the speed of the plot action. This depends primarily on the writing, although the director and the actors contribute to smooth pacing.

Lead, short for *lead*ing actor, is technically known to the analytical author as the **Protagonist** of the story, the main character who usually has the sympathy of the audience. The opposing force is the **Antagonist** or **Adversary. He** may also be called the *villain* or *menace,* but such popular descriptions of characters is reserved for discussion later in the chapter on The Actor.

Flash is a term for a very short scene, probably no longer than three seconds. It is not to be confused with **Flashback,** which is the name for a sequence which, after the story has opened, carries the viewer back to an earlier time period. A relevant childhood scene in the protagonist's life may be told by *flashback.* **Parallel Development** refers to the simultaneous telling of two sequences of related action, cutting back and forth between them.

Chase is Hollywood's expression for the actionful scenes in which the protagonist finally catches up with his antagonist (or vice versa).

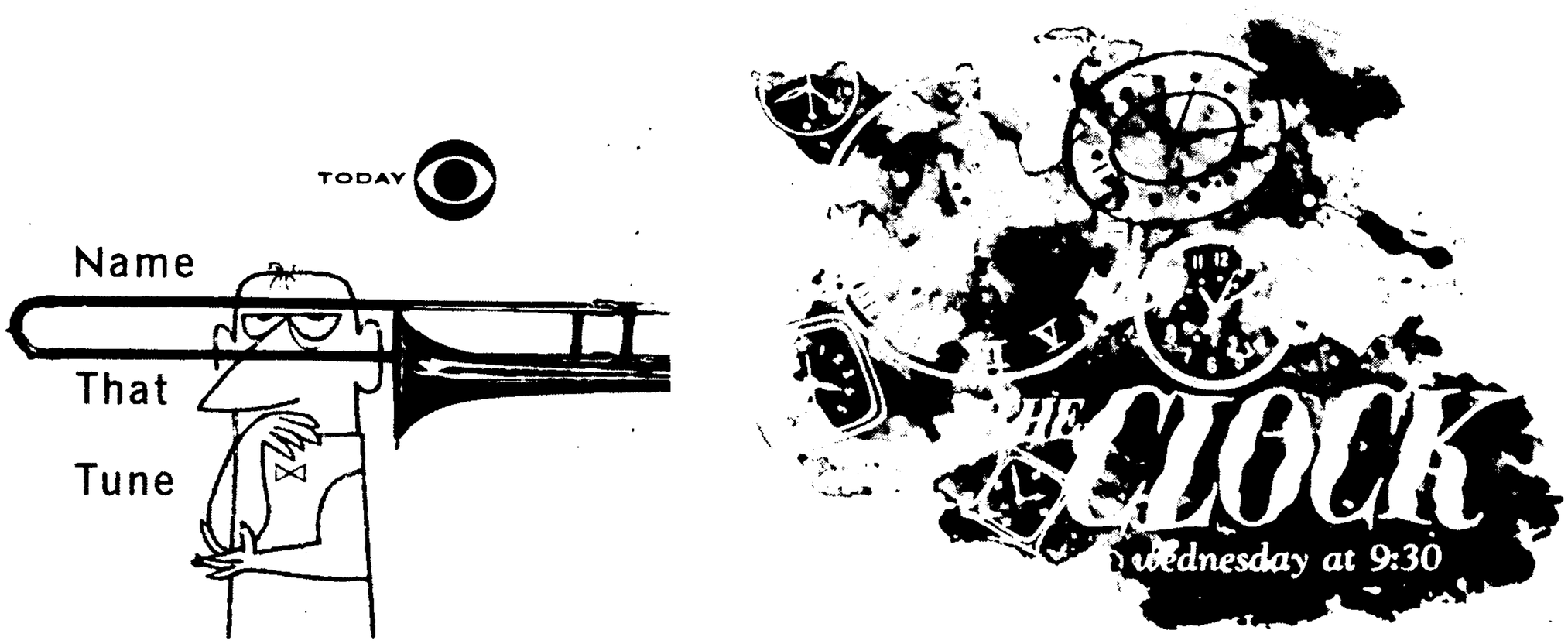
Weenie is another colorful bit of movie jargon. It describes the reason for conflict: the missing treasure, the blonde in the bedroom, a time bomb. Sometimes, it is used for *plot* itself. "What's the weenie?" Alfred Hitchcock calls it a **"Maguffin."**

MISCELLANEOUS TERMS

The television program is viewed in many steps before and after the telecast.

Preview is an advance look at part or all of a live program. It is a term borrowed from the movies, where Sneak Preview indicates a film showing slipped into a movie theater program without advance notice, so that an actual audience reaction can be obtained. Some TV film programs have been so tested in theaters.

Preview also is sometimes used to refer to the TV scenes used in a Trailer or Promotion Trailer. This is telecast in advance of the show to interest audiences. Such trailers, which may be live, film, or kinescope generally run less than a minute and are the equivalent in content to the "Coming Attraction Previews" in movie houses, which also are



Two "Audience Builders" to Promote Coming TV Shows

called *trailers* or *previews*. The word *trailer* originally was coined to indicate such short movie films attached or trailed on to the last reel of the feature picture, to build the audience for the next attraction. Hence, Audience Builders is another description for TV program *preview* announcements.

"Minute Movie" or Theater Ad-Film are terms for the commercial announcements that run in theaters as paid advertising. Many TV commercials double in this role.

Audition is an official preview in Live TV of the entire program—possibly by an intended sponsor. Also, *audition* refers to a preview or testing of talent for a possible role. Too, it can be used to refer to a test recording for radio or TV sound track.

Pilot is the equivalent of *audition* in Film TV. It means the first film in a series which is to be previewed as a guide (hence: *pilot*) to what the later films would offer.

Demo, short for Demonstration is occasionally misused in the sense of *audition* or *pilot*. However, Demo Reel or Sample Reel are accepted terms to indicate the film footage which serves as an *audition* or example of production results for a TV commercial producer, a writer, or others in the industry.

TV COMMERCIAL TERMS

Since advertising pays the cost of free television, it is well to define and understand some of the essential terms while still in the programming and planning stages.

Commercial or **Commercial Announcement** is the correct term to use for that portion of the program which carries the sponsor's message. The amount of time is specified by the NARTB code. For Class A time, peak-audience telecasting, the **Allocated Commercial Time** is limited to three minutes in a half hour, six minutes in an hour. The Code, which may be read in the Appendix of this book, indicates the time permitted for other hours of telecasting.

There are many terms for the *commercial* in this business. One program artfully refers to it as a "message from a subscriber" as a variation on "message from our sponsor." **Spot** or **Commercial Spot** is accepted jargon but less acceptable are such slang synonyms as **Blurb, Spiel, Plug,** or **Pitch.** If you are a member of the industry, occasionally within earshot of a sponsor, *commercial* or *spot* are advisable. Incidentally, *spot* has other significant meanings, to be discussed a few paragraphs later.

Spot Television is used by the industry to designate programs or commercials purchased from stations, as distinguished from similar purchases from the network. Also called **Spot Broadcasting,** this category represents more than a third of all investment in television time. Included are 1) spot announcements between programs, 2) station identification spots, 3) participation spots within programs and 4) complete programs. **Spot Markets** are the individual stations (and their broadcast areas) so selected.

And, since an advertising agency calls a strategic advertising plan a **Campaign,** so a **Spot Campaign** is such a plan launched in specific markets bought individually rather than by network.

The word *spot* obviously has a number of meanings. It also is used in the sense of "a nighttime *spot.*" Confusing, isn't it?

Station Identification Spot refers to a commercial announcement run at the time the station identifies its call letters. Between programs (and approximately every half-hour *within* programs that total 60 minutes or longer) each local station has 30 or sometimes 40 seconds in which

to run such spots, which are also called Station **I.D.** or simply **I.D.** spots. They run approximately 10 seconds each and often are paired with a 20-second spot.

The 10- and 20-second spots together are sometimes lumped under the overall term Station Break Spots.

Shared **I.D.** is one type of 10-second spot, indicating that the station's call letters occupy one-fourth of the screen area, the advertiser's message the other three-fourths. By audio share, the station gets :03 and the advertiser :07. The Full Screen **I.D.** does not share, but generally



Shared I.D. (Station's ¼ Area)

gives the advertiser the complete video for :08, the audio for :06; then the station takes over for :02 video and the remaining audio.

Double-Spotting refers to the practice of some stations to run two commercials without interruption (other than the :20 and :10 spots normally expected at station break-time). Triple-Spotting means three in a row, which is against good policy and calm viewership.

A commercial that is run *within* the program time, before the program gets under way, is labeled a Cow-Catcher (what goes in front of the engine on a train?) and a similar spot at the very end is appropriately tagged Hitch-Hike, Hitch-Hiker or Trailer. (See the definition of *trailer* earlier in this chapter.) Such *cow-catchers* and *hitch-hikers* are charged against the sponsor's total allotted advertising time and usually feature other products sold by the same sponsor rather than those featured on the regular program. The networks now require that both *cow catchers* and/or *trailer* come within the actual framework of the show.

A commercial that appears within a program, introduced in a smooth

transition from the entertainment of the show by the star or a featured performer, is called an Integrated Commercial, because it is fitted into or integrated with the body of the program itself, and is in the same mood and character. **Lead-In** is the term which describes this transition and it is also used to designate the opening remarks of any commercial. Occasionally *lead-in* is used in a similar sense for the remarks introducing any scene or segment of a program.

Signature or **Sig,** for short, refers to the identifying end title or closing of a commercial or a program. Loosely it is sometimes used to include the opening billboard or marquee, in which case it is called an **Opening Sig,** as distinguished from the **Closing Sig.** Just remember the signature is most important to the sponsor—it's his signature that pays the bill.

ADVANTAGES OF LIVE TV
CONTROL ROOM PERSONNEL
THE STUDIO FLOOR CREW
BEHIND-THE-SCENES PERSONNEL
EQUIPMENT AND TERMS
PRODUCTION STEPS
WORDS OF COMMAND, JARGON
VISUAL SIGNALS

4

Live TV Production

ADVANTAGES OF LIVE TV

Television undoubtedly owes its first exciting success to the fact that it was produced *live,* rather than on film. It was a *see-it-as-it-happens miracle,* and the viewer could see right in his own living room a *now* event: baseball, football, wrestling, political campaigns, on-the-spot news.

Quiz, panel, and contest shows were the mainstays of programming for in these, too, the viewer could participate in an unpredictable event *as it happened.* The viewer was an *eye-witness.*

Film was unable to cover this type of program without a delay of hours or even days, and the entertainment programs that were more adaptable to film were yet to come. It was to be almost a decade before the networks used film for an equal amount of prime programming time. Many bitter controversies raged those first ten years over the relative merits of Live TV and Film TV production and not all the rabid partisanship for either technique has since ended.

In Chapter 2, the distinct advantages of the two production methods were outlined. This chapter will deal with Live TV production procedures, the next chapter with Film TV.

Live TV, which signifies the program is being enacted at the instant it is telecast to the viewer, has these advantages: It is faster in minimum time required before telecast. It is more flexible to word change and

minor structure change at the last minute. It is generally less costly for one-time production. There is also that plus factor, in the case of a sports event or news event, in that the viewer is seeing it *as it happens.*

Actually, it is difficult for the public—and even for many people within the industry—to distinguish between live and film sequences, if both have been produced to top potential quality.

In many respects, the two production techniques are alike, but minor differences appear in personnel, equipment, and jargon. The prime difference is in working procedures. Live television must present the program in its scripted sequence, while film may start on any desired scene, photographing other scenes to fit production needs, and editing later to form the scripted sequence.

To many of the people in live TV production, its unpredictability gives added excitement to the work. Trigger-quick decisions and improvisations are a challenging requirement for the production job. But, behind this excitement, they know there must be careful pre-planning and coordinated experience.

The *producer,* as defined in the last chapter, is a combination showman and businessman, coordinating the key staff members in production and exercising budget control. On larger productions he may have an assistant producer to carry out his instructions and assume secondary authority. The assistant's work may be called by another title: **Unit Manager,** as it is on all CBS and NBC major live shows. Specifically, the unit manager is the administrator on the set, responsible for the supervision of the show budget. He acts as liaison between the producer and the production services, keeping track of the crew, integrating time schedules, planning the hour-to-hour logistics of the physical operation.

► CONTROL ROOM PERSONNEL

In Live TV, the final creative and engineering direction is centered in the **Control Room.** Here is the base for directing the actions of the floor crew and performers and for controlling the quality of picture and sound. Here, for final rehearsals and the actual telecast comes the **Director,** the man who is the producer's key in staging the show and directing the actors in their interpretations. He is the man in charge while the program is on the air. He determines the creative form of the show as the camera picks up the action, molding it to a fluid presentation for the viewers. His influence obviously will be greater in the telecast of a play, where he can be highly creative, than in a sports broadcast or a quiz show, where he is simply a good reporter of the unpredictable action.

On large productions, he may have an **Associate Director** or **Assistant**

Director, or **A.D.**, a right-hand man whose job it is to carry out minor instructions and anticipate the director's requirements. (Note that A.D. also may stand for Art Director, covered in a later chapter). At CBS, the A.D. also participates in the actual telecast, lining up camera shots one step ahead of the director's need, relaying orders for film inserts and other separated factors of the production.

The A.D. or, on some shows, the **Program Assistant** (NBC) or **Script Clerk** or **Script Girl** takes the responsibility of holding the script and checking the actor's lines in rehearsal and on the air, as well as timing the program and its individual segments. **Production Assistant** or **P.A.** is



Live TV Control Room



Monitors Show Camera Views



Full TV Stage in Action

the CBS term for the *script girl* function. (But note P.A. also may mean *press agent* or *personal appearance* or *public address* loudspeaker.)

Producer-Director and Writer-Producer obviously indicate combined functions, where one man does two jobs. Where the man is fully competent in both fields, this often aids in giving a singleness of perspective in translating a creative work to production.

It should also be pointed out that on some shows no producer is assigned and the budget is a fixed item, so that the director automatically serves as the producer-director without added title.

Live TV production also has many other titles using the word *director* (the film industry restricts the use of this word, as the next chapter will explain). The **Video Director**, more popularly known as **Technical Director** or **TD**, is the man who coordinates the engineering factors for the director in the control room. He is responsible for the technical quality of the telecast. He supervises all technical personnel in the studio and control room. He is the engineer who sits at a console or control panel or **Switching Panel** which may have 30 or more buttons to switch the telecast from camera to camera and perform many optical tricks in fluidly assembling the final result. At NBC, the TD also will relay the instructions of the director to the studio floor. At CBS, the director himself gives these instructions, while the TD devotes his time to operating the console. So, at CBS, the technical director may be called the **Switcher**. The British call him by the wonderfully appropriate name of "**Vision Mixer!**"

There are two other engineers in the control room. The **Video Operator** (preferred by CBS) or **V.O.** or **Video Engineer** or **Video Control Man** is responsible for the technical quality and physical control of the picture as received from the cameras, while the **Audio Operator** or **A.O.** or **Audio Engineer** or **Audio Control Man** is responsible for the sound. The audio man often has a **Record Operator** or **Turntable Operator**, who handles music, sound effects, and other audio material on recordings. In some cases, this includes material especially pre-recorded for the program. His base of operation normally is in another room, connected with the control room by telephone lines. Also nicknamed **Pancake Turner**, or, in initial slang, the **E.T. Man**, because he handles electrical transcriptions, another name for recordings.

Like the E.T. work, the projection of film required may be located elsewhere, connected with the control room by telephone lines. The man who operates this is called the **Projectionist** or **Film Man.** He should *not* be called **Film Director**, because this title has an entirely different significance in Film TV and movie production.

Obviously, on smaller stations, many of the engineering functions of the control room are handled in combined jobs with a smaller staff.

THE STUDIO FLOOR CREW

Heading the crew on the live television stage is the Floor Manager, or Floor Director. He is the man who transmits the director's instructions to actors and others on the set, gives silent cues by gesture, checks scenery changes, and generally keeps the operation flowing smoothly. He wears a telephone headset (or short-wave receiver) for constant communication from the director in the control room.

The Camera Engineer or Cameraman heads the in-production technical staff. He is a trained electronics engineer with a creative ability in composing and photographing the scenes. Like the floor manager, he wears a headset for constant communication with the control room. Camera work and equipment are to be discussed more fully in Chapter 8.

Sound (to be discussed more fully in Chapter 12) is handled on stage by a crew working under the audio engineer, in the control room. Microphones to pick up the spoken words may be stationary or mounted on extension arms or *booms* which in many cases are maneuvered over the heads of actors as they move about the stage. The physical job of handling this is the responsibility of the Microphone Boom Operator, or, simply, Boom Man, while the Cable Man is responsible for keeping the large electrical wires or cables, which connect the cameras to the control room circuits, out of everybody's way as much as possible, clear and free for all necessary camera movements. If his work includes pushing the camera when it is mounted on a *dolly* or wheeled base (when the cameraman himself does not handle this function) he may be called a Camera Dollyman, Dollyman, Dolly Pusher or simply Pusher. The cable man is an engineer who in most cases graduates to the work on the audio boom and later the camera.

Sound Effects Man is the title for the specialist who creates sound effects on the stage (differing from recorded effects from the *record* operator). Pistol shots, door slams, and other effects (when not supplied by the actors or practical properties on stage) may be within his domain. When production requires such a man, he is responsible to the audio engineer.

Lighting Engineer or Lighting Director is the title of the man responsible for supervising the illumination on the actors and sets (scenic settings). He works in close collaboration with the video engineer in obtaining a well-balanced picture, achieving the effects desired by the director of the production. Chapter 7 discusses his work in greater detail.

Electricians handle the lights under the supervision of the lighting director. Gaffer, for the head man, and Juicer, are film nicknames sometimes used in Live TV for these electricians.

Technicians is a general designation which includes all the union personnel on production who work with either camera or sound. Not included are Stage Hands who handle the erecting, moving, and *striking* (taking down) of the sets. They are popularly called "Grips," a nickname from the stage and Hollywood. Shop Carpenters build the sets, Stage Carpenters erect and maintain the sets.

Any electrician or stage hand working on the steel gridiron or framework above the stage and set also may be called a Grid Man.

BEHIND-THE-SCENES PERSONNEL

Production Facilities is a department set up (at NBC, as well as elsewhere) to *create* the physical and material requirements for a TV program. Included are scenic design, construction and execution, painting, art work, wardrobe, make-up, properties, titling and special effects. Some of the individual duties will be detailed.

Facilities Director is one title used, Staging Coordinator another, for the supervisor of *production facilities.* In some operations he may be called a Stage Manager or S.M. and his work is somewhat comparable to the stage manager in the legitimate theater. He is responsible for the "back of the house." Shows presented in theater type studios with live audiences may also have a House Manager who looks after the "front of the house," i.e., the ushers and front maintenance.

In some smaller production units, the staging coordinator or stage manager may double as the floor manager during the actual rehearsal and telecast.

Art Director is the title for the person who conceives and coordinates the overall physical design of the show, the settings, and the costuming. Chapter 9 will discuss his work in greater detail. His credit title may read: "Production Designed By . . ." or "Art Direction By . . ."

Graphic Artist indicates the person who works on titles, still photographs, drawings and other art work less than 30″ x 40″ in size. Graphic art is largely two-dimensional, as differentiated from three-dimensional settings.

Art direction also includes supervision of the Scenic Designer or Set Designer who plans and delineates the sketches for the settings (later executed by Scenic Painters) and the Costume Designer, who develops and sketches special wardrobe.

Where costumes are not especially designed for the show, there may be a Fashion Director or Stylist or Style Consultant to select wardrobe for the stars or principals. Finder is a slang term for one who seeks and obtains fashions in the shops.

The Wardrobe Department, simply called Wardrobe, is responsible not only for costume preparation but also for costume changes during production. The woman who heads this operation may be called by the familiar old stage term Wardrobe Mistress. The person who is responsible for the delivery and handling of costumes and who sometimes aids the stars or performers with costume changes during production is called a Dresser.

The Drapery Department with its Draper or Draper Worker is responsible for all draperies and decorative curtains, including the necessary fireproofing, servicing and pressing.



Make-Up and Wigs are Vital to Historical Plays

The Make-Up Supervisor and Make-Up Artists are responsible for the proper application of cosmetics to the cast, not only to improve their appearance (or create character types) but also to delineate facial features and achieve skin tones that can be lighted and photographed to best technical advantage.

Hair Stylists design coiffures which are then executed by Hairdressers. These report to the Make-Up Department which in Live TV reports to the art director.

Property Men or Prop Men handle the Properties or Props, the furniture and decorations for the sets. Prop men also obtain special items called Hand Props, which may include anything that is handled or carried by the actors: horn-rimmed glasses for a professor or beer glasses for a commercial.

When food is required as a prop, it is customary to call in a Home Economist or food specialist. It is well to remember on a TV stage that

the food is probably inedible since it is prepared primarily to photograph appetizingly. In fact, because prop food, prop jewelry and many other props only simulate the real thing, the term *prop* has a secondary connotation as *"fake!"*

Some union regulations require an **Outside Prop Man,** who works for the set designer and brings in all necessary props required from sources not inside the studio. The Inside **Prop Man** takes charge of placement and handling on the set, as well as responsibility for obtaining such props as the network or station has in its own prop department.

A Greenman or **Greens Man** is a specialized prop man who works entirely in supplying and handling plants, shrubbery, trees and other greenery for the set.

Set Decorator or **Set Dresser** are titles used for the person who supervises the actual placement of all props in position.

The **Special Effects Man,** in **Live TV,** is in charge of staging such mechanical illusions as rain, fog, snow, etc. He also operates the rear screen projection facilities when used.

EQUIPMENT AND TERMS

Control Room means, as indicated earlier, the facilities room which is the center of control for the operation. It may not have direct view of the stage (as it does in radio) because a complete working knowledge is obtained from rehearsals and from watching the television picture control tubes or **Monitors,** which present the scenes from the different cameras.

The production personnel can see a preview of what the cameras are shooting (hence, sometimes called **Preview Monitors**) and instruct the cameraman on changes and movement desired. **By** *observing* the various monitors, they can select the next scene required to **Switch** or **"Punch Up"** or cut into the **Line Monitor,** which shows the sequence of scenes exactly as they are being telecast on the air. **Other terms for** *line monitor* **are Air Monitor and Master Monitor.**

*Monito*r, as a verb, means to check or review a TV scene or program.

Facilities or **Fax** (abbreviation coined by CBS) refers to live studio equipment, engineering control unit, cameras, etc. When the program is *on fax* it means that the cameras are in operation and pictures are being transmitted to the control room.

Chain indicates the total *facilities* required to operate just one camera. This includes in a **Camera Chain** the camera equipment, the cable and the monitor needed to bring the camera's picture to the control room.

Film Fax (CBS) indicates the studio facilities of film projection equipment which are needed to originate motion picture sequences (and

sometimes still pictures) for the telecast. Another word for this is **Telecine** (from *tele*vision and *cine*ma) and it is used to refer to the facilities and the room, which may also be termed **Telecine Room, Film Room** or **Film Studio** (this one is confusing!) or **Projection Room.**

When this is separated from the control room, as is generally the case, telephone lines interconnect. At CBS and NBC, film projection is located in the **Master Control** room. This is the central engineering point where the programs from the various individual studios are checked and re-evaluated before transmission. Sound and picture quality are monitored and compared with the actual telecast as it appears on a set tuned to pick up the program from the air.

Mascon is **Pentagon**-like talk for **Master Control.**

The **Master Control Panel**, sometimes called a **Patchboard**, handles the plugging in of electrical circuits.

The control room communicates with the *floor manage*r, the cameramen, and other key personnel on the stage by **Intercom**, an intercommunicating telephone (or shortwave circuit). The various individuals speak and hear through **Headphones**, also called **Headsets** or, slangily, **Cans**, because they resembled "tin cans" as worn over the ears.

PL, short for **Private Line**, is a term for the outlets on *intercom.*

To address the entire stage in rehearsal, a loudspeaker system or **Public Address** or **P.A. System** is used. This is sometimes more chattily called the **Talk Back** (always used as a noun).

Oscilliscope, in **Live TV**, is the indicator below each monitor in the control room which tells the video engineer the relative range of light and dark values in the picture as it comes from each camera on stage. This aids him in controlling *contrast* for better picture quality. The fluctuating waving line of the oscilliscope has been nicknamed **Green Butterfly** or **Flying Butterfly.**

Gain is a popular word referring to the up-down control of the blackness of the picture or the volume level of the audio. Hence, "turn up the video gain" would mean to fade in the picture from blackness to normal quality; "bring down the gain on sound" would mean to lower the volume of the audio.

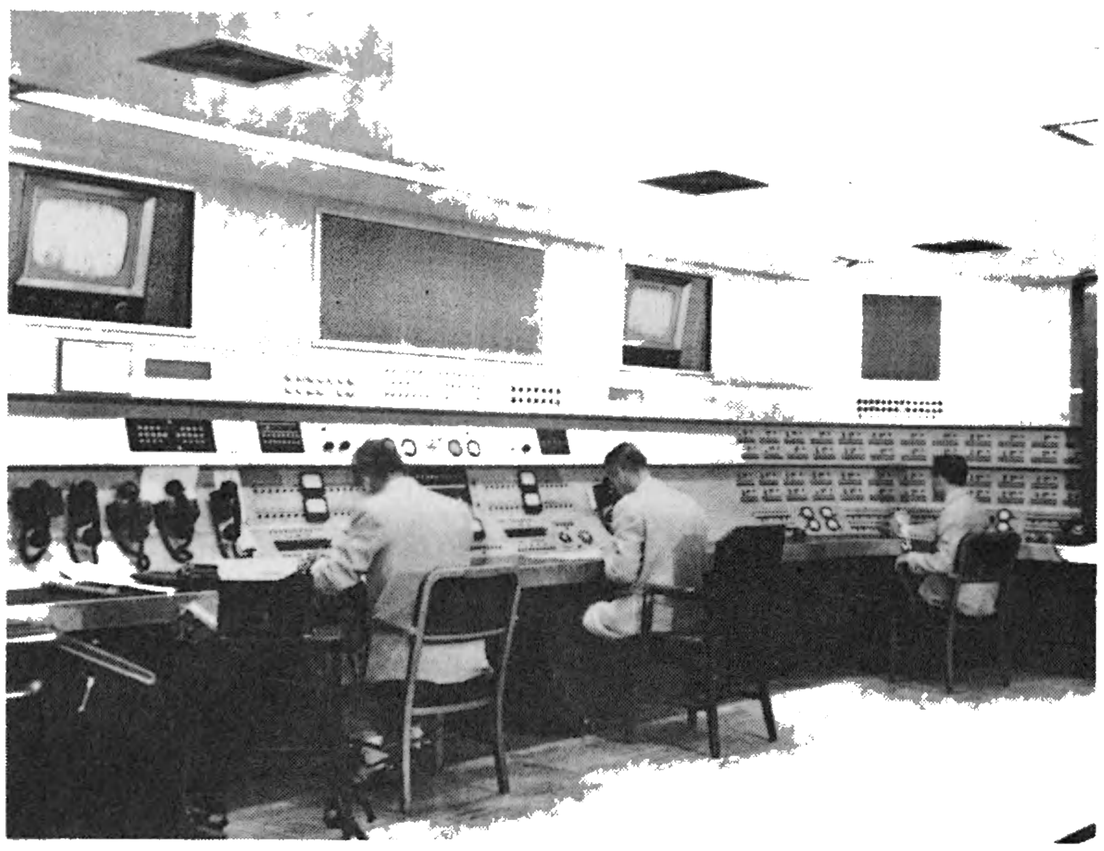
Compatible is an industry term which refers to the ability of telecasts to reproduce the signal (i.e., the program) satisfactorily in color on color sets and at the same time in black-and-white on non-color sets. Color receiving sets also are *compatible* in the sense they can receive black-and-white telecasts in black-and-white as well as the color shows in color.

Federal regulations of the FCC now require compatible telecasting after experimenting with an earlier color telecasting method which was

non-compatible and so could not be received on black-and-white sets.

Compatible color telecasting requires considerable engineering control, as well as skill in design and lighting, so that color values will be attained without jeopardizing black-and-white values. On color telecasts, the control room normally has a separate line monitor showing the identical picture in black-and-white so that constant comparison can be made.

Test Pattern, also called **Teepee,** or shortened still more to **T.P.,** refers to the special chart of geometric designs used by the engineers to test the focus and color reproduction values of live television cameras. A similar *test pattern* is sometimes telecast on the air by the station before



Master Control



Mobile Unit (NBC Color)

or after normal telecasting hours, so that home receiving sets may have an opportunity to check focus and framing.

Mobile Unit is the name for the telecasting equipment mounted in automotive trucks for televising live events that originate outside the studio. This unit provides its own control room and transmits its signal by cable or microwave relay to the station transmitter.

Nemo is engineering jargon for such an outside-studio broadcast in radio or TV. The word comes from a telephone company term meaning "*N*ot *E*manating from *M*ain *O*ffice."

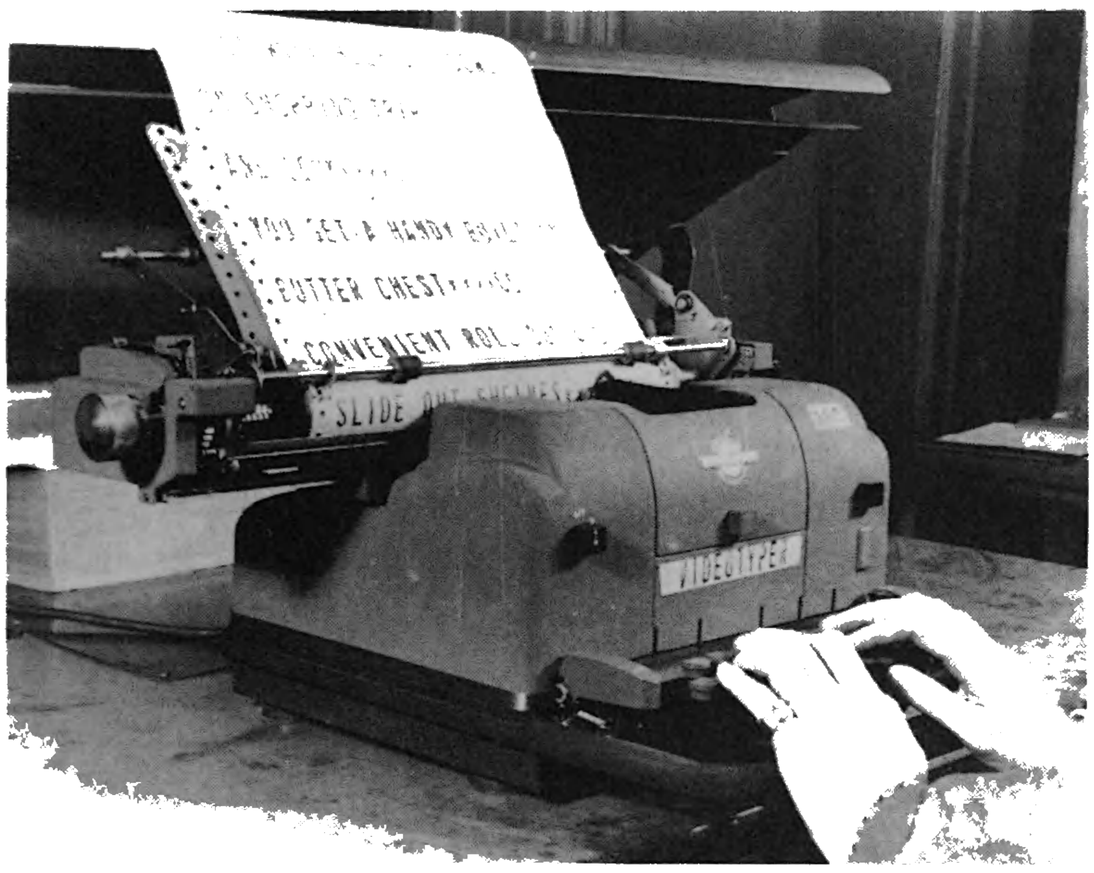
Remote is a more popular word for such a broadcast originating outside the studio. Also the expression **Pick-Up** is used as a noun to indicate the point of origin as in **Remote Pick-Up** or **Outside Pick-Up,** away from the studio, or **Field Pick-Up,** on the playing field of a sports broadcast, or **Film Pick-Up,** from motion picture projection (within the studio). In such cases, *pick-up* is also used as a verb. **P***ick up* has many other loose meanings in the business: it means *speed up* as in "pick up the tempo";

an accelerated attack on dialogue, "make a quick pick up on your next speech"; or to refer to the device on the extension arm of audio playback equipment, similar to home photographs, which "picks up the sound" from recordings.

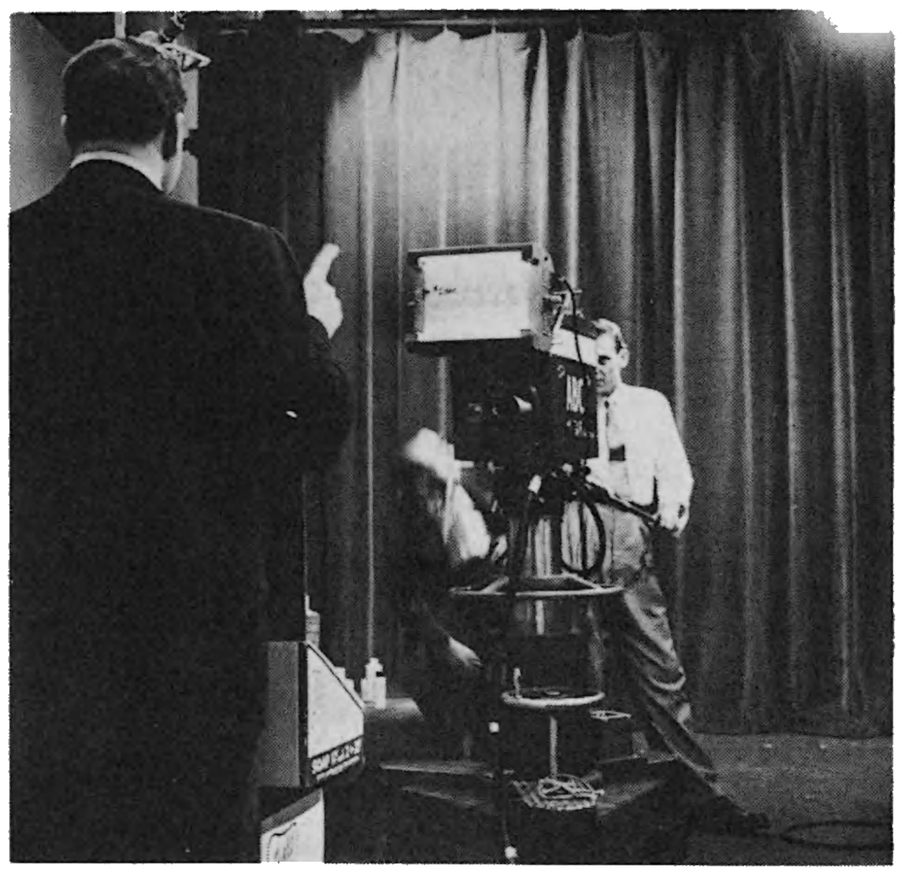
Telecruiser or simply **Cruiser** are names used for the *mobile unit* truck which carries the equipment for remote pick-ups.

The actor is well worth a later chapter, but needs mention now because of some special equipment the studio obtains just for him, to keep his memory jogged.

TelePrompTer is the trade name for an electrically operated device



Oversize Typewriter for TelePrompTer



TelePrompTer Above Camera Lens

placed on or near cameras where the actor can easily read it. The complete audio script, in large type is unreeled line-by-line on the *TelePrompTer* according to the pace of delivery used by the performer. **Tele-Q** and **Auto-Cue** are similar mechanical prompting devices.

Telepro is another trade name, indicating a remote control method of handling rear screen projection and other production factors.

Telemat is *TelePrompTer's* system of putting the script on a large screen behind the cameras for the actors to read.

In lieu of such mechanical contrivances actors sometimes rely on hand-lettered cards held just outside camera range. These are called correctly **Cue Cards**, but sometimes other terms are used, more brutally evaluating the actor's ability to memorize: **Goof Sheets**, **Idiot Sheets**, or **Idiot Cards.**

Actors also are aided by the lights on each camera called **Warning Lights** or **Tally Lights. Each** camera has two lights. The **Green Light** or **Preview Light**—when lit—indicates *that* particular camera is now

transmitting a picture to the control room (but not on the air). It is a caution to stagehands and others to stay out of its picture range, as at any moment the **Red Light** or **Camera Light** or **Cue Light** may flash on, indicating the picture from that camera is now being transmitted on the air. After the camera finishes transmitting a scene, it is said to "**Lose the Light**," as the red light goes off. A cameraman, while still on a scene, may be told to get ready to move rapidly to another position "when you lose the light."

► PRODUCTION STEPS

From the first rehearsal to finished telecast there are many steps in production for Live TV. Terminology varies for the different rehearsals, but generally, **Line Rehearsal** indicates that only the dialogue or lines are read. This may be done with the actors seated about a table. **Read Through** is another name for the same.

Walk Through indicates a later rehearsal in which the actors walk through an elementary staging of their roles, possibly with scripts still in hand.

Dry Rehearsal or **Dry Run** means staged without live cameras, although the camera crew may be present to plan later activities.

Run Through (used as a verb as well as a noun), indicates an early rehearsal with cameras. Also, this expression is used in the same sense of *rehearse* as in "Let's *run through* page 2 again."

Camera Rehearsal or **Fax Rehearsal** (CBS term) means specifically a rehearsal with cameras, film and other facilities used on the telecast. **Dress Rehearsal** is the final rehearsal "with costumes and no interruptions." This may be shortened to **Dress.** But don't confuse with the expression "*dress* a set," which means to prepare a set with furniture and decorations, or with the word *dresser*, the person hired to help a star change costumes.

Warm Up refers to the pre-show entertainment (and introduction of stars) designed to get the live audience in a receptive mood for the telecast to come. "*Warm* 'em up." But it was Fred Allen who pointed out that warming up an audience was like warming up dry ice: after you've done it, what have you got?

In the early stages of planning, the director and the set designer work with a **Staging Plan**, a blueprint-type sketch or plan or model which indicates the position of the settings, exits, and working areas in scale for the studio. Once the sets are in construction, the director uses it to plan the action of the performers, cameras and equipment before rehearsal. It is also called a **Floor Plan** or **Blocking Plan.**

The work of planning the sequences of camera shots is called **Block-ing**, since each move is blocked out in advance, or **Breakdown**, although this word is more often used to indicate the analysis of the script in terms of cost or in terms of time, talent or materials required. The verb form is two words: *break down*. And, needless to say, there are other types of *breakdowns* in the business, including financial, physical and nervous . . .

"On the Nose" is slang indicating that the timing of the show or rehearsal is exactly on schedule. Another way of saying this is "**On** the **B**utton."

When a show is too long in broadcast time, it is said to be **Over. B**ut this doesn't mean *over* (finished), it means *over in length*. Something may have to be **Cut,** or deleted. *Cut* can be a noun or verb in this usage but note that it has other usages in this business.

Tight indicates a show is only "slightly *over*" and faster pacing may bring it out on schedule.

Under means the show is running short. Something may have to be added and this is called **P**adding, or material to take up the extra time. "**P**ad it out," verb-wise. Occasionally the show can **S**tretch by slowing down the pace of the performers.

Spread refers to a period of time allowed in rehearsal for later expansion of the actual broadcast. For instance, in a half-hour comedy show, three minutes of *spread* may be allowed for audience laughter and applause when it is actually on the air.

Back-**T**iming is the precautionary practice of computing time in reverse from the end of the show, backwards, so that the director will know the exact time he must arrive at any point in the script to come out on schedule.

For emergencies, in case the show is long, the director may have certain sections in the script marked for possible deletion, and these are referred to as **O**ptional **C**uts, **E**mergency **C**uts, **P**lanned **C**uts, **P**rovisional **C**uts or **S**take-**O**uts, and a familiar way to mark them is **J.I.C.**, meaning "just in case!"

"**F**reeze **I**t!" is jargon to indicate there will be no further cuts or script changes. The script is to be used as it is at that moment.

► WORDS OF COMMAND, JARGON

The control room has developed its own staccato jargon in Live TV to keep the rapid-fire work pulsating. Words of command have to be brisk, descriptive and unmistakably clear as they call for split-second action over the intercom.

"Stand **B**y" commands the crew and cast to be ready to go on the air

momentarily. Familiar electric signs in studios often are used to flash this signal, followed by **"On the Air!"** A *stand-by* (noun) is a program or announcer held in reserve for use in the event the regularly scheduled program fails.

"Take It Away!" is sometimes used to say "You're on the air." And, at the end of the program, **"Release Studio"** is another way of saying "You're off the air!"

Shot describes each single continuous view picked up by the live television camera, in the same sense as snap*shot*. (Hence, a "two-shot" is a shot with two people.) Film TV calls each shot a *take*, but in Live TV **"Take . . ."** is the director's command to switch to a different camera picture. For instance, if camera Two is now being telecast, and Three is lining up for the next shot, the director will alert with "Ready Three," then command: "Take . . . Three!" The *switcher* will prepare on the word "*Take*" and change the picture in the split-second he hears the number.

"Roll It!" is the command when film or roll-up titles are to be inserted. This may be commanded by **"Hit Film!"** or **"Hit It!"**

"Change!" or **"Flip!"** is the command to change to another title card. *Flip!* also is an intercom command to a cameraman to change from one lens to another.

"Go to Black!" tells the engineer to fade out the scene to total blackness. This, like the drawing of a curtain, indicates the end of a segment in the program.

"Pictures, Please!" is a familiar request to the cameramen after a brief rest period.

"Tighten Up!" is a command to cameramen to obtain a closer view of the subject. Conversely, **"Loosen Up!"** or "Widen the Shot!" are commands for a larger view, to be obtained by backing up (or changing lenses).

"Frame!" directs the cameraman to center the subject in the scene.

Various other commands to the cameramen would include "dolly in," "pull back," "boom up," "pan right," "truck left," and the many obvious variations.

Woof! has no literal meaning as a word but is a *sound* that audio engineers like to use in checking operations. "One . . . two . . . three . . . *woof*!" is a familiar speech given to see if a mike is open and working. And "Three . . . two . . . one . . . *woof*!" is used to synchronize timepieces, *woof* meaning *zero*. It is used by some engineers to replace "okay and good-by."

► VISUAL SIGNALS

"Pick It Up!" is the command to speed up pace when the timing of the

program is tight. There is a visual gesture for this, used by the floor manager to indicate silently the command to the performers: He points a forefinger toward the person to be speeded up, then whirls it rapidly in a circular motion to describe a wheel "rolling faster."

"**Stretch!**" mentioned earlier, means "slow down!" The visual gesture conveying the command is made by putting the hands together, as in prayer, then pulling them widely apart, as in pulling taffy.

"**On the Nose!**" also mentioned earlier, is signalled visually by placing a forefinger on the nose. To ask "are we on the nose?", a hooked finger over the nose serves as the silent question.

"**Cut!**" meaning to stop, end it, cease, quit, is signalled visually by pointing the forefinger toward the throat and slashing like an imaginary knife across the jugular vein.

"**Okay!**" is of course the familiar circled forefinger-to-thumb gesture.

Cue refers to any signal, verbal or visual, which prompts an actor or technician to perform an action. A Hand **Cue** is given by gesture, a Light **Cue** by turning on an electric bulb.

Throw a **Cue** is the popular way to describe the act of giving the signal. The floor manager, for instance, will throw a cue to start the actors in a new scene. During the show, the floor manager must rely on silent cues, hence there are many hand signals accepted throughout the industry:

"**Ready!**", in effect alerting that the "Go!" cue is about to come, is indicated with the arm and forefinger pointing upward. For "**Go!**" the forefinger comes down, pointing at the performer.

"**Move Closer Together!**" is indicated to the actors by bringing hands together, palms in. "**Move Farther Apart!**" reverses this action, the hands being pushed apart, palms out. "**Come Closer to the Camera!**" is signalled by moving the hands toward the face, palms in. "**Move Farther Away from Camera!**" reverses this action, the hands being moved away from face, palms toward performers.

"**Speak Louder!**" may be indicated by raising the open palm of the hand. Conversely, "**Speak Softer!**" would be a slow lowering of the open palm.

Timing cues can also be signalled by hand motions. For minutes-to-go, the appropriate number of fingers is held up—one crooked finger (or two fingers crossed in a plus sign) indicating a half-minute. Such time signals are essential to any show which works without script so that the performers can wind up without an abrupt closing.

"Wind **Up!**"—a cue given in some stations at 15 seconds to closing—is indicated by a finger pointing straight up and moved in a winding, circular motion. A clenched fist can mean the same, especially for musicians.

Other silent cues are given to control the movement of the camera dolly during production on the studio floor. A **"Ready!"** signal, with the arm and forefinger pointed upward, first alerts the dolly pusher. **"Go!"** is signalled with one wave of the hand palm forward, describing the line or curve in which the dolly is to be made. **"Fast!"** is indicated for this dolly movement by having all fingers of the hand extended; for **"Slow!"** only one finger is extended.

Where the camera is maneuverable on its dolly or pedestal, a simple signal of the palm sweeping the desired direction is given to indicate *up, down, right, left.*

"Stop!" is indicated with the hand held up stationary, as a traffic cop might do it. That's enough—*stop!*

ADVANTAGES OF FILM TV
ON-THE-SET
BEHIND-THE-SCENES
TYPES OF FILM SCENES
STUDIO JARGON
WORDS OF COMMAND

5

Film TV Production

ADVANTAGES OF FILM TV

Two-thirds of a century ago, the first motion picture was put on film. It took fifteen years of development before it began to tell its first crude dramatic stories. It took nearly forty years to learn to speak. And by that time (1927) the first experiments in another new medium, television, were being demonstrated.

By 1950, when the old man was sixty and the youngster just beginning to come ot age, they were to be rivals in wooing the public. At first, Hollywood laughed at the upstart, and almost too late the bright youngster was taken seriously.

The early program films produced for TV were pathetically poor, creatively inept. It was not until *Fireside Theater,* a dramatic anthology series, and *I Love Lucy,* a situation comedy, achieved success that the feature film industry began to take notice. Better writers, producers, stars and craftsmen turned to the new medium and eventually the major studios, specifically impressed with the critical and financial victory of Walt Disney's TV debut, joined the trend.

By 1955, networks were programming, in prime, nighttime periods, as much Film TV as Live TV, and the two techniques began to be weighed on their individual merits.

Previous chapters have enumerated these separate advantages. Film

TV, it has been pointed out, is able to review each scene during production and so improve any portion or the entire structure of the program. This permits better performance by talent and craftsmen, with less deadline production strain and at a time more convenient to their schedules. It has a broader choice of locales. It is less costly for repeat telecasting. It is more flexible to programming on various stations at different broadcast hours.

It has also been pointed out that Film TV can photograph anything Live TV can, but film's time for laboratory processing and editing necessitates a delay between production and telecasting. Film is rarely to be recommended when speed or the cost of a *single* telecast are dominant factors.

In production, Film TV differs especially in that it does not rehearse and photograph in program sequence. Instead, it rehearses and photographs one scene at a time, and these not necessarily in program sequence.

Production personnel is basically the same, and it might be well to compare the definitions of these job responsibilities in Live TV (Chapter 4). The functions of the producer and writer were covered in Chapter 3. To repeat, the Film Producer organizes the production and administers it. In most cases, he selects or accepts the story, decides on the writer, director and stars, coordinates the human elements of the production and watches over the budget.

The Film Director is the man responsible for interpreting the writer's story. He normally has approval on casting and he directs the actors in their creative work. The pacing, the shadings of meaning, the control of mood are primarily in his hands. This may be even more true in film than in live because the film director theoretically has an opportunity to remake a scene until he is completely satisfied with the interpretation.

► ON-THE-SET

The director's staff and crew on the film set are often much larger than the equivalent team in live TV. They are not hampered by working in a crowded, distant control room, and they do not have to face the same split-second deadlines. Nonetheless, the expense may be running $3,000 or more an hour, and they must plan with precision.

The Assistant Director conveys the director's orders to the camera, crew, and cast. He is also timekeeper and payroll clerk. One of his more obvious duties is to shout "Quiet!" and Hollywood generally recognizes that the quieter the director, the louder the assistant. A Second Assistant is required on major productions.

The Dialogue Director assists the director in quite another way. He

makes certain the actors know their lines, advises on pacing, diction, pronunciation, and timing.

Production Manager or **Unit Manager** is the title of the administrator of the set (representing the producer). He coordinates schedules, assembles crew, and plans logistics of day-to-day and hour-to-hour physical needs.

In Film TV, a vital key—even more important than in Live TV— is the **Cameraman,** called by the union a **First Cameraman** (but who prefers **Director of Photography** as a screen credit). He is responsible for the lighting of the set, the composition of the picture and the actual camera work. Chapter 7 will discuss his work in more detail. He is in every sense a creative artist as well as a craftsman, because he must interpret with light and camera movement the director's desires in mood and pacing. The *first* cameraman generally has a **Second Camerman, Camera Operator** or **Operator,** to handle the mechanical work on the camera. He also has an **Assistant Cameraman** who loads the film, checks focus and keeps the **Camera Log** or record of scenes for laboratory reference. Sometimes a second assistant is also required.

Note that a film crew normally requires three men to operate a camera, as opposed to only one in Live TV. However, only one camera is needed in film, as against two, three, or more in live. In the rare instances where more than one camera is used in film production, the first cameraman supervises all, with an additional operator and assistant for each additional camera.

Since film scenes are not shot in normal story sequence, it is the task of the **Script Clerk** or **Script Girl** to keep track of each scene and be certain it is correct as to costume, props, and other details (so that, for instance, if an actor is smoking as he walks toward the door in Sc. 93, he will still have a cigarette when he walks out the door in Sc. 94 when it is photographed next week!) She (or he) also holds the script to prompt actors, to note any changes in the dialogue and to time the scene lengths, especially on commercials, where a required length must be achieved. An efficient script clerk is essential in any smoothly operating film production.

The **Chief Electrician** is responsible for lighting the film set as the cameraman desires. He anticipates probable needs and "roughs in" the lighting, awaiting final instructions. An electrician is also called a **Gaffer** (from the old Anglo-Saxon word for grandfather). His first assistant is called a **Best Boy.**

Other electricians include the **Lamp Operators** (one for each big light) and the **Spot Man,** the electrician on the spotlight. **Dimmer Man** is used to distinguish the man who handles the special equipment for gradu-

ally increasing or decreasing illumination. And the **Generator Man** or **Jinny Man** handles the power generating equipment, if such an additional supply is needed.

Juicer is a slang term for all electricians under the gaffer (because they handle the power or "juice").

Grip is the popular word for stagehand. There may be a **Boss Grip** or Head **Grip,** plus a **Second Grip,** etc. The *grip* "grips" and pushes the camera equipment, moves sets about and does incidental carpenter work. But he cannot build sets, as the unions require for this a **Carpenter,** who performs such labors on the stage (or in an off-stage construction department).

Similarly, a stand-by **Painter** is required on stage for touch-up work.

Property Man or **Prop Man** is the equivalent of the person in Live TV or on the theatrical stage who handles properties, the furniture, and decorations of the set. Sometimes the top property man is called a **Prop Master. As** in Live TV, larger productions require an **Inside Prop Man** who looks after properties from the studio prop department, and an **Outside Prop Man** who obtains props from outside the studio. The **Greenman** or **Greens Man** handles plants, shrubbery, trees and garden greenery for the set.

On small film jobs, the prop man may also dress the set, but generally this is the work of the **Set Decorator** or **Set Dresser,** who supervises the actual placement of the furniture and decorations in position.

Still Man is a popular term for the non-movie photographer who takes still photographs of the production work.

Sound recording on the film set is handled by a crew separate from the camera crew. On the stage is a **Sound Boom Man** or **Boom Man** or **Boom-Swinger** who manipulates the microphone on a movable extension arm or **Boom** over the heads of the actors to pick up dialogue as they move about. When no movable boom is required, the microphone may be held on a rod or **Fish Pole.** Sound, of course, also can be picked up with stationary microphones hidden on the set, without the use of a boom or boom man.

Mixer or **Sound Mixer** is the term for the recording man who controls the volume, as he listens with ear-phones at his desk console on stage. The sound is then carried by line to magnetic tape or film recording equipment operating in the studio **Sound Department** or, in some instances, in a **Sound Truck** which carries such equipment wherever needed.

This recording equipment is handled by a man called the **Sound Recorder. A** log on sound, similar to the *camera log* on picture photography, is kept.

It should be noted here that certain types of cameras, called "single-

system" cameras, record the sound on the same negative with the picture. These are not widely used in the industry, as the quality of sound recorded is considered inferior to the separate or "double-system" method.

Synchronization between picture and sound is mandatory and this is achieved by interlocking the motor driving the sound equipment.

► BEHIND-THE-SCENES

As in Live TV, film work requires a staff of specialists to prepare for production, such as the **Casting Director, Musical Director, Dance Director,** and **Art Director.** However, in credit titles on the screen the term "director" is not officially used, due to a specific clause in the contract of the Screen Directors' Guild which prohibits the use of the word except for the one person who directs the overall production. Only *one* director on the set, please.

Scenic Designer (or **Set Designer**) and **Costume Designer** work under art direction, with a **Wardrobe Supervisor** responsible for costume preparation and maintenance. A wardrobe man or woman also may be required on set.

Make-Up Artists, in Film TV, are even greater specialists than in Live TV. Hollywood requires separate classifications for facial make-up and body make-up. Hence, a bathing beauty must be made up by two different persons, one from the neck up, the other from the neck down!

Fashion Stylists and **Home Economists** are occasionally needed for film productions, especially commercials.

Hollywood, of course, has numerous special classifications for film production. **Special Effects Man** is a specialist in unusual tricks and illusions such as artificial rain, fog, snow. His work is outlined more fully in Chapter 13.

Wrangler is one who handles horses and other livestock—an important man in Westerns.

Driver is the simple union designation for the man who drives a truck or car. On location, Hollywood requires that each car, truck, and bus be driven by a man in the transportation union. Sorry, you can't drive your own!

Teacher has its obvious meaning, even in Hollywood, but it may not be generally known that a teacher must be employed on any production in California which uses children within school age. At least four hours of each day on the set must be given to school work.

Nurse, likewise, is required in California on any movie set using a baby. A physician's examination also is required before and after the

baby's camera work, and the number of minutes under lights and on camera is limited.

► TYPES OF FILM SCENES

There are many types of film scenes and it is well to know the appropriate jargon on the set.

Silent means the film is being shot without sound (it is *video* only). Silent scenes may sometimes be called M.O.S. (from a foreign director's "mit out sound!"), **Mute**, a **British** designation, or **Wild Footage**, indicating such scenes are not keyed to the usual synchronized sound.

Wild Sound, by the same token, indicates audio track which has been recorded without accompanying picture.

Sync Sound indicates the picture and sound are made simultaneously, in synchronization. Special interlock motors drive both the camera and sound mechanisms (or pre-recorded sound playback mechanisms) at constant speed to achieve synchronization.

Direct Sound, Direct Recording and **Dialogue Sequence** are other terms which indicate the sound is recorded as the action is photographed, in *sync*.

Live Action is a term used in the TV commercial field to indicate scenes which feature actors or general studio photography, as distinguished from *animated cartoons*.

Inserts or **Cut-Ins** are scenes which show close detail or action (other than an actor's face) especially significant to the story. An actor's hands or his feet may be shown in this type shot. For instance, an *insert* might be: a closeup of a hand picking up a revolver, a clock nearing the appointed hour, a spoon dipping into a bowl of cereal in a commercial. Since the original actor is not needed (a substitute hand may be used with identical clothing in the background) and since a smaller union crew is required for *insert* photography, such scenes generally are shot at a later time. Many production companies have *insert* studios where these scenes are separately staged and photographed to match the previous action. Consequently, it is economically important to mark carefully all *insert* scenes in a script.

Stock Shots, sometimes simply called **Stock**, indicate scenes which previously have been photographed by some other source. For instance, a scene of Paris, a sunset on the ocean, a liner docking all are *stock shots* which are the type that can be obtained from the various *stock* libraries. Stock scenes are sold on a footage basis and are relatively inexpensive, but it is often difficult to obtain the exact scene desired, photographed from the correct angle and matching the quality of the rest of the

footage. Thus it is important to make certain the *stock shot* desired is readily available before so indicating it in a script.

Library Shot is sometimes used for *stock shot* but generally by a studio in referring to material in its own library, as opposed to material from an outside source. Some TV stations keep such a library of miscellaneous film footage and use the term to refer to shots which are immediately available in their own files.

Process Shot refers to any scene in which the actors in the foreground are combined with a photographic rather than an actual background. This may be done in any of several ways. More often it is done with a **Process Screen**, a large translucent flat material (similar to a motion picture screen) stretched on a frame behind the actors. The required picture background (previously photographed) is projected from the rear. When the live actors are placed at a distance to this rear image, the camera records the illusion of a real background. For instance, a driver in an automobile on the set, plus a rear projection scene which was previously shot moving along a city street, gives the illusion of actually riding on that street.

The correct term for this is **Rear Screen Projection**, but it is also called **Background Projection**, **Back Projection**, **Process Projection** and **R.P.** (the last is a New York abbreviation for *R*ear *P*rojection).

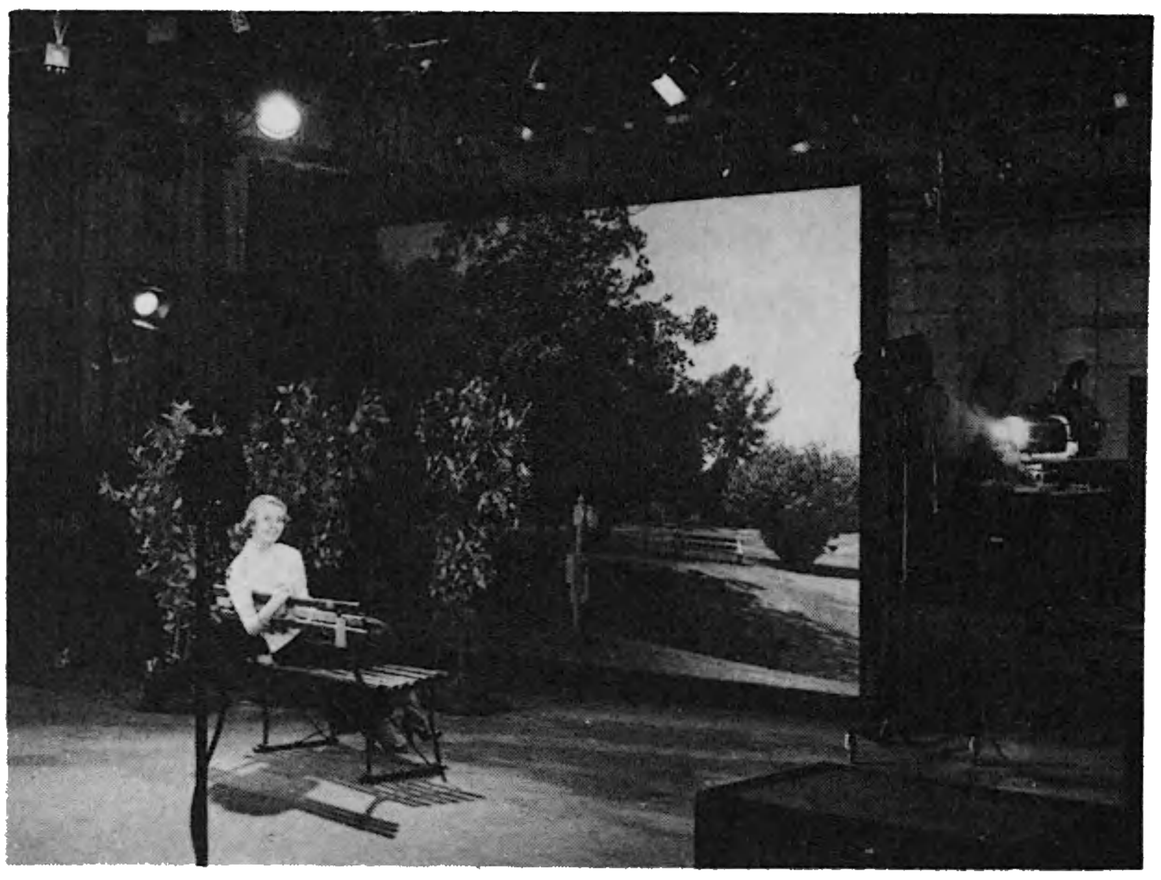
With still photographs or drawings this may also be called **Stereo** or **Transparency Process**, so named for the *transparencies*, glass slides or transparent photographs used in the rear projector.

The material used for such backgrounds is called a **Plate** or **Background Plate** or **Process Plate**, the word *plate* having derived from the days when only a still photographic plate could be so projected. When the background is to move, motion picture film is necessary. The motor of the projector behind the process screen is synchronized with the motor driving the camera to project each frame of the film in the precise 1/24th of a second that the camera is photographing it.

Pre-Score or **Pre-Record** means to record sound track before photography. This is done especially on musical productions where utmost quality in sound is required. Singers record in an acoustically-perfect studio until a satisfactory performance is achieved. This special recording is used later when photography is done.

Mouthing or **Miming** are terms for the action of the player before the camera as he moves his lips in apparent synchronization to the prerecording. In films, he may do this a number of times, from a number of angles, so the camera can photograph a variety of shots for choice in editing.

Playback (in addition to being defined as any sound reproduction



Rear Projection for Live TV As the Cameraman Sees It

machine) is the term for the method of reproducing the pre-scored or pre-recorded sound on the set, for miming, at the same time it is locked in synchronization with the camera. The playback machine can be heard by everyone on the set; the cameras photograph the action in apparent sync; later the sound and picture are edited to match perfectly. The sound track used on the playback is called **Master Track**, meaning it is the prime recording which will be used in the final production.

By *pre-recording*, it is of course possible to use another person's singing voice. (This, by the same technique, can be done in **Live TV**.)

It might be well to point out that a playback machine may also be worked by short wave broadcast. As, for instance, when it is necessary to photograph a dialogue sequence at a nightclub table where a big musical review is being staged in the background. The music, pre-recorded, is played by short wave, picked up in the hidden ear-receivers (short wave) of the chorus girls and musical talent. So, with the stage completely quiet, the dialogue is picked up clearly for later editing with the other scenes and sound track for the musical sequence.

In some instances, words or sound are recorded after the actual *silent* photography is completed (or, in rare instances, if the dialogue recorded is not satisfactory and can be so corrected). This is called **Post Synchronization, Post Dubbing** or **Lip Sync.**

The film scene or the previous dialogue is formed into a **Loop**, or continuous strip, which is played again and again until the voice in the recording studio can match it satisfactorily for pace and inflection. Such a post-dubbing operation is ingeniously used in making foreign-language versions of feature pictures, both in Hollywood and abroad.



As the Viewer Sees It

STUDIO JARGON

Film scenes, as previously mentioned, are not necessarily shot in sequence. It is more economical and efficient, for instance, to group the scenes that use expensive talent and the scenes that use identical settings. Studio space is expensive, hence a set may have to be *struck* or taken down so that a new one can be erected. Further, the lighting of a set usually takes more time than the actual shooting, so it is speedier to finish all scenes required before moving lights, camera and equipment elsewhere.

All these factors must be computed in preparing the **Shooting Schedule** or **Shooting Breakdown** or **Shot Breakdown** or **Production Breakdown,** which analyzes the shooting script and lists the sequence in which the scenes will be photographed.

From this production breakdown, each day's work is mapped out on a **Call Sheet,** which lists the actors and their individual **Calls,** that is, the time they are to arrive for make-up or on the set. It also lists their wardrobe, the sets and the props required, the crew and their individual calls, and other pertinent data. The producer may make out this call sheet, or he may turn this responsibility over to his unit manager or someone else depending on the size of the studio operation. In major Hollywood studios a daily conference of the heads of different departments decides the logistics involved, plans manpower and equipment needs, allocates studio space, and schedules future set construction. In this particular planning phase, the efficiency of production and the successful operation of the budget is at stake.

The call sheet also will indicate which stage is to be used or whether photography is to be on **Location**, meaning away from the studio.

Exterior is not to be confused with location. It refers to a scene which appears to be outdoors (not *within* a building), although it is possible to photograph this type of scene inside a studio under artificial lights.

Interior means that the scene simulates an indoor setting inside a building. Each scene in a movie script therefore must indicate **Ext.** for *exterior* or **Int.** for *interior* so that the cameraman knows what effect to achieve in lighting the set. It is well also to note an interior may be shot on location, if, for instance, the trip away from the studio is to a large manufacturing plant where photography *inside a building* is to be done.

If a proposed schedule is out in the open, dependent on the elements, the call sheet may indicate **W.P.** or **Weather Permitting.** The production company has until 2 p.m. the day before such shooting is scheduled to cancel a call without penalty. In most cases an alternate schedule for indoor studio production may be drawn up as a substitute. This is called a **Cover Set,** as it gives "cover" in the emergency so the day is not wasted.

Shot, in live television, refers to a single continuous view picked up by the live television camera, in the same sense as snap*shot*. Note that film production more generally calls these single scenes **Takes,** which is used both as a verb and a noun. "Let's *take* the scene now!" is the verb in the sense of **Shoot** or photograph the scene.

As a noun, *take* refers to each separate length of footage the camera runs on a scene. The assistant cameraman for his log of film footage going to the laboratory may be told to "print only *takes* 1 and 3." This would indicate that the other one, *take* 2, was **N.G.,** or no good, not worth processing, possibly because the actors did not follow the desired dialogue or action or because the camera or sound technicians were not satisfied with quality.

Retake indicates rephotography of a scene or re-recording of sound that is required because of some error the first time. Generally, retakes are made at a later date, possibly after the film has been viewed or even edited. "The picture had to go back for r*etakes*." Since a retake indicates a mistake, studios rarely admit that scenes have to be reshot, so they simply announce the cast is being called back for **Additional Scenes.**

Slate is the name of the small black board held in front of the camera at the beginning of each *take* to reveal identifying data about the scene number, *take* number, director, cameraman, day, film emulsion, and

other information vital to laboratory and editorial handling. The name originally indicated an actual slate on which the information was chalked, but now it applies to various wood boards or mechanical devices which accomplish the original purpose. *Slate* is used as a noun to indicate the board, or the actual frames of it which have been photographed on the resultant film; also slate is used as a verb to indicate the action "*Slate* it, *'take* 2.'"

Slating is also a term used by the sound technicians to identify their recordings. While the *slate* is being photographed by the camera, a voice will be recorded saying, for instance, "Scene 3, take 2." Following this, a sight-sound signal will cue both picture and sound in synchronization to begin the scene. For instance, a hinged board will be slapped down at the top of the slate, making a sharp noise. This also will be *seen* on the optical film sound track, and the action of the **Clap-Sticks** or **Clap-Board** or **Clapper-Boards** or **Slap Sticks**, or just **Sticks** hitting the slate, as seen on the picture film will be matched with the mark of the clap on the track by the editor to sync up the two pieces of film, so that all subsequent sound and picture will match.

Because the camera and sound recorder start and stop independently, even though they run at synchronous speeds, it is necessary to have *sticks* at the start of each sound *take*. The *N.G. takes* will not be printed.

End Slate is the term for a *slate* put on the end of a scene in lieu of one at the beginning. An *end slate* is always held upside down.

Color photography also requires a type of *slate* at the end of each roll of film. This is called a **Color Chart** and reveals all the colors of the spectrum and a detailed gray scale so that the laboratory may have a guide to control processing. Cameramen sometimes affectionately call this *color chart* a **Lily.**

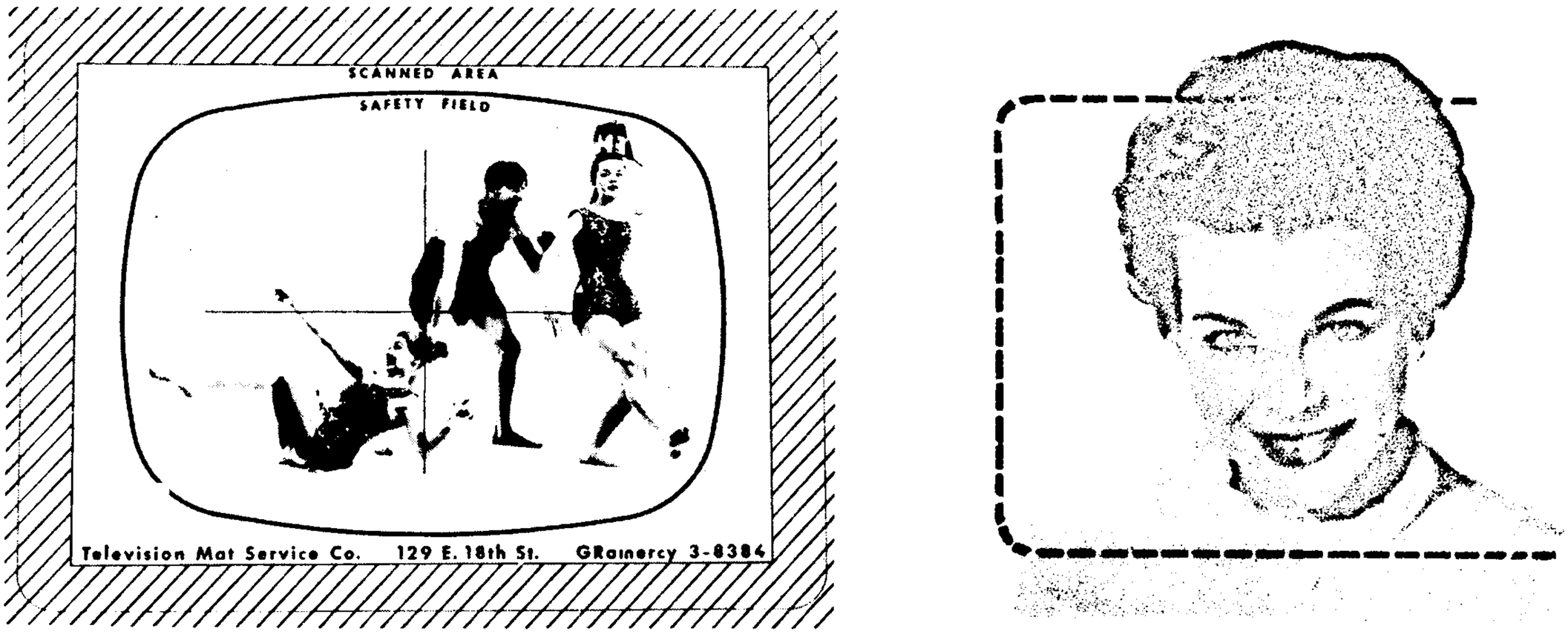
Television Cutoff is the term for the area of the probable picture that the viewer will see on his home set, as distinguished from the full film area as seen through the camera. Consequently, the cameraman and art directors make special allowance for the fact that approximately 1/5 of the edge area of the picture in TV will be lost in transmission and reception. Actually, 8% at the top and bottom and 12½% on each side is normally allowed for this "lost" area. Essential information such as titles and lettering is held within the *television cutoff* area. (See illustration.)

Riser is the quick term for a movable platform used to raise the level of the studio floor for actors, musicians, or props. **For** short actors often slanged an **Apple-Box** (Hollywood) or **Pancake** (New York)—but don't confuse the latter with a name for actors' makeup.

Lot is a popular term for any film studio which includes both

exterior sets and interior stages. Generally, complete sound recording, set construction, costume and prop facilities, and sometimes even laboratories are included on a movie lot. **Back Lot** refers to the part of the lot where exterior building sets are located. There may be a "western street," a modern "business street," and various other exterior locations available on the studio's back lot.

Ranch is a popular Hollywood term for the company-owned exterior location. Many major studios own movie ranches which afford mountains, roads, Western scenes, and often whole villages for exterior shooting.



Television Cutoff Shows How Outside Areas May Be Lost on Home TV Receivers

Unit refers to a single film crew, hence a **Second Unit** or a **Location Unit** is one that is operating in another place, perhaps shooting a bull fight, a horse race, or some realistic location material which later will be cut in with the studio shots. **Background projection plates** generally are shot by a *second unit.*

WORDS OF COMMAND

"**Lights!**" is the cue to turn all the lights on ready for photography. An alternative is: "**Hit the Lights!**" or just "**Hit 'Em!**" is sufficient.

"**Save 'Em!**" or "**Kill 'Em!**" means to turn the lights all off.

"**Settle Down**" is a command used to caution the people on stage that it is almost time to record a *take.* It is similar to "**Stand By!**" and comes before the assistant director shouts: "**Quiet!**" which means positively.

"**Roll 'Em!**" or "**Roll It!**" is the director's command to start sound re-

cording. If it is a silent scene, he may say, "Camera!" and the camera mechanism will be started. "Speed!" from the sound man indicates that the recording (and consequently the camera) equipment has gained momentum, leveled off and is now smoothly going at the standard 24 frames a second. In a silent scene the camera operator might use the same word or otherwise indicate "**Up** to Speed."

"**Sticks!**" or "**Mark It!**" (the latter is especially used in England) might next be called for, so that the sound-picture mark for the editor is recorded, although the man who holds the clapsticks may automatically take his cue from the sound man's "Speed!"

"**Action!**" is the director's cue to the actors to start their performance. This is the third word in the famous phrase which has typified Hollywood since silent days: *"Lights! . . . Camera! . . . Action!"*

"**Cut!**" is the cue to stop the camera and the action. It may come from the director at the end of a satisfactory performance, or before the end if unsatisfactory, or if the quality displeases the cameraman or sound recorder. Note that *cut* in another sense means to edit film.

"**Print It!**" is the director's command at the end of a good scene meaning the assistant cameraman is to log it—with a circle around the *take* number—so that the laboratory will process a positive print from this particular section of the negative. It also means that the sound take is okay, and should be transferred from magnetic tape to sound film and processed by the laboratory. The cameraman or the sound recorder may question the director's decision of "Print It!" if either is not satisfied with the quality of his own phase of the work.

"**N.G.**" meaning no good, and "**Don't Print It**" are commonly used if the director does not like the take and does not wish to see the results. In some cases, he may order a print and then make another take trying to improve the results, so that the assistant cameraman checks his log at the end of the scene and sees that, for instance, takes 1, 4, and 5 are circled for printing.

"**One-Take!**" indicates the desired result is accomplished the first time. Hence, a *one-take* actor, director or cameraman is considered superlative, one who gets the job done the first time round. Obviously such creatures warm a producer's heart and he consequently strives to surround himself with such speedy talent if budget is his prime worry.

"**Kill It!**" means stop it, immediately, and this term may be used in regard to any rolling equipment, lights, or action. "*Kill* the sound," "**K***ill* the rehearsal."

"**Take Five!**" also has a meaning other than the fifth attempt at a scene. As it does to musicians and others in show business, on the set

"*take five*" means that a five-minute breather is to be allowed, and you can take the five minutes as you please . . . but don't go too far away!

"Wrap **It Up!**" is an expression to indicate the scene or day is completed. Specifically, it advises the electricians to wrap up their cables and others to put their equipment away. The same idea is expressed in "It's **In** the **Can!**" meaning the scene has been shot and the film is in its light-tight can, on the way to the laboratory. The day's work is done. . .

UNIONS AND CLASSIFICATIONS
SPECIAL TV DESIGNATIONS
CASTING CLASSIFICATIONS
THE ACTOR ON THE SET
GREASEPAINT JARGON

6

The Actor

UNIONS AND CLASSIFICATIONS

Television does not offer a simple life to the actor. Tallulah Bankhead once said that Live TV was "summer stock in an iron lung."

Rehearsals are long and arduous, but never long enough to satisfy the actor in the perfection of a role. Where a Broadway play has a minimum of three weeks' rehearsal, plus an out-of-town opening run, TV often condenses audition, rehearsals and performance into a single week. In Film TV, a scant three days is a normal schedule for a thirty-minute film—and the actor sometimes learns his lines for each scene as the lights are being set.

True, *TelePrompTers* and idiot sheets help solve some of the actor's memory problems, but TV brings much else to remember: a new technique, a new jargon and a new set of union rules:

AFTRA, the popular abbreviation for **A**merican **F**ederation of **T**elevision and **R**adio **A**rtists, guides the working conditions and the minimum pay scales of most performers in live television. This union is an outgrowth of **AFRA,** the former radio union, and **TVA,** the Television Authority, combined into ***AFTRA,*** in the earlier days of the industry.

SAG or **S**creen **A**ctors **G**uild is the motion picture union with authority over the stars and principals in Film TV programs and com-

mercials. Everywhere except in Hollywood, **SAG** also has jurisdiction over minor performers in film work, but this function in Hollywood is controlled by the **SEG** or **S**creen **E**xtras **G**uild. *Extras* include those performers who do not speak, except in incidental or crowd scenes, and who do not receive featured attention from the camera. The ***SEG,*** as a union, also specifies day wages for many odd classifications of movie roles, such as: midgets ($19.40), sulky drivers ($52.50), man leading an elephant or camel ($36.75), diver from a three-foot platform ($26.25), diver from a five-foot platform ($34.00), and diver from a seven-foot platform ($42.00), etc.

Actors **E**quity is the union with authority over the stars and principals on the stage or so-called legitimate theater, and **C**horus **E**quity looks after the dancers and chorus girls in the musical shows, while **AGVA** or **A**merican **G**uild of **V**ariety **A**rtists has jurisdiction over the vaudeville and nightclub performers.

Each of these unions automatically offers membership to the allied union members simply by the payment of a partial initiation fee. However, dues must then be paid to each additional union in which the performer holds a **C**ard, the official symbol of membership. Otherwise, to get a card in one of the actors' unions generally requires a specific request from a producer who offers a definite role.

Credits are the most important thing, next to money, that an actor can receive. It is the official listing of the actor's name at the beginning or end of a show. Often the exact dimensions of this may be stipuated in a talent or employment contract. These matters of **B**illing have been discussed in **C**hapter **2.**

Option can be a fearsome word to the actor under contract. **At Option Time** the studio or sponsor or network decides whether to exercise officially the right stipulated in the contract to **Pick Up** the **Option** and so continue the actor on the payroll (often with a raise!). **E**ach raise at *option time* in a contract comes under what is called an **Escalator Clause.** It automatically moves you up with a salary increase.

Minimum or **Scale** is the minimum wage the union establishes for an actor according to the specific job and classification. *Scale* varies according to the length of the show, the services performed, and sometimes the broadcast area involved. **Over Scale** indicates than an actor is paid more than the minimum. Hence an *over scale* actor is considered to be better than average and therefore worthy of extra pay.

Talent Agent or **A**gent is the polite term for the actor's representative in all these negotiations. He receives ten per cent of the actor's fee for his services and so is sometimes called a **Ten Per Center.** And since he deals in human flesh, he is occasionally called, less politely, a **Flesh Peddler.**

Press Agent is a different kind of agent, one who represents the performer in relations with the newspapers and other publicity mediums. Also called **Publicity Agent** or **P.A.** or, more loftily, **Public Relations Representative** or **P.R.** For slang, the popular name for press agent is **Flack,** and a Winchellism is **Praise Agent.**

Talent Scout, not to be confused with talent agent, refers to the representative paid by a film studio or network to find new and likely talent.

Angel is a popular term for the financial backer of a production, but it is also used to refer to a similar backer of individual talent.

Audition or **Test** or **Reading** indicates an advance interview or trial to see if the performer has the voice (and, if for a visual medium, the appearance) for the part. It is often a competitive tryout, and when a large group of performers are forced to compete in auditions on the same day, the industry has been known to call this jocosely a **Live-Stock Show.** And an audition for announcers is sometimes called a **Hog-Calling Contest. But** perhaps you should say: **Voice Test.**

Films on rare and expensive occasions indulge in a **Screen Test** which actually puts the performer before the camera for a tryout for the projected role. Screen tests also are used to study new personalities before signing film contracts and for special testing of costumes, unusual make-up, color factors, etc. Technical *tests* of cameras and film stock are to be discussed in Chapter 13.

► SPECIAL *TV* DESIGNATIONS

On Camera means that the actor is *seen* on the screen. **Off Camera** means he is *heard,* but not seen. These two classifications are especially important in computing **SAG** commercial scales.

Off Screen is a film term which means *off camera* and it is also referred to as **Voice Over,** again meaning that the voice is heard but the performer is not seen. Most commercial scripts write *"voice over"* to indicate an *off camera voice.*

There are three types of minimum fees set by **SAG** for performers appearing in advertising commercials:

Session Fee, sometimes called a **Daily Fee,** which covers the minimum the performer must receive for the actual performance *on camera* in the film studio or—if *off camera*—in the recording studio.

This is supplemented by a **Unit Fee** to cover *each* commercial (if more than one) that has been produced at that session.

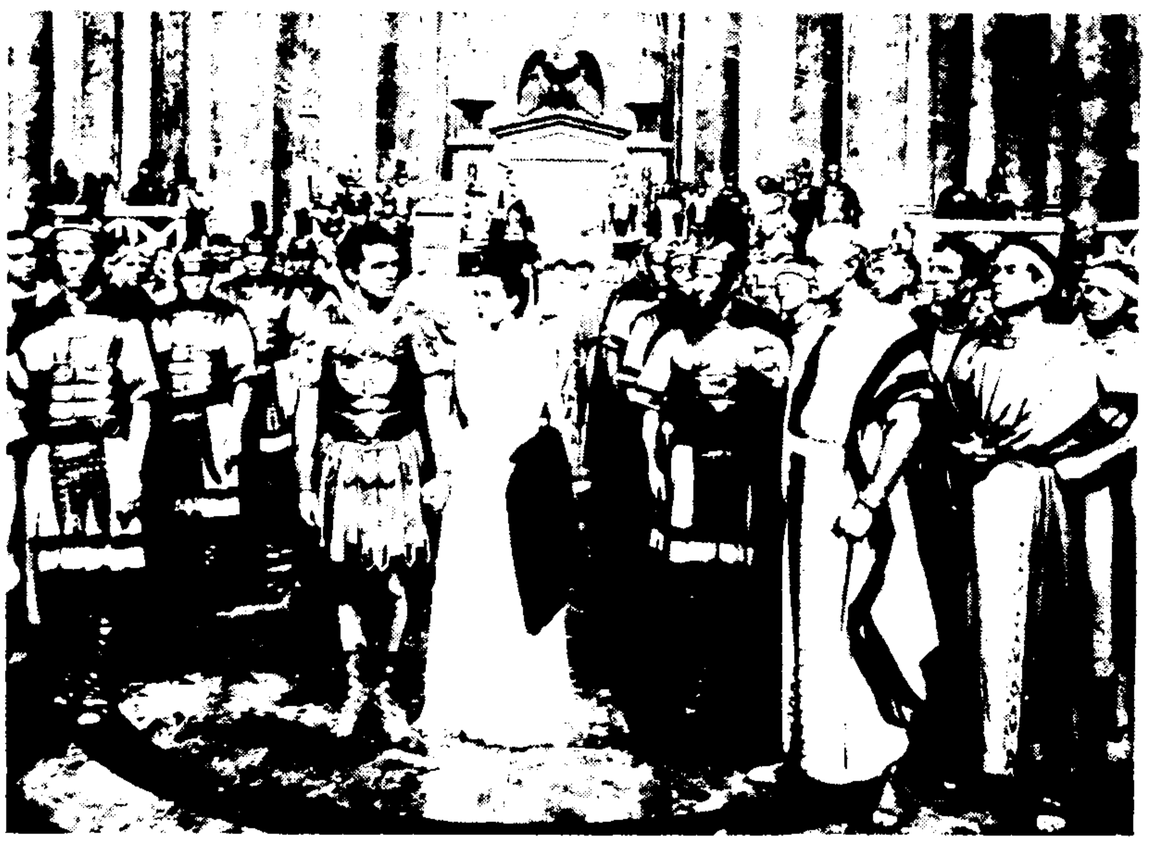
Then the performer may recieve an additional compensation in the form of a **Use Fee** when the commercial is telecast more than once,

depending on type of usage, program, or spot, and number of stations and number of times used. It is possible for a performer to receive $10,000 or even $20,000 for a series of commercials—filmed in a single day—as a result of these subsequent *use fees* under the SAG minimum scale.

CASTING CLASSIFICATIONS

Talent refers not only to ability, but is used as an all-encompassing term for performers. "Talent contracts" and "talent budget" are familiar expressions.

Free Lance, as in other professions, means that an actor is without a continuing contract. He gets each job as an individual assignment.



The Cast



Stars

Star indicates the top performer in any production. As mentioned in billing, *star*dom generally specifies by contract that the star's name be billed above the title. Occasionally, where there are several stars in the same show, one star may get billing above the title, while the others are listed below the title with the introductory word: "Co-starring . . ."

Featured Player or **Featured Performer** is the designation for top talent, other than stars. This type of billing always follows the title, generally with the introductory word: "Featuring . . ." or "With . . ."

Lead indicates *lead*ing role but not necessarily stardom. For instance, a female star may have a comparatively unknown featured player as her **Male Lead** or **Leading Man** and by the same token a male star may have a lesser **Feminine Lead** or **Leading Lady.**

Second Lead is a popular designation for the role secondary to the star, in the same sex.

Name is a trade term for a star whose name alone is considered sufficient to win the patronage of the public. For instance, "She's a big *name* on the stage," or "We need a *name* star." **Box-Office** is a theater term meaning an attraction will sell tickets to the paying public; hence "box-office star" or "box-office hit." Sometimes shortened to **B.O.** —but be careful how you say "He really has *B.O.!*"

Comic is another way of saying comedian. If he only tells jokes he is called a **Standup Comic.**

Straight man is the term for the man who foils for a comic, speaking the *straight* or unfunny lines which invite the funny answers from the comic. Any secondary character who serves a primary character in such



Character Actors



Extras

a way also may be called a **Foil**—because he is a fencing partner, as it were.

Heavy is slang for villain, or, as the movies sometimes say: **Menace.** Without him few plots would thicken.

Character Actor (or actress) refers to the older performer who has an important characterization or part in the play.

Juvenile indicates the young masculine actor. Many plays give featured prominence to such a role creating a **Juvenile Lead. Ingenue** or **Ingenue Lead** is the feminine counterpart.

Soubrette is a term from the stage—and burlesque—referring to a feminine *comic* who acts as a foil for the leading lady. You rarely hear the term in television.

Type-Casting means to assign roles according to an actor's normal

appearance or previously successful roles. It means casting in the obvious way without imagination. **Casting Against Type,** on the other hand, means to assign roles in an unusual, off-beat, unexpected manner.

M.C., sometimes written **Emcee** is short for **Master of Ceremonies** and refers to the man who introduces the show and its various performers. But note that "Mistress of Ceremonies" somehow has never come into good usage. It seems there just isn't a good name for such a girl . . . the nearest being **Femcee.**

Model is occasionally used to refer to performers in commercials, even as still advertising calls them *photographer's models.* Note that *model* also means a facsimile, a simulation of the real thing.

Narrator refers to one who narrates or explains the action. In commercials, he is usually an *off camera* voice.

Extra is the Hollywood term for a performer who is not prominently shown in the picture and who does not speak individual lines, except in a group. The term indicates this is an "extra" person, hired for the day as a part of crowd scenes, etc. If the camera singles out an *extra* for a closeup, the union pay scale is automatically upped. There is also the **Special Business Extra** who does not speak, but performs some action or stage business essential to the story (such as providing hand close-ups in a commercial) and the **Dress Extra** who wears other than street or daytime clothing to dress up the set. **Evening clothes cost extra on the extra.**

Atmosphere Player is another name for extra. Opera calls such a role, in slang, **Spear Carrier.** The stage has an equivalent meaning in **Supernumerary,** but more generally uses the term **Walk-On.** Television has adopted *walk-on* and so a **Walk-On Part** is one in which the greatest acting ability may be exhibited in walking on and off stage without tripping over a cable.

Omnies, from the Latin word "all," indicates in a script that *extras* and everyone are to speak as a crowd, in a jumble of voices.

Bit means a small part. **Bit Player** is sometimes used interchangeably with *walk-on* or *extra,* but actually in films it indicates a more important role. **The Bit Part** may be small, it is true, but film technique features the performer in a closeup or close-shot—sometimes with individual lines to speak—so a *bit part* appears to be more prominent than an equivalent *walk-on part* on the stage.

Understudy is the stage term for a performer who studies and learns a regular actor's part to perform in case the regular is ill or absent. It's often a stepping-stone to stardom.

Stand-In, a similar film term, is not exactly the equivalent. **A** *stand-in* merely *looks like* the star, in size and coloring, in order to take the star's

place in the tedious work of *standing in* on stage while the hot lights are set and cameras positioned.

Double is a Hollywood term for an actor who substitutes for a star in remote location scenes or in hazardous action. The latter job requires that the *double* be a **Stunt Man,** experienced in such risky work. For this he receives a **Stunt Check,** premium pay. Humorously, actors often say they should get such extra pay—a *stunt check*—for working with certain directors or for eating, take after take, breakfast cereals in commercials!

Central Casting is the name of the Hollywood office, supported by the major studios, that acts as a clearing house for casting bit and extra film roles.

►| THE ACTOR ON THE SET

Stage, of course, is both a verb and a noun. As a verb, it means to produce a show. As a noun, in television, it specifically means the floor of the studio. In motion pictures it may refer to a complete building housing a number of individual sets.

Stage Directions and **Studio Directions** are given in terms of the actor's right or left as he faces the audience or camera. **Stage Right** is his right and **Stage Left** is his left. This is exactly opposite to **Camera Left,** which is the actor's right, and **Camera Right,** which is the actor's left.

If this is confusing, **Center Stage** still means the same as **Stage Center** or **Camera Center.**

Down Stage indicates a position nearer the audience or camera.

Up Stage indicates a movement toward the back of the set away from camera. Hence **Upstaging** is a slang expression which means "stealing the scenes," "putting on airs," or "showing off." It originated when conniving actors carefully worked themselves *up stage* in order to force other actors to turn about and follow. Consequently, the upstaging actor continued to face the audience while the others, *up staged,* presented only their backs to view.

Scene, mentioned in Chapter 3, may mean a division of an act in a play, as it does on the stage, or it may mean each separate camera viewpoint, as it does in films. Television rather loosely uses both meanings, but favors the film sense of the word, although an actor may be said to be "terrific in that particular *scene*"—in this case meaning a whole sequence which has been staged in one setting.

Side is a stage term that indicates a sheet of paper (originally the word meant *page*) on which is typed the lines the actor is to speak,

with preceding cues. Thus, a part may have "10 *sides*" or "50 *sides.*" The more *sides,* the greater the importance of the role.

Line is another term for speech. "Let me hear your *line* again," "Let's go over our *lines.*"

Book is another term for script. The script girl "holds the *book.*"

Business is the term for the individual physical actions and pantomine of the actor which are designed to aid his characterization and staging. The director, for instance, may give him certain *business* to do —wind his watch, nervously puff a cigarette—while he waits for a key event to happen.

Routine is a term for a distinctive pattern of *business* or way of presenting an act. It can also mean the written act itself. Thus a dance team may have a smart *routine,* while a comedian's r*outine* falls flat. The latter usage refers more to the sketch itself, also called **Special Material** or **Material,** general terms for anything written especially for a performer.

Bit has a rather loose assortment of meanings. It can mean a r*outine* (sketch): "The comedians did an old burlesque *bit.*" It can mean any piece of business: "The actor did a funny *bit* trying to kill an imaginary fly with an imaginary newspaper." Finally, this word has been kicked around so much the industry now uses it to cover almost any human action, even referring to a cold in this wise: "He's home doing the aspirin *bit.*"

X or **Cross-Over,** also written simply **Cross,** indicates in a script that an actor is to move across the stage.

Chalk is used in film and TV to mark the desired positions for actors on the floor in front of the camera. "*Chalk* your position" means to mark it (which a stage hand does) so that all will know the exact position for the desired camera angle and staging.

"**Mark It!**" and "**Give Him a Mark!**" and "**Chalk It!**" are words of command on the set to indicate the need to chalk positions for actors and equipment. But in film production, "*Mark It!*" also means to slate or identify the scene.

► GREASEPAINT JARGON

There are many descriptive terms for types of business:

Take, in the actor's lingo, means *react* or *reaction* (to a speech or situation) as portrayed in a facial expression. Hence, "*take* it big" means react with great exaggeration. To "do a *take*" means to make an obvious facial reaction.

Double Take is slightly more tricky: it refers to the *two* facial reac-

tions which indicate two stages in understanding what has happened—for instance, first a smile, then sudden irritation. The *double take* is stock in trade for most comedians.

Slow Take means a delayed facial reaction. **Slow Burn** is a type of *slow take* in that it is a delayed facial reaction building up annoyance and then sudden anger.

Register is a more elegant verb which means to r*eact* facially, but the silent movies brought this word into some disrepute. (There's the story of the silent star who could register only surprise, happiness and at a side-street hotel!)

Emote is slang, from *emotion,* which also means *react.*

A smart actor who shrewdly develops his own *bits* and business to capture the audience attention is known as a **Scene Stealer.** The term is generally used in admiration. Otherwise, call him a **Camera Hog.** In the same derogatory vein **Mugging** indicates excessive and unnecessary facial reactions in front of the camera.

Quick Study refers to an actor who learns his lines rapidly with apparently little effort. Television places such a rare performer in high demand.

Wood-Shed is a slang verb for privately rehearsing a part. It undoubtedly derives from the day when father took son to the wood-shed to teach him how to act better.

Ad Lib means a speech or action apparently improvised on the spot. It is used as a verb as well as a noun. An actor may have to *ad lib* his way out of a mistake. Also, it is interesting to note that some comedians famous for their *ad lib* remarks very carefully have these contrived and typed out in advance by their writers so they are ready for any situation on the "spur of the moment!"

Fake is another word for *ad lib*. **Both** are used regarding improvised music—"**F***ake* it" or "*Ad lib* it."

Throwaway is a line or piece of business designed to be very casual as though "thrown away" or lost on most of the audience. (The viewer thinks only *he* gets it!) **A** *throwaway* line is purposely *underplayed.*

Project (accent on last syllable!) is a word of instruction to an actor indicating the director wants him to speak more clearly and "throw out" his voice in a manner which can be understood at a greater distance. **Give** is a command meaning *give it all you've got.* "When you come to that speech, g*ive*!" **Punch** means to give added emphasis, as in "*Punch* that last word."

Talking in Your **Beard** is slang for "speaking in a muffled voice."

Feed means to give the right question or cue line to another actor. In rehearsal a director might say, "F*eed* him his cue," or a straight man

might say of his comic, "I *fed* him one laugh right after another."

Play It Straight means to act the part or say the line—funny though it may be—with seriousness, sometimes mock seriousness. **Dead Pan** indicates a complete lack of facial emotion. "It was a very funny *bit,* but he *played it straight,* strictly *dead pan,* and *killed* the audience."

Kill has two opposite slang meanings. In the *dead pan* quote it means "they died from laughter," indicating the entertainer was a success. But also heard is "the management *killed* the last performance" or "*kill* that line" in the sense of *omit.*

From Hunger is a derogatory phrase indicating a program, a person or a thing is *"undernourished"*—hence, not good. **From Dixie** is similar indicating something is not *new,* not *sophisticated.* Example: "That play is *from hunger* and those actors are strictly *from Dixie.*"

Dog is used as a term of derogation for a program or a job assignment. It means hackneyed, dog-eared, dull, unrewarding.

Turkey is the actor's description of a show of poor quality—hence, "due for the ax," termination or extermination. Or the show can **Lay An Egg,** indicating a zero in the profit column. **Clambake** is the actor's term for a general mix-up in handling—a program or rehearsal that is badly organized, for instance. Note that *clambake* refers to handling, *turkey* to overall quality.

Pay Off or **Snapper** or **Tag-Line** is generally used to mean the line that gives the final laugh to a joke or sketch. **Tag-Line** also means **Catch-Phrase,** a "trademark" saying of a comedian or a performer, which the audience may come to identify with him and repeat.

Gag is popular slang for a *joke* and also *to joke,* both noun and verb. When one gag follows another the snapper or pay off is called the **Topper,** and a comic who outdoes another is said to *top him.*

Hokum refers to bits of business or stock situations of elementary human interest which are good for a laugh—or a heart-tug—with an unsophisticated audience. This word has a more modern slang form, **Corn,** which got its connotation from successful *hokum* as used by the tent shows in America's "corn belt." TV and show business use *corn* in a mildly derogatory but affectionate sense to refer to any material basically popular with the masses—*"pure corn," "real corn."* It may also be used in a more openly derogatory form, **Cornball** (both noun and adjective) or **Corny,** meaning *not sophisticated.*

Break-Up is an actor's description of the amusing plight when one performer is so convulsed with laughter at another's antics that he can scarcely continue. It is true that comedians often try to *break up* the performers around them, and the performers often are shrewd enough to so oblige and pay honor to the funniness of the comedian.

Break, not to be confused with *break-up,* refers to a recess or respite from rehearsals. "Take five," mentioned in the last chapter, means a five-minute *break.*

Goof and **Boo-Boo,** as it does to all slangsters, means to make a mistake or the mistake itself. "He *goofed*—he made a *boo-boo.*"

Freeze means exactly what it says: a complete, icy stage fright that may suddenly hit an actor on camera.

Blow is the term used when an actor forgets his lines and consequently doesn't say them. The British say he **Dries Up. Muff** or **Fluff** means he said the lines wrong.

Flop Sweat refers to the "beads of desperation" that appear on a performer's brow when he realizes his act is failing—but he can't afford to stop. . . .

To Step on Lines is a heinous offense among actors, since it indicates someone has *stepped on* or come in too quickly on top of another's speech, ruining the effect. **Wait for the Laugh!** is the comedian's cry to prevent his lines, and the expected audience reaction, being *stepped on.*

Many terms are used by comics to identify the quality and extent of laughs they achieve. For instance, **Belly-Laugh,** which indicates the audience is doubled up with deep laughter, is famous in a ribald way. A few of the many others include: **Titta-Ma-Titta,** a mild tittering response; **Yuk,** a more hearty reaction; and **Boff** or **Boffola,** a complete smash, possibly even more deep-seated than a *belly.*

Pad means to add material to a part or to a program to make it longer. This is sometimes necessary to fill out a required time segment. However, actors who become too generous with ad libs are accused of **Padding the Part.** That's not nice—to other actors!

Pick It Up means the opposite, to shorten the time by a more rapid delivery of lines. Actors also are instructed to **Pick Up Cues,** meaning to start when a certain signal is given or a certain piece of *business* happens.

Cheat is a perfectly legitimate word in an actor's lexicon. It means to move or assume a position that is not normal, but which will look normal to the camera lens or audience. The director may tell an actor to "*Cheat* your hand lower so we can read the name on the coffee can" or "*Cheat* to camera left so we can see the percolator."

Pan is short for **Pan-Cake,** a type of make-up, and is not to be confused with *dead pan.*

Best Side is slang which has nothing to do with *side* or speech. It refers to the most photogenic profile or camera angle of a star. **Examples:** John Barrymore always turned his *best side* to the camera in love scenes; Marilyn Monroe, commenting on the famous nude calendar is reported to have said: "It's definitely not my *best side* . . ."

7

The Language of Lighting

FUNDAMENTAL OBJECTIVES

Two eyes and a brain do an amazing job of interpreting the normal scenes of daily life for us. They judge perspective, translate motion and color and—without conscious effort—evaluate the meanings of the things we see.

Since the television or motion picture camera has only one eye, and the resultant pictures are most often black-and-white, certain compensations must be made.

Lighting, which refers to the quality and methods of illuminating the set, is more important than the layman realizes. The business of making these compensations to aid the viewer in his interpretation of perspective, color, and the key factors of the scene is truly an art and a science. **Light** can be the very soul of drama. It can create the mood for the actor's scene, orient the viewer's mind, paint a setting with dimension and depth, change the time of day, and conjure up illusions all its own. No **Live** or film cameraman or director can succeed without a thorough working knowledge of photographic lighting potentials.

Black absorbs light. White reflects it. The colors in between reflect or absorb light in varying degrees, depending upon their own particular translation into gray. The **Gray Scale** refers to the range of shades between white and black that can be satisfactorily reproduced by the television cameras. **Pure** white and pure black—delicate highlight tones and

massive shadow detail—are extremely difficult to reproduce within the limited range of the television system and so a nearby tone of gray often must be substituted to create the illusion of the desired pure white or pure black. Live television reception requires a more limited *gray scale* than motion picture theater films, but once any live action has first been translated to film correctly, the problem of reproduction on television is minimized.

Incident Light means the illumination exactly as it falls on the subjcet to be photographed. It is measured by an **Exposure Meter** or **Light Meter.** To measure *incident light* the meter is pointed toward the camera and lights from the position of the subject. To measure **Reflected Light,** the meter is held at the camera lens and pointed toward the subject.

Transmitted Light is the illumination that comes from beyond, *through* the subject (as through a screen or a *transparency*) and into the camera. Exposure meters measure illumination in **Foot Candles,** a unit empirically established to represent the fullest intensity of light from one candle one foot away. One type of meter measures the *reflected light* as the camera sees it, while another type measures the *incident light.* Certain meters read both.

Kelvin, named for **Lord Kelvin,** famous **British** physicist, is a system of computing the degrees of **Color** temperature, or the spectrum characteristics of a light source. For instance, noonday sunlight has a *color temperature* of approximately 5400 degrees **Kelvin** (on the "blue" side of the spectrum), while an ordinary house light is approximately 2400° **K.** (and tends toward the "red" side).

Natural Light is the term for sunlight.

Artificial Light includes all man-made illumination, from candles to neon signs. **Excepting** those that use gases for illumination, **Incandescent Light** is the term for all that get their incandescence or luminosity from a prepared material (a filament, a piece of carbon, etc.). **Fluorescent Light** achieves its brightness from electricity burning in a gas-vapor tube. Another gas type used in the industry is the **Merc Light,** a mercury vapor lamp which has such excessive heat it must be water-cooled.

Arc Light, a high intensity lamp famous in the industry, burns electricity between two carbon sticks at about 5000° *K.* High intensity **Sun Arcs** may go up to 5500° to approximate the sunlight in color temperature.

Booster Light is a descriptive term for any artificial illumination used to brighten daylight (natural light) photography, especially to eliminate heavy shadows under trees, etc.

In color reproduction, even the age of the lamp and the voltage affects the results. Normally, lights are "balanced" to the requirements of the color film stock, but mixing of different color temperatures of light

poses a problem calling for color filters (on the lamps) to equalize all to the same relative color temperature. At other times, a filter on the camera lens can serve to correct the overall light to the needs of the color film stock.

Light Level refers to the intensity or level of illumination of the scene read in *foot candles.* For instance, a cameraman may request a *light level* of 450 *foot candles* for the set. It is then said he is "shooting to a 450 *key.*"

► TYPES OF LIGHTING

Key refers to the prime effect of light and dark, the dominant lighting treatment of a scene. Therefore, **Dramatic,** or Low **Key** lighting indicates a predominance of darker areas creating a somber effect to set the mood for slow-paced, mysterious, suspenseful or tragic scenes. There is danger in the dark!

High Key indicates a brilliantly lighted scene in all the brighter tones, with no heavy shadows, and definitely on the happy side in mood and effect. Comedy, light drama, and film commercials ordinarily are played in some degree of *high key.*

Key Light (distinct from *high key*) refers to the primary dominant source of illumination in film work. It picks out the key point of interest in the scene, sets the relative standard for the brightness of the other lights and the darkness of the shadows.

Fill Lights refer to the secondary lights used to fill in or brighten any shadows created by the *key light.* Also called **Filler Lights, Fill-Ins, Fills,** and **Balance** or **Balancing Lights.**

Base-Light is TV's term for the primary source of illumination in Live TV, providing the overall uniform light level required by television.

Back Light is placed behind the subjects (usually at a very high or very low rear angle) as viewed from the camera, so **Back Lighting** has the effect of illuminating the back "edge" surfaces of the subject, making it stand out from the background and giving the illusion of depth and perspective. Another term for this is **Rim Lighting.**

Flood Lighting refers to overall lighting, as from a bank of top lights or front lights. To *flood* a lamp means to adjust it to cover the broadest area.

Spot Lighting of course refers to picking out a specific feature in a scene with a beam of light. Allied to this is **Highlighting,** concentrating a higher proportion of light on one particular portion or subject than on the rest of the scene. This directs audience interest.

Highlights also indicate the brightest areas in the picture: "Put a

little *highlight* on her hair" . . . "Kill the *highlight* from that chrome ornament." Any annoying highlight that is too bright to handle is called a **Hot Spot** or **Kick** or **Burn.** Somewhat less bright—but almost as annoying—is **Bloom,** which is the reflected light from white costumes or props. To avoid bloom, white shirts and costumes are sometimes dyed a light blue, which cuts down reflection, yet gives the illusion of being white.

Modeling Light refers to a type of illumination which is directed from a side-front position. It accentuates side dimensions to reveal an added illusion of depth. On a person's face, it accents interesting bone structure. Similarly, **Cross Lighting** is directed on the subject from the right side or left side to give shadows and a third-dimensional illusion.

Eye-Light is a small lamp used to place a sparkle highlight in the performer's eyes. Smart cameramen know how to use such a small lamp, with colored filters, to darken the pupils of light-colored eyes and to remove the appearance of blood-shot eyes! An eye-light is also called a **Catch Light,** because the eye "catches" a highlight.

Kicker Light refers to any small light used to intensify illumination or "kick it up" within an already high key area. But note that "kick" alone refers to an unwanted reflection.

Set Light refers to illumination sometimes required separately from normal lighting for the background or set.

Top Lighting comes from overhead and **Front Lighting,** as the term obviously implies, comes from the front, near the camera. Too much *front lighting,* without the dimensional effect of *cross lighting* and *back lighting,* results in **Flat Lighting** which reveals the front plane of the subject, uniformly illuminated without shadows. Flat lighting is somewhat dull and uninteresting, since it has no highlights, no depth. It is not as bad in color, however, because the colors themselves help create an illusion of depth and separation of objects. Flat lighting is generally used in live television because the subjects being photographed must be lighted from every angle so that a satisfactory picture will result regardless of where the cameras are positioned.

On the other hand, in film production the lights are placed in each set-up for the best lighting effect and composition, as seen from each specific camera angle. Lighting may be changed even between a long shot and closeup in films.

A Flat Picture is the result of *flat lighting*. It is without apparent depth, and has virtually no distinguishing highlights and shadows. (Note that *flat* also refers to a unit of television scenery.) The opposite of a picture that is *flat* is one that is **Contrasty,** having a wide range of shading between light and dark. A picture can be "too contrasty" meaning the range is too great, the white values too white, the blacks too black. Or you

might say a picture has "good contrast" meaning the lights and shadows show the scene to best advantage yet are within the required range of the gray scale for best telecasting.

Hot is interchangeable with *bright* to describe a subject with too much light on it. "The boy's face is too *hot*."

Hard Light refers to strong light directly on the subject, such as from a spotlight. It casts a sharp-edged shadow.

Soft Light has less intensity and casts a soft-edged shadow. Generally the rays are broken up or diffused by something held between the light source and the subject. Such Diffused Light may be obtained with frosted glass or various Diffusion Discs or Diffusers, such as a Silk, a popular name for a fine cloth type; a Scrim, a mesh cloth or spun glass; a Butterfly, the scrim used to soften sunlight; a Gauze or a Gel or Jelly, colored gelatin or celluloid. The whole idea is to break up the rays of light.

► LIGHTING EQUIPMENT

Flood lighting and *spot lighting* are the two basic types of lighting for photography. Equipment is designed to do one job or the other. The Flood is designed to illuminate a broad expanse; it may also be called a Scoop. (Photo Flood, however, refers to a type of high intensity *light bulb*.)

The Broad is a type of floodlight generally used in series for broadside flat lighting. It is rectangular in appearance, sometimes covered with a glass front, and uses either incandescent or fluorescent bulbs. When



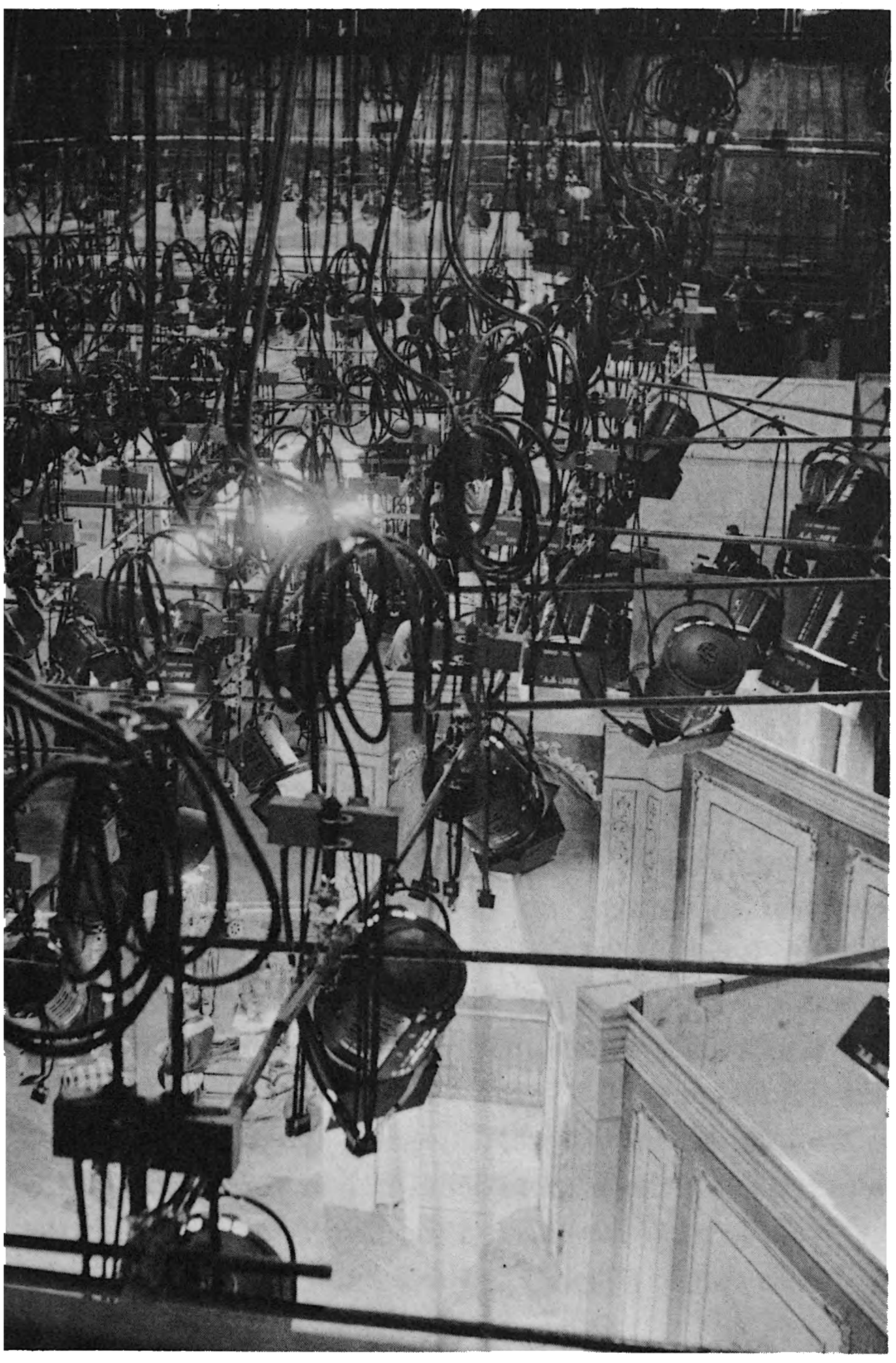
One Type of "Broads"

it has twin lamps it is called a **D**ouble **B**road or **B**roadside.

Spotlight, the other type of lighting equipment—as distinguished from *flood light*—is designed to project a single highly concentrated beam of light to feature one particular subject or spot in the scene. One type, a **B**aby or **B**aby **S**potlight may be used to light just a person's face. Another term for such a small spotlight is **I**nky **D**ink or **D**inkie **I**nkie, *dinkie* being slang for diminutive and **I**nky or **I**nkie being short for *incandescent*—thus, a small incandescent light.

Keg-**L**ite is the name of another small spotlight in a housing that resembles a keg.

Rifle is still another type that shoots a smaller beam of light to pin-point one small detail.



Overhead

Lights on **G**rid

Lamps come in various sizes, of course, and are measured in terms of electric power, the unit being the Watt, named for James Watt, the inventor of the modern steam-engine (although, paradoxically enough, the term is used now primarily to refer to electric power.) **K**ilowatt or **KW** borrows from the Greek word *kilo* for 1000 to represent 1000 units of light power. (Note that **K**ilowatt also measures broadcasting power.) The flood lamp may be 5 *kw* and a broadside 2 *kw*. A 1 *kw* is usually called an **Ace.**

The **5** kw is consequently a name for lamp more often called a **Senior.** Also at 5 *kw* is the **Sky Pan** (*pan*, in lighting, refers to a simple, pan-like reflector). The **Sky Light** or **Tener** is at 10 *kw*.

Junior is not quite as bright as *senior*, generally a 2 *kw*, but sometimes a 1 *kw*. **D**euce is another nickname for a 2 *kw* lamp.

Seven-Fifty, it follows, is a 750-watt lamp. A *baby*, for instance.

Brute is the nickname of a powerful and heavy arc lamp.

Sun-Arc is the trade name for a large rotary mirror arc lamp which, as mentioned, equals the sun's color temperature of 5500°. **Du-Arc** is a trade name for a twin-arc flood.

Kleig is an arc lamp made famous in movie publicity—"**K**leig *lights.*" It takes the name from its makers, **K**leigl **B**rothers, and the word is often applied generically to all carbon arc lamps.

Ash Can is a nickname for a large arc lamp hung overhead.

Banks of lights are units of several lamps connected in a group. These are often remotely controlled in live TV by a **Light Bridge** or control board, which switches all the stage lights. This is sometimes nicknamed, because of its console-like appearance, an **Organ.** If a light can be gradually brightened up or faded down, it is controlled by a **Dimmer.** Hence sometimes the *light bridge* is called a **Dimmer Board.**

► *MISCELLANEOUS TERMS*

Generator refers to equipment (especially, portable) designed to create electric power. Nickname: "Jinny."

Rigging is the term for setting up the lights and connecting the cables. In film work, the head electrician anticipates the cameraman and **Roughs 'Em In,** or sets the lights in approximate positions to accomplish the desired mood or effect. The cameraman then views the scene and is responsible for final adjustments.

Gobo is a black cloth, sheet or screen used to block off unwanted light reflections, especially on the camera lens. It is a corruption of the words "go between." (*Gobo* may also mean a small screen used to restrict sound reverberations in a studio.) **T**easer is the name of a large flat gobo

used to block overhead backlight from hitting the camera lens.

Flag is a small rectangular *gobo* and **Clip** is an even smaller one. A thin one may be called a **Blade** while a round one is a **Target** or, if very small, a **Dot.** A flag with a small hole in it is called an **Ear.**

Cuckoolorous or **Kuke** or **Cookie** are all pet names for a patterned cutout which can be similarly placed between a light and a background surface to create a shadow design. It has the effect of breaking up the blankness of the area and making the general composition of the scene more interesting.

Lekolite is a special spotlight which can be shuttered to provide an especially desired pattern of light.

Elbows are special hooks used to keep cables off floors.

Spiders are the boxes where cables converge (looking like a spider's web!) and plug-in to the main electrical current source.



Reflector Used Outside

Barn Doors (which open and close like actual barn doors) are black hinged panels or shutters placed in front of large lamps to narrow down or control the spread of the beam of light. **Snoots** or **Snouts** are hoods placed in front of lamp housing to channel the light to a confined area.

Century Stand is an upright pole-like stand with clamps. It is used to hold the *gobo*, for instance, as well as small lights.

Cameo refers to the method of lighting a set where only the actors and the *props* are revealed in the light. No background is needed since it does not show.

Spill is the term for the excess light which falls where it shouldn't. *Spill* light from a *flood* may spread over from an adjoining set. Then it has to be **Cleaned Up.**

Work Light is the ordinary light used during rehearsals and preliminary work. It is turned off when set lights are in use.

Reflectors are the concave mirrors placed behind the light source (within the lamps) to concentrate the rays of light in one direction. For exterior locations the term *reflector* applies to portable rectangular boards (up to 6′ x 6′) surfaced with mirror-like foil and used to bounce back sunlight on the shadowy side of the setting. Tin and mirror surfaces are sometimes used when stronger light reflections are required.

Hot Reflectors or **Hard Reflectors** have a bright, smooth surface and reflect the sun in a single strong beam. **Soft Reflectors** have a dull, pebbled surface and reflect the sun into the shadows in a soft, diffused light.

Yes, lighting is most important. No wonder smart actors treat with great respect (and in Hollywood have been known to bribe) the cameraman and gaffer who light their destinies!

HERE'S THE PICTURE
LIVE, FILM AND COMBINATION CAMERAS
TERMS FOR THE FILM CAMERA MECHANISM
THE LENS
CAMERA MOVEMENT
TYPES OF CAMERA SHOTS
FILM CAMERA SPEEDS AND TRICKS
MISCELLANEOUS CAMERA TERMS

8

The Camera

HERE'S THE PICTURE

In Television, two basic types of cameras are used: the photographic camera and the electronic camera. The former is used in Film TV, the latter in Live TV.

The two cameras achieve a similar end result, but they do it in different ways. To the viewer, however, this makes little difference. Camera technique is only incidental. Although the viewer may at times be consciously aware of especially good or especially bad photography, camera work must achieve its goals basically on a subconscious level.

A **Cameraman,** in his work of translating the scene to pictures, can exhibit great creative as well as technical skill. He is, in a sense, the artist who models the scene in light and shadow and selects the segment of action which is most graphic in telling the story—and most pleasing to the eye.

This creativity in camera work varies with the individual cameraman, available production time, the budget and the actual responsibility permitted by his director. Particularly, it varies with the technique—Film or Live TV.

In Live TV, the cameraman is an engineer whose creativity is often restricted to composing the picture. He works under constant instructions

from the director and is only one of several cameramen contributing to the total job.

In Film TV, the cameraman has vastly greater creative license in that he is responsible for lighting, mood effects and often camera movement, as well as composition.

Composition, it might be explained, is here used in the art sense: it concerns the positioning of the component parts in a picture in a graphic and satisfying arrangement.

The live cameraman must quickly, almost instinctively, find the best composition of the scene as the director prompts him over the intercom. The film cameraman has more time to choose the composition, based on the director's desires for dramatic effects and mood. He also has complete and final authority over lighting because it affects so vitally the quality of his work. He demands as much time as necessary to light each scene properly, and usually resets the lights as the camera changes position for a new shot.

The live cameraman, meanwhile, must work as best he can with a flat overall lighting which must be set to serve every angle reasonably well, if not all angles to the most desirable quality.

Director of Photography may be the cameraman's title in films, or he may be called a **Cinematographer,** a distinguished way to say film photographer. The American Society of Cinematographers recognizes the most creative and successful men in this branch of the industry and invites them to membership, giving them the right to **A.S.C.** after their names, in the credit titles.

No such titles honor the live cameraman, but he has some advantages in his work. On the plus side, the live cameraman has a tremendous advantage in seeing exactly what he shoots, at the immediate moment he is photographing it. He can work with less light and is more flexible because of faster, more mobile camera equipment.

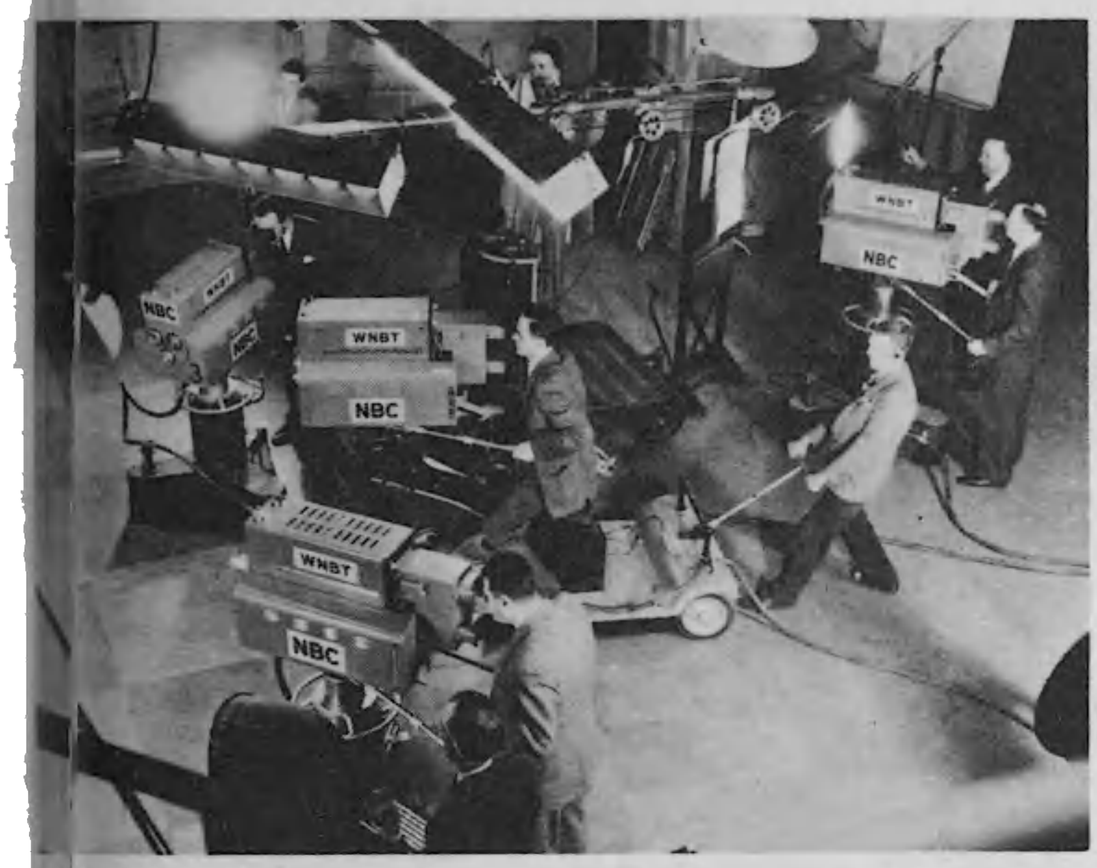
LIVE, FILM AND COMBINATION CAMERAS

The principle that makes the *illusion of motion* possible in films and television is **Persistence of Vision.** This occurs when a series of still pictures are viewed in quick succession. Each such picture is retained in the human optical and brain system for a fraction of a second until the next one is presented. (In sound movies this is every 1/24 of a second; in Live TV every 1/30 of a second.) This continuous procession of still pictures blends the separate images together in the viewer's mind into one *moving* picture.

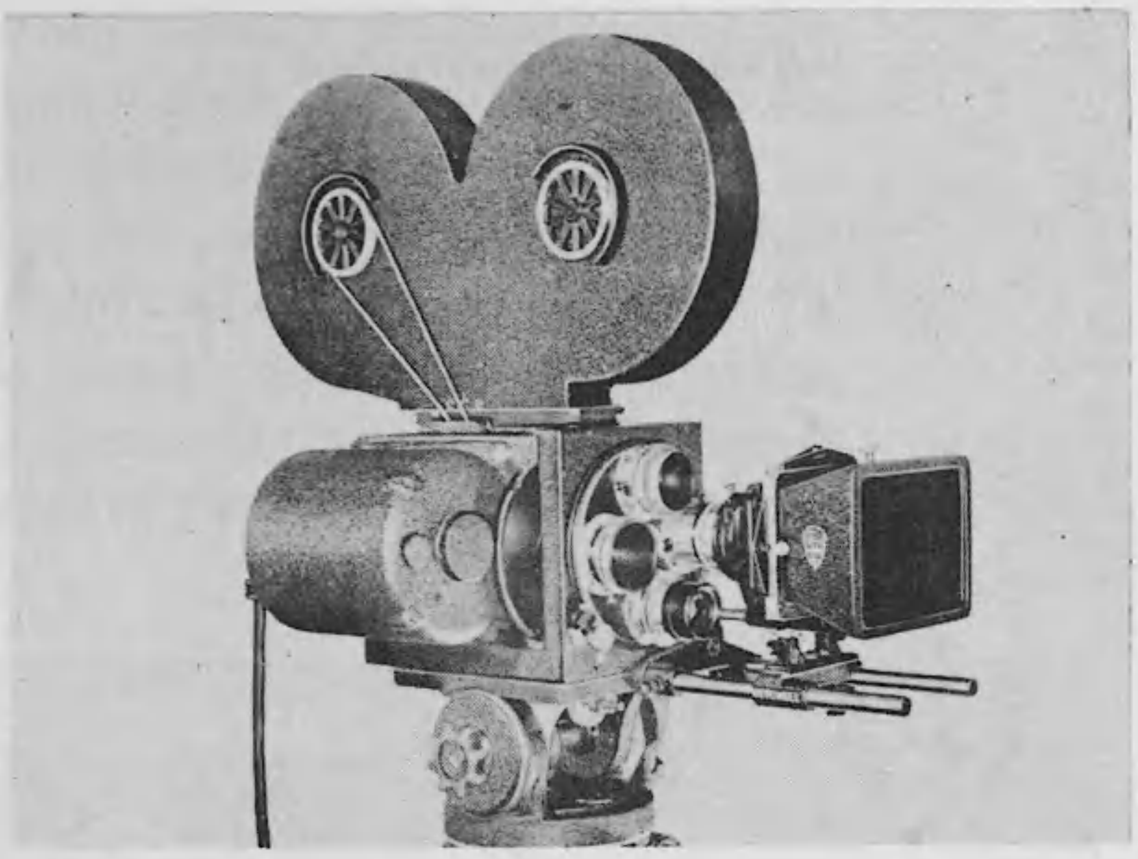
To make its pictures, the live TV camera in earlier days relied en-

tirely on the **Ike** or **Iconoscope** camera television pickup tube. Then a later development, the **Orthicon** or **Image Orthicon** or **I.O.** tube supplanted the *ike* for most live action because it needs only a fraction of the light requirements. Where required light is not a problem, such as on film projection pickups, the *ike* continues in usage. Another nickname for **I.O.** is the **Eye-Mo,** but this appelation needs to be discouraged, since it confuses with a hand-held film camera, trade named *Eyemo.*

Walkie-Lookie is a popular term for a portable camera used in Live TV. The cameraman can carry it and operate it within a quarter-mile distance of the master control unit, which then transmits the signal over



Live TV Cameras



Film Camera (Mitchell)

the air. **Creepie-Peepie** is a still smaller Live TV camera, weighing only 4 pounds.

Film cameras are of various types, *sound* or *silent,* depending on whether dialogue is recorded at the same time as the picture. Sound cameras are *single-system* or *double-system*—depending on whether the camera records its sound on the same strip of film as its picture (single) or separately, in synchronization (double). Cameras also vary in width of film used:

35mm or **35 Millimeter** is the professional width for most Film TV production, as it is for movie production.

16mm or **16 Millimeter,** a narrow width film, also can be used in TV production. It sacrifices some quality in picture and sound, and has some inconvenience in editing, but it is less expensive and more readily processed in a station's self-contained laboratory. It is used especially for newsreel coverage, and is also popular for 16mm color educational, training and industrial films, as well as amateur home movies.

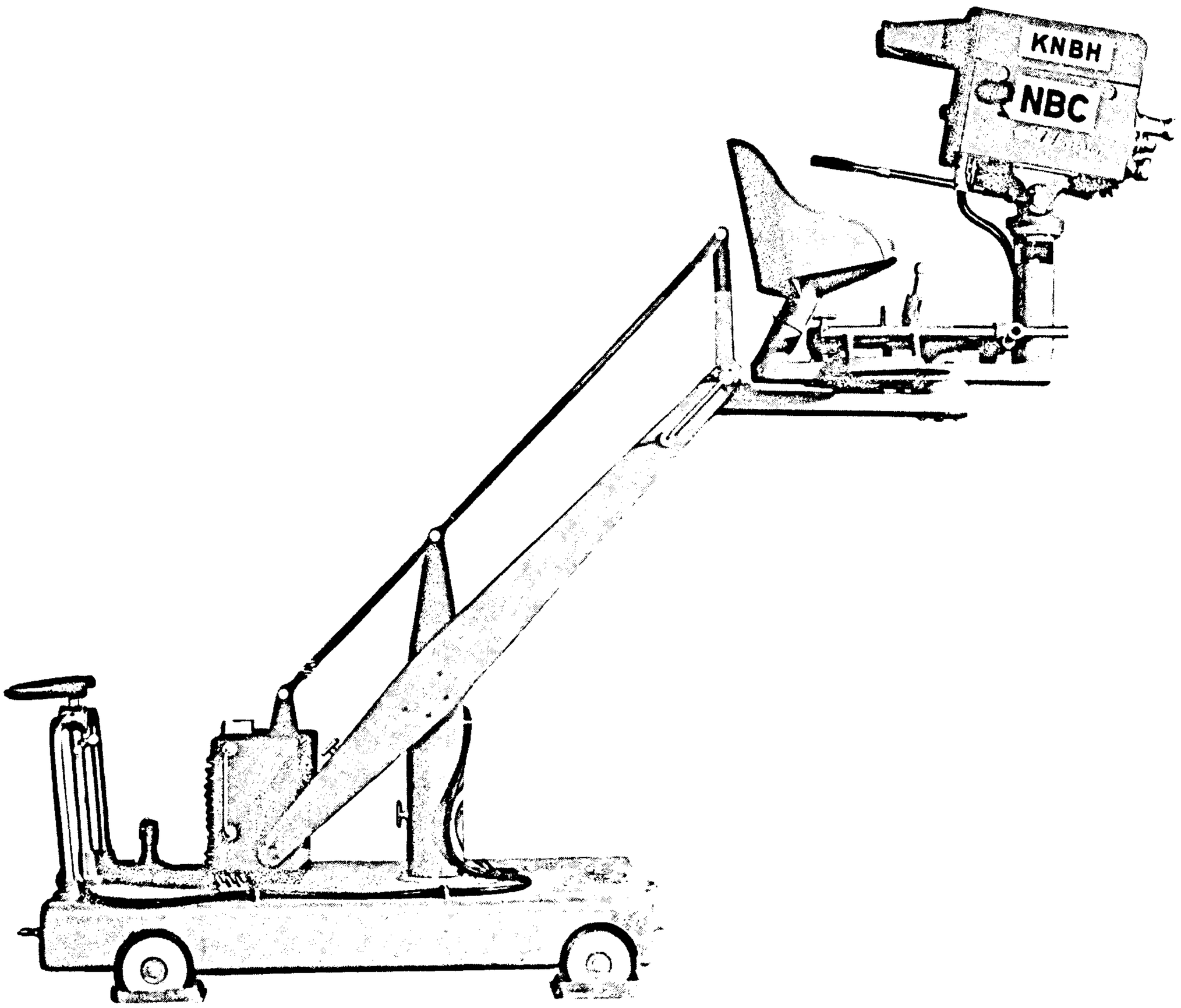
8mm or 8 Millimeter, an even smaller width, is for amateur and personal movies only, since it does not have the professional standards required for TV.

It is well to point out that many stations *project* 16mm only. However, the original production (in most cases) has been in 35mm, reduced to 16mm in printing, as Chapter 12 will explain.

Mitchell Camera is the most popular studio film camera of Hollywood. It is a well-known trade name in both 35mm and 16mm equipment.

Bell & Howell is another popular trade name in movie equipment. Famous for its internal mechanism used in many high-speed cameras and

Live Television Crane (Fearless)



special optical photographic work, this company also makes the **Eyemo** camera, long a favorite hand camera of newsreel men.

Combination film cameras, utilizing principles of both Live TV and Film production had their start with **Multicam,** a *multi*ple *cam*era system developed by Jerry Fairbanks utilizing 3 or more 16mm or 35mm Mitchell cameras operating simultaneously to shoot different angles of the same scene at the same time. This simulated the multiple camera technique of television. Multicam experimented at one time with television monitoring circuits attached to the film cameras, thereby permitting control room editing. This technique, however, was dropped until three later methods again utilized it:

Electronicam is the trade name of DuMont's combination live-film camera. The cameraman views what he is photographing on film, in the same manner as does a live TV camera operator. The orthicon tube of the TV camera and the film camera pick up the image through the same lens system. The video pictures are monitored and directed as on a Live TV show, and a kinescope is made of the master video program. Meanwhile, the cameras have recorded the same scenes on film and the kine serves as a guide for editing the various scenes to give a complete film negative on the show.



Electronicam Shoots Live TV and Film Simultaneously

Video Film Camera and **Camera Vision** are trade names for two of various other similar live-film cameras.

The **Electronic Camera** (not to be confused with the *Electronicam,* above) is the name given the radically different new equipment for recording *the picture* as well as *the sound* on magnetic tape. The first successful equipment for this **Video Tape Recording** or **VTR** was developed

by Ampex and placed in practical use in 1956, although earlier experimental demonstrations had been made in 1951 by Bing Crosby Enterprises and 1953 by RCA.

The tape recording of pictures has many advantages over both live and film techniques. It can be played back immediately without the delay of laboratory processing. Thus scenes can be immediately okayed, and sets dismantled without waiting until the next day for film development.

► TERMS FOR THE FILM CAMERA MECHANISM

As mentioned in defining *persistence of vision,* motion pictures consist of a series of still pictures which are photographed at intervals, 24 per second. The raw film is stored in the film camera in an upper **Magazine,** a light-tight compartment from which the film is pulled by gears. The gears engage the **Sprocket Holes** or **Perforations** or **Perfs** which are regularly spaced along the side of the film stock.

The Intermittent **Movement** is the mechanism which brings the film to the camera **Aperture** or lens opening, where each individual frame of picture is exposed.

Between the sprocket and the intermittent movement is a slack portion of film called a **Loop,** which makes it possible for the film to travel through the intermittent movement without tearing.

Thread or **Thread Up** are terms used to indicate the work of placing the film over the guiding sprockets, allowing loops fore and aft of the intermittent for correct operation in the mechanism. Hence you *thread* up a camera, or *thread* up a projector.

Claw is the part of the mechanism which pulls the film down into position at the camera *aperture.* When it is in place, **Registration Pins** are inserted in the perforations to hold it steady, and a **Pressure Plate,** behind the film, keeps it flat and firm for the instant the film frame is being exposed. It must be remembered that while the film is being taken out of the upper magazine in a steady continuous motion, it is stopped for the instant exposure is being made, and then it is taken up after exposure in the **Lower Magazine.** Though "lower," it may be in the same housing and at the same level as the **Upper Magazine.**

The stop-and-go motion of the film at the aperture serves to explain why this mechanism is called the *intermittent movement.* At the aperture there is a hinged plate that permits the *threading* of the film in the mechanism which is called the **Gate.** Here, as film is being photographed, each frame pauses momentarily to receive its photographic image. In a projector, the *gate* serves a similar purpose, allowing the image to be momen-

tarily projected upon the screen. Occasionally, although not correctly, the term is used to refer to the entire aperture.

THE LENS

Regardless of the camera used, whether film, live or electronic tape, the optical system for viewing the scene is essentially the same in principle. The Lens is the eye of the camera, its inner curved glass surfaces designed to catch and converge the rays of light from the scene into a small, sharp image. Different types of lenses—according to the way the glass elements are designed—view different dimensions of area in the same scene.

Without moving the camera, a change of lenses can give what appears to be a closer or more distant view of the same subject. Also, the perspective can be altered and objects can be made to appear to be closer together or farther apart than they actually are.

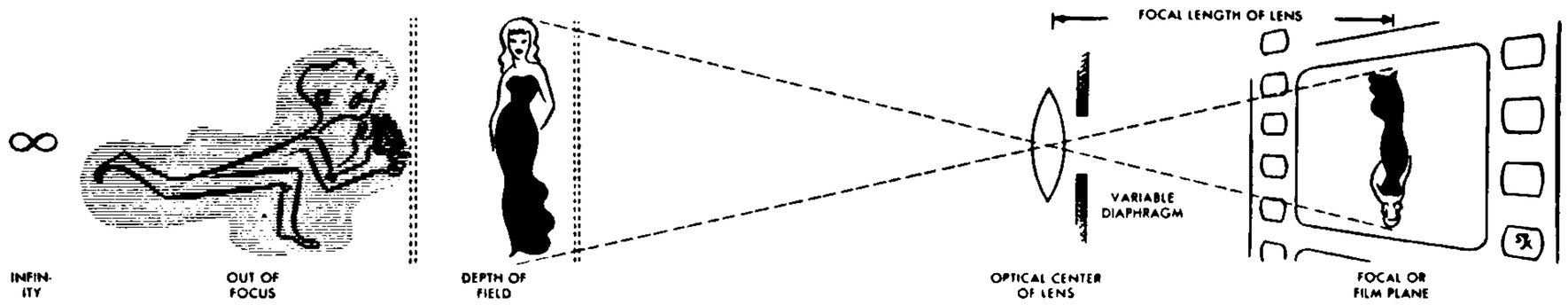
Wide Angle Lens is the type that reveals a broad field of view—literally, a wide angle—from where the camera stands. It increases the feeling of depth between objects near and far. The wide-angle lens, for instance, is useful to show a person or object coming into the camera at an apparently fast rate of speed.

The extreme from the *wide-angle* is the Telephoto lens, a narrow-angle lens that reveals only a small segment of the view, enlarging it and appearing to bring it closer. It gives a magnified closeup of one section of the total scene, as it were. So, "narrow angle" equals *narrow view.*

In between these two extremes are many intermediate lenses, computed according to Focal Length, the measurement from the optical center of the lens to the point where an image is formed. A wide-angle lens has a short focal length (such as the 25 *millimeter* or "one-inch" lens), while the telephoto lens has a long focal length (such as the *100 millimeter* or "four-inch" lens). These are typical lenses on a 35mm movie camera. (35mm here, of course, refers to something else: the film *width* used in the camera.)

The lens most commonly used on the 35mm movie camera is the *50 millimeter* (or "two-inch" lens) which fairly well approximates the human eye in its angle of viewpoint and perspective. This 50mm lens is generally considered to be the dividing line between wide-angle and narrow-angle lenses. Such narrow-angle or telephoto lenses as the 75mm and 100mm are especially useful for closeups.

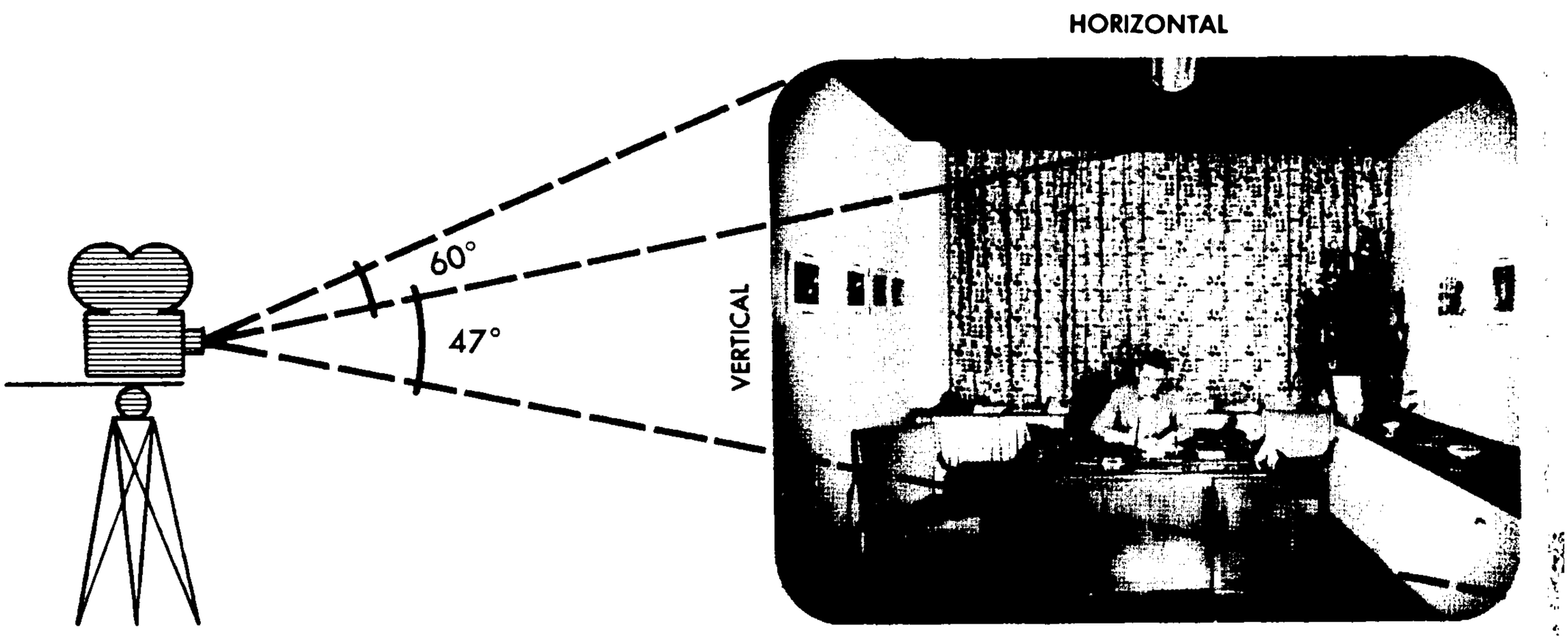
It is well to note that each lens has its advantages and also its disadvantages, (a *wide angle* lens distorts when used on closeups or when the camera moves; a *telephoto* lens does not keep the entire scene sharp nor does it give an illusion of depth). This is why cameras normally have



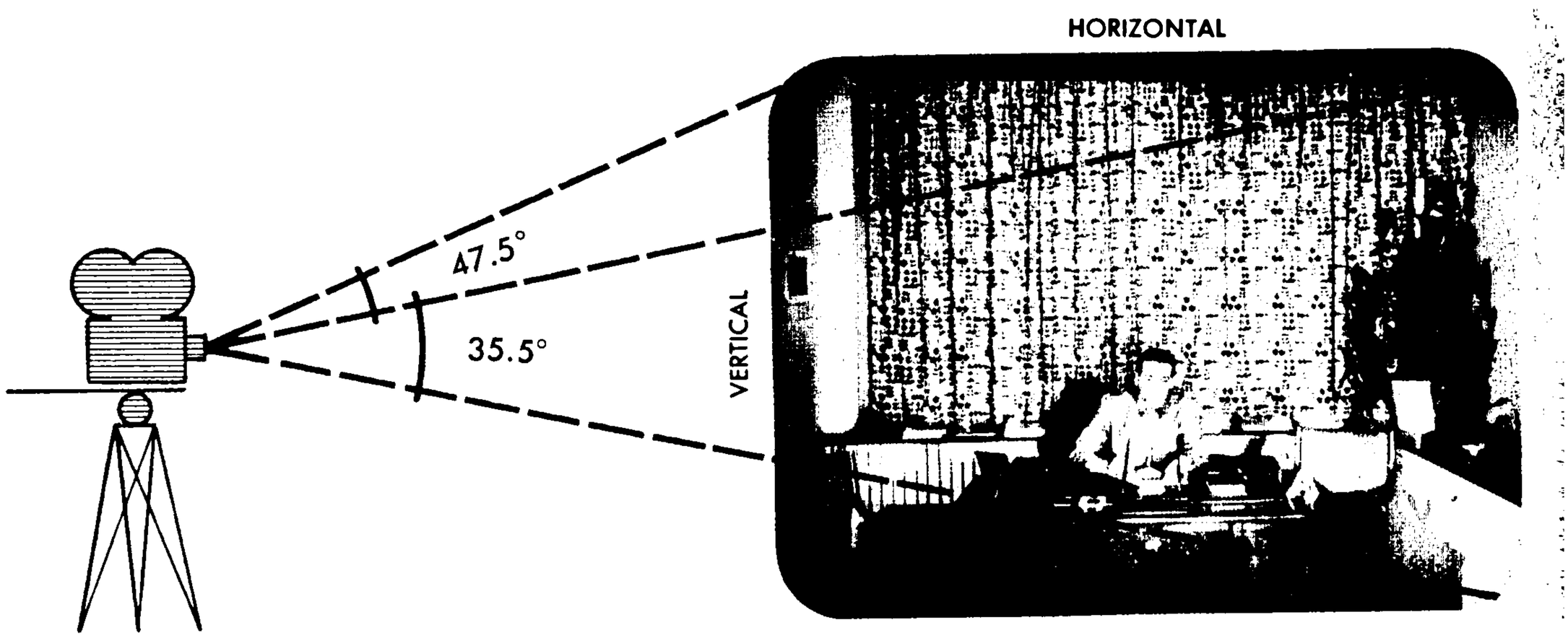
A lens is a device used to converge rays of light on a photographic film. A motion picture lens usually contains a combination of three or more glass elements which are specially ground, properly spaced and aligned, to correct aberrations which exist in all individual lens elements. These aberrations are chromatic (color), spherical, and linear. The use of a specific lens is governed by the desired perspective, depth of field, feeling of depth (apparent space between foreground and background) and accessibility to the subject.

Lenses have two major characteristics: FOCAL LENGTH and SPEED.

FOCAL LENGTH OF A LENS—the distance from the optical center of the lens to the projected image when the lens is focused on infinity (∞). INFINITY is a term used to describe any extreme distance, usually over 50 feet. The film moves in a plane known as the FOCAL PLANE which is where the projected image falls. The shorter the focal length



18.5mm Lens An extremely wide angle lens with great depth of field. Rarely if ever used for panning. Note feeling of great depth.

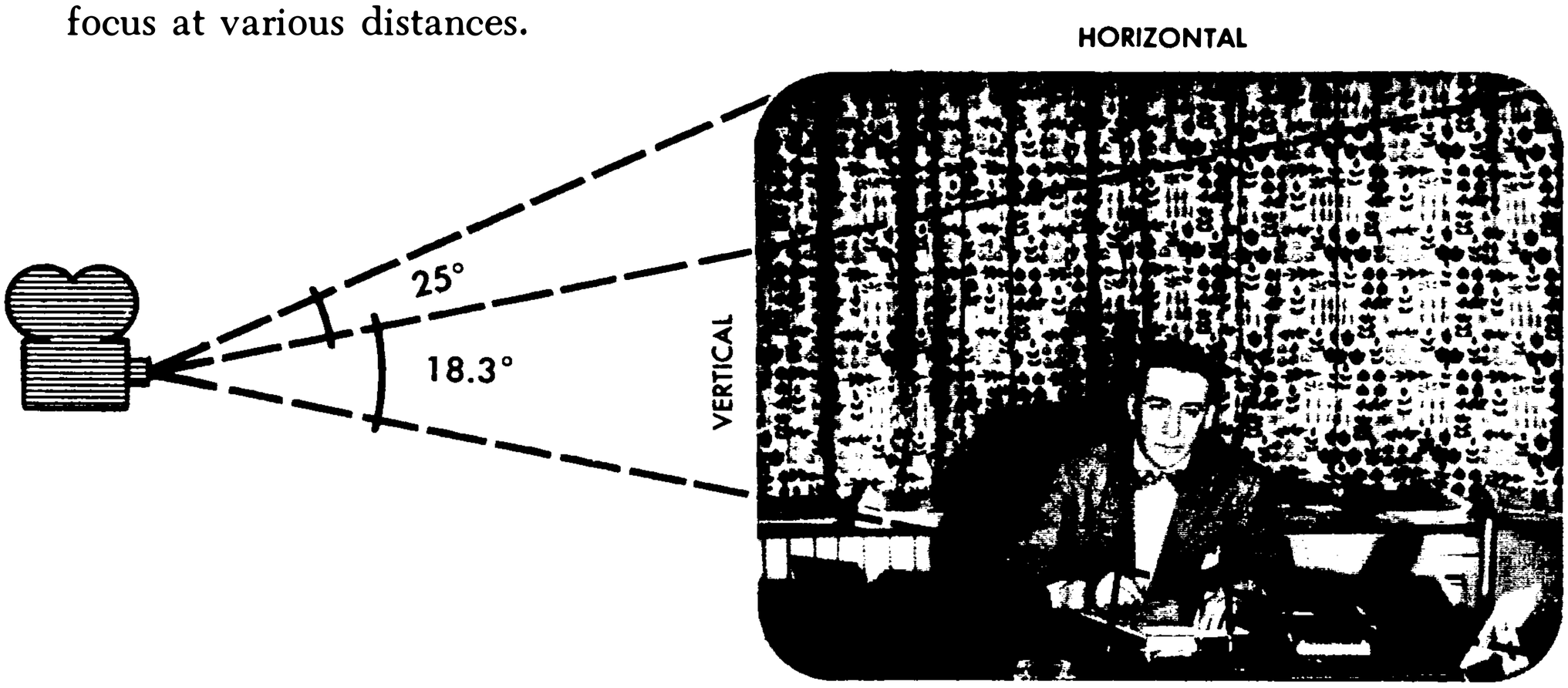


25mm Lens A wide angle lens with great depth of field. Also difficult to use on a moving camera.

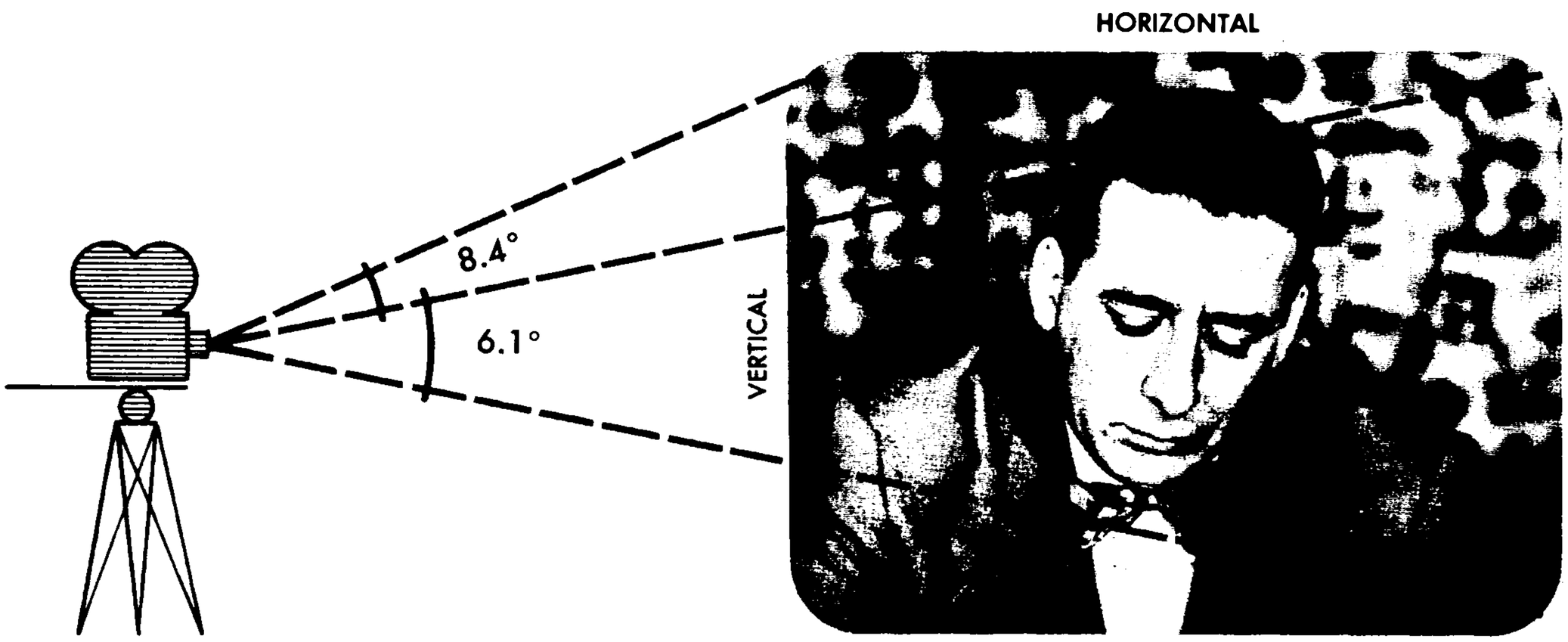
a complement of at least 4 lenses to perform varied tasks. A typical complement of lenses for a 35mm professional camera: 25mm, 40mm, 50mm, 75mm.

The 16mm camera lenses require a shorter focal length to accomplish similar results. A typical complement of 16mm lenses might be: 15mm, 20mm, 25mm, 30mm. Note that the 20mm lens here is roughly equivalent to the 40mm lens for the 35mm camera, and this general 1-to-2 relationship exists in lenses for the two cameras.

Focus as a noun refers to the meeting point where the rays of light coming through a lens make a sharp image. As a verb, *to focus* means to adjust the lens to achieve this sharp image. Lenses can be adjusted to focus at various distances.



0mm Lens Usually considered the "normal" lens for a 35mm camera. Note good feeling of depth and sharpness throughout picture area.



50mm Lens An extremely long lens with very short depth of field. Note out-of-focus background.

The **Depth of Field** refers to the total depth within the scene which can be safely held in focus by a particular lens set at a particular *stop*. A telephoto lens has less *depth of field* than a wide angle lens. In shooting under certain lighting conditions, such a lens may have a *depth of field* or sharp focus only in the distances between 8′ and 12′ away from the camera.

Should the performers move from this restricted area, they would go out of focus—or the cameraman could keep them sharp if he should **Follow Focus** or **Pull Focus**, that is, adjust the lens to keep the subject in focus, wherever it moves, while the camera is operating. **Split Focus** describes a focus set between two points of interest (at different distances) to keep both sharp on the screen.

Depth of Focus, often confused with *depth of field*, refers instead to the area *within* the camera in which the lens converges the image. It is within this limited area, where the lens image is sharp, that the motion picture negative film must travel to receive a sharp exposure to this precise plane.

∞ is the symbol of **Infinity**, which is the photographic term used to describe the extreme distance as viewed in a scene. This point is marked on most lenses and when focused, the entire background area of the scene is automatically in focus.

Stop or **Lens Stop** refers to the amount of light admitted through the lens in photographing a picture. This is controlled by an **Aperture** or **Diaphragm** or **Iris**, similar to the iris of the human eye, an expandable diaphragm which can be set at any of a series of marked openings to predetermine the amount of light which will come through the lens.

This governs the **Exposure** of the film or Live TV picture. Exposure means subjecting a photo-sensitive surface to *light*. "Set the lens stop" or "set the exposure" are in most cases synonymous.

The markings on a lens may be computed in either of two systems: the best known is the **f-Stop** or **f-Number** (f is short for *f*ocal system) which expresses the ratio between the focal length of each particular lens and the diameter of its own iris. (As the diameter of the iris closes, admitting less and less light it is marked, say $f/4.5$, $f/5.6$, $f/6.3$, $f/8$, $f/11$, etc., to indicate this ratio.) Optical engineers claim this system does not necessarily insure the equivalent accuracy of two *different* lenses, of unlike focal length, in the amount of light admitted at a similarly marked *stop*.

The other system of lens marking: **T-Stop** or **T-Number** is considered exact because each lens is electronically (rather than mathematically) measured, solely according to the amount of light admitted at each iris position. Hence, any lens is equivalent to all other lenses

in the amount of light admitted at any similarly marked *stop*. This system if sometimes called US and, though frequently mistaken to mean *United States*, it merely means *U*niform System.

Calibrations are the markings (*f*- or T-stop) on a lens.

Speed of a lens refers to its widest effective iris opening—or maximum ability with minimum light. The aperture, iris or diaphragm of a lens must *open up* when less light is available and, in doing this, some lenses are more efficient than others. One lens may *open up* only to *f*/4.5 before losing efficiency. Another may be optically ground to be efficient at an excellent *speed* of *f*/1.6.

It is customary to say "How *fast* is the lens?" or "What *speed* lens?" to determine this information. The answer would be "four-five" or "one-six" in the two cases just mentioned. Also, the *f*/1.6 is referred to as a "*faster*" lens than the *f*/4.5 (The lower the *f* number the *faster* the lens.) In photography, "What *speed* are you shooting?" refers to the iris setting as it is set for this scene (not maximum speed of the lens). It's the equivalent of "What's your *stop*?" or "What's your exposure setting?"

"Open up a *stop*" (or "a *full stop*") means to change the iris setting to admit twice as much light. On an *f*-number lens this would be *f*/6.3 to *f*/4.5 to *f*/3.2 to *f*/2.3 to *f*/1.6. Each of these are *full stops*, doubling the light exposure. A *half stop* splits the difference, as, for instance, *f*/5.6 is half way between *f*/4.5 and *f*/6.3. (Mathematically, the next full stop can be computed by squaring the number, doubling, and from this taking the square root.)

"Stopping down" is also familiarly heard around cameras. It means to change the lens exposure to a smaller stop (higher number). The effect is to admit less light.

The *lens stop* or iris setting, is, of course, only one of the factors in determining exposure. In filming, the *speed* of the film negative (quickness of its chemical reaction to light) and the length of exposure (rapidity with which the film travels through the camera) and the camera aperture (which can be changed on some cameras to control further the amount of light), all must be computed by the cameraman before "setting the stop."

Fixed **F**ocus or **U**niversal **F**ocus indicates a lens has virtually complete depth of field from the camera to infinity. While such overall sharpness of a lens is desirable to foolproof the operation of an amateur camera, it is not always creatively desirable in professional work. Instead, it may be wiser to focus sharply attention on *one* point in the picture and to have the rest of the scene in slightly softer focus and hence less prominent.

Hogue Lens is a trade name for a universal focus type of lens.

Hartley Lens is an "effect" lens that produces a picture that is clear in the center but diffused and out of focus at the edges.

Coated Lens indicates a lens has been optically treated with a surface coating which cuts down troublesome light reflections. Coating also often increases the speed of the lens and improves ability to handle color photography. Most modern lenses are coated.

Achromatic refers to a type of lens that is free from undersirable color reflections and fringing. Any successful lens for color work must be *achromatic;* otherwise the color rays will not come into focus in the same plane.

Zoom Lens or **Zoomar** or **Electrozoom** (the latter two are trade names) refer to a lens of variable focal length which can give the effect of moving toward or away from a subject; yet the camera itself is stationary. The zoom lens actually is a combination of many lenses, a touch of its push-pull lever causes it to shift from the characteristics of one lens to another with fluid progression. It is used on football games and certain programs where quick closeups are needed without moving the camera.

► CAMERA MOVEMENT

When the camera itself moves in and out during photography, it is mounted on wheeled platforms. In **Live TV** this may be a **Pedestal** mount, which provides a hydraulically-operated lift in the center column or pedestal, to raise and lower the camera. A pedestal has steerable rubber-tired wheels and the cameraman pushes the pedestal camera without assistance.

Dolly is a platform with wheels or castors, used in both **Live** and **Film TV**. It requires someone besides the cameraman to push it. **Dolly Tracks** are grooved metal rails used where straight, even movement is is required. **Truck** is another word for *dolly,* both as a noun and a verb, and **Perambulator** (**British**) and **Trolley,** a bastardized word, are used as alternate nouns.

Panoram Dolly is one that can move up, down, in and out. **Crab Dolly** is one that has its wheels especially mounted to go in any direction desired, differing from most other dollies which can go only in a straight line, forward or back.

Chinese is sometimes used to indicate an angular (or "slant-eyed") movement. "*Chinese* the dolly" means to swivel sidewise the camera carriage. A "*Chinese*" shot would be an angular moving shot.

Truck is especially used in animated cartoon photography. In **Live TV** and **Film TV** the main use of the term is in **Trucking Shot,** which

indicates the camera is dollying along *parallel* to a moving subject. **Travel Shot** is similar; this term is especially used in automotive commercials.

Running Shot means the camera is at all times moving with the *action*. **Follow Shot** or **Follow Action Shot** means the camera follows the movement of the *subject* (but may not necessarily move itself).

Crane is a dolly which holds the camera on a long movable extension arm. This increases the maneuverability, since it permits the camera to raise and lower significantly while dollying in and out. Crane shots have a considerable advantage over a series of static shots, since the easy movement of the camera follows and centers the action in a fluid continuity. It takes considerable rehearsal time to stage a crane shot, but it greatly enhances production value. The cameraman (or operator) always rides the **Boom**, or extension arm. *Boom* comes from the old nautical term for a pole that extends (such as the jib-*boom*). Note that the sound man has an extending arm for his microphone, also called a *boom*.

Boom, crane, dolly and **truck** all serve as verbs as well as nouns. Scripts may direct the camera to "*crane* down," "*boom* up," "*dolly* in," "*truck* back." *Crane* and *boom* should not be indicated in a script, however, unless this particular equipment is definitely known to be available.

"Gertude" is an old-timer's pet term for a big dinosaur-like camera crane. The name was appropriated from the dinosaur star of the industry's first animated cartoon.

Pull Back is a term for *dolly back.*

Zoom indicates an exceptionally fast *dollying* or *trucking* action. *Zoom in* would mean the camera rushes in toward some particular object in a scene. *Zoom up* in animation would mean the subject (such as a commercial product) leaves its position in the set to rush up to the camera. **Mooz,** of course, is a *zoom* in reverse—a *pullback!*

Tilt refers to the up or down movement of the camera lens. Hence, "tilt the camera up" or "tilt down a little." Also as a noun.

Pan, from the word *pan*orama, is likewise a verb or noun to describe the horizontal change in direction of the camera lens. It is similar to the human eye following an object across the width of the scene. "Make a slow pan of the set," "pan left," "pan right" are typical uses. A few newcomers to the business use *pan* for the up and down movements of the camera lens—this is correctly: *tilt.*

It is well to point out that the camera takes directions exactly as we do in everyday life. **Our** left, as we look at the scene, is **Camera Left;** our right is **Camera Right.** This is the opposite to stage directions which look at it from the actor's point of view. Hence *camera left* is *stage right;*

camera right is *stage left.*

Zip Pan indicates a very fast movement of the camera to one side, ending in a blur of fast movement. This device is sometimes used for a transition to a new and related scene. It is also variously known as a **Swish, Blur Pan, Slip Pan,** Whip Pan or Whiz Pan.

► OTHER TYPES OF CAMERA SHOTS

Scripts use a special language to describe what is desired from the camera and the editor (film) or technical director (live TV).

Cut means stop. *Cut* means stop the previous scene and switch immediately to the new one.

Fade In means to reveal the scene gradually, starting from black and bringing up the picture to full visibility.

Fade Out is the reverse, meaning to diminish the picture gradually to black. Both terms also are used as nouns. Fades may open and close a story or any complete sequence within a program. Fades may be of varying lengths, made by the film editor (in the laboratory) or the Live TV technical director (electronically). Fades also may be made in some film cameras, but lack of accuracy generally makes this unwise, except for amateur hobbyists.

"**Go to Black**" is another Live TV way of commanding "*fade out.*"

Lap Dissolve or **Cross Dissolve** (generally shortened in usage to simply **Dissolve**) means to overlap the end of one scene on top of the beginning of another. The first scene fades out *while* the second scene is fading in. Generally the dissolve is used between scenes to denote a change of locale or a lapse of time. *Dissolve in* and *dissolve out* are sometimes used to mean *fade in* and *fade out*, respectively, but this can get fairly confusing. We'd rather you wouldn't.

Establishing Shot is a term used in story discussion to describe the scene which generally reveals the entire set at the beginning of a sequence and so helps *establish* the locale, time and circumstances in the viewer's mind. If the entire sequence using this set is photographed on film in one long take, it is called a **Master Scene** or **Master Shot**, a term used by the director and editor. This full sequence then will have closer views and other camera angles in the same setting intercut into its framework.

Note that *establishing shot* and *master shot* are descriptive terms used for types of scenes. These may not be actually specified in script, where each individual scene must be indicated for the information of the production crew. The more common terms which are used to describe camera viewpoint include: **Long Shot**, a full view, from a dis-

tance; **Medium Shot,** a moderately nearer view; **Close Shot,** a still closer view; and **Closeup,** a detailed view of the subject where the camera appears to be *close up* (although it may be shot from a distance, with a telephoto lens!) Normally, a closeup of a person means "head and shoulders."

Each of the terms requires further definition in the script to avoid confusion. None is specific as to size or distance and each is only relative to each other, depending upon the preceding scene. A closeup may be of a barn, a horse's head or a puppy dog.

Consequently it is important in a script, where a camera shot is specified, to indicate the area covered, such as "*Close shot* revealing all of fireplace and mantel as Santa Claus disappears."

Various initial abbreviations are used for the above and intermediate terms. Interpretations vary from network to network and studio to studio, so unless a writer can specify accurately, it is often wiser to leave it up to the director.

LS—Long shot.

MLS—medium long shot.

MCS—medium close shot.

CS—close shot.

MCU—medium closeup.

CU—closeup.

XCU or **ECU**—extreme closeup; also written **TCU**—tight closeup, and an infrequent **BCU**—big closeup.

Despite the confusion of these initials, some writers use still more obscure abbreviations such as:

LHS—long high shot.

HS—high shot.

MHS—medium high shot.

AS—angle shot.

LAS—low angle shot.

AV—air View.

It can get very confusing. Specifics may be added by using other terms if desired. For instance:

Waist Shot is a more accurate description to indicate a closeup of a person, which includes the head and body down to the beltline. **Bust Shot** would be similar, but anatomically higher, and **Shoulder Shot** would indicate that the shoulders would be revealed with the closeup of the face. **On the other hand, a Knee Shot** would mean the figure is shown, down to the knees.

Full Shot may be used to indicate a full-figure view of the person, but it also can refer to a full view of anything. "**Full *shot*** of the barn"

could get the identical results of "*closeup* of barn."

One-Shot or **Single** means only one person in the scene. **Two-Shot** means two people are seen at the same time. And, obviously, **Three-Shot** means three people.

Great care must be taken in scripts to define properly the scene. Novice writers tend to use "Hollywood terms" and abbreviations which impress no one and often confuse for lack of detailed and specific descriptions. It is better to write out exactly what the camera is to picture.

Group Shot is a loose term used to refer to a view of all the performers. If it is a large group, it may be termed a **Crowd Shot.**

Cover Shot or **Protection Shot** refers to an additional shot from a different camera angle made in case the editor might need it for cutting purposes. In live television, both terms likewise are used to indicate another angle of the same scene standing by on another camera.

Reaction Shot refers to a scene which shows the emotional response of a person or persons to a given situation. For instance, a closeup of the cashier as he suddenly realizes a gun is pointed at him. This is camera jargon equivalent to an actor's "*take*" as it was defined back in Chapter 6.

Reverse Angle Shot is a view as seen from the eyes of the subject. For instance, a *two-shot* may establish a dialogue sequence, then a *closeup* of one person follows; then comes a *reverse angle shot*: the camera cuts to the other person *as seen by* the one who has just been featured on the screen.

Favoring Shot is the term applied to a view which has one actor dominant over others. He is said to be *favored* from the camera angle.

Camera Angle, as used here, simply means *camera viewpoint,* but **Angle Shot** is a term applied to any camera view which is not at normal level. The camera may be *tilted* down at an angle, it may oddly *favor* one actor over another, or it may be an upward shot from floor level. Roughly it applies to any unusual viewpoint, and as such must be used with care, since the camera is acting as the human eye in recording a scene and the viewer's mind does not quickly orient to the unfamiliar viewpoint, unless the script has previously established a reason for it.

Dutch Angle is used to refer specifically to a shot with the camera cocked sideways.

Insert, mentioned previously, refers to any film closeup which does not show an actor's face and consequently can be shot at a later time without a full camera crew and without delaying primary production. Typical *insert* scenes would include a hand with a wallet, a calendar with a page being turned, a bomb fuse burning.

► FILM CAMERA SPEEDS AND TRICKS

This section applies to the film camera only:

Sound Speed is 24 frames per second. This is standard for all motion picture sound film, so both picture and track are recorded at this speed and later so projected on the screen.

In the early days of the movies, film was photographed and projected at a **Silent Speed** of 16 frames per second. This speed is still satisfactory for silent non-professional films, but sound quality requires a faster travel through the projector. This is why the coming of sound pictures in the late 1920's forced the industry to change to the present standard of 24 frames per second.

As a trick, it is possible to photograph silent film at 16 frames or less and project at the standard 24, which gives the illusion of **Fast Motion.** This is used for comedy effects; such as to show a man mowing a lawn in record time. An earlier term for this camera trick is **Under-cranking** (from the days when cameras were cranked by hand rather than motor-driven) and this may be done at any speed under 24 frames per second. Many commercial scenes are shot at 18 or 20 frames per second to condense and add interest to the action. In photography with actors at 16 frames or less, the effect may become comical.

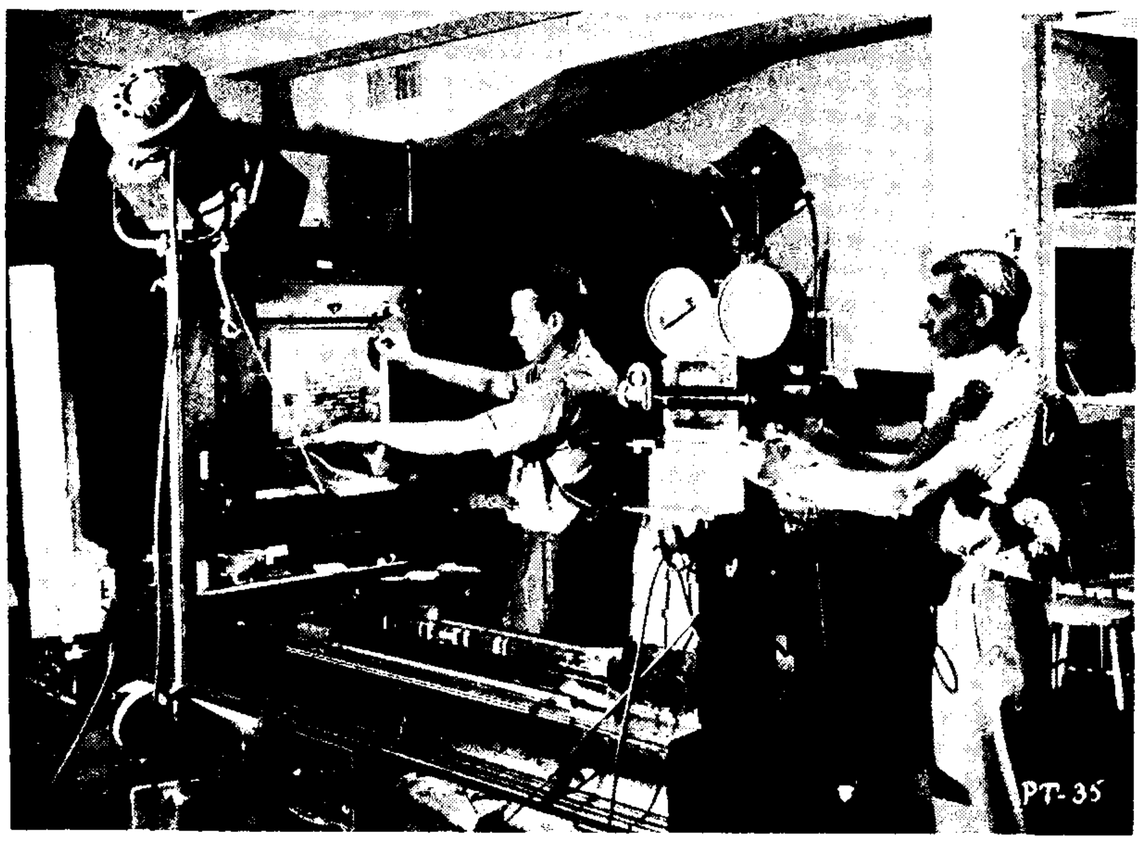
Slow Motion or **Over-Cranking** is the opposite extreme. The camera runs at higher than 24 frames per second, then is projected at standard speed, thus it appears to *slow* down the action. This trick is used to show analytical demonstrations, as when a tire hits a bump in the road. When *slow motion* photography gets abnormally high in relation to projection speeds, say, at 72 frames a second, or many times normal, it is often called **High Speed Photography.** Special cameras, useful in scientific research and motion analysis, now are capable of photographing at over a thousand frames per second.

Time Lapse Photography is the reverse, an extreme in *under-cranking.* It allows a regular lapse of time between each frame of exposure and so can show a normally slow process in a fraction of time. For instance, to show a rose bud as it opens to full flower, one frame may be photographed at each thirty-second interval; the resultant footage, projected on the screen at the normal 24 frames per second, shows the rose opening in a thirtieth of its normal time.

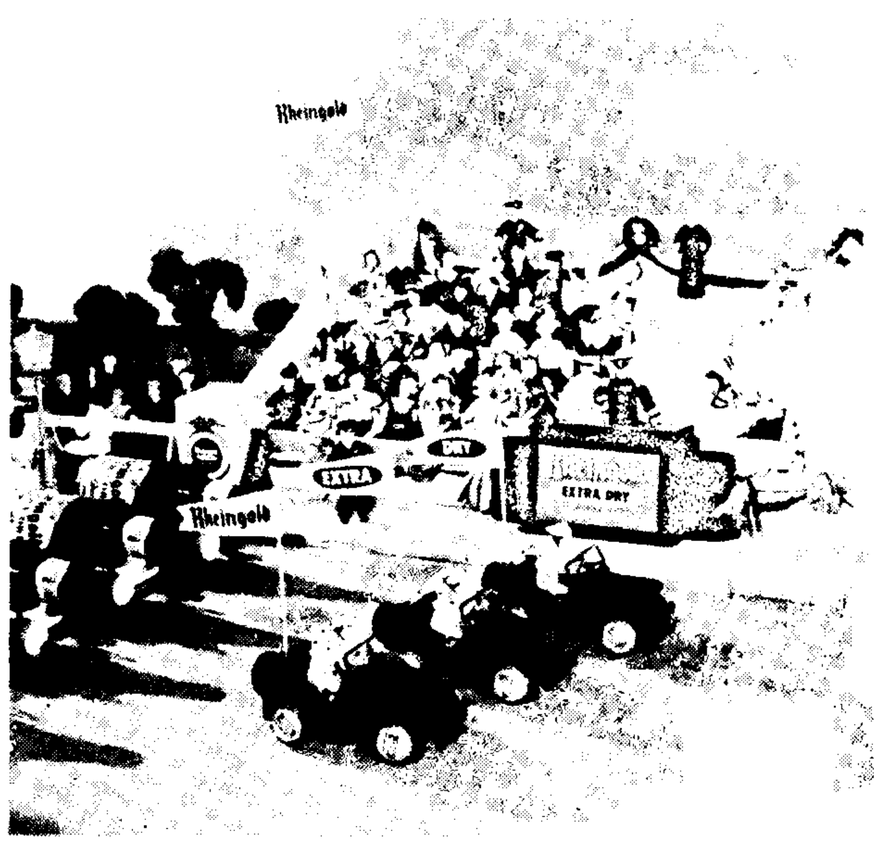
The trick of *time lapse photography* is in the method of shooting, called **Stop Motion Photography,** which refers to any motion picture photographed one frame at a time. *Stop motion* is used, for instance, to show mechanical parts being assembled, various commercial products

dancing or moving about. Certain types of puppets (with movable or replaceable parts) use this technique to give the illusion of life-like movement. The famous "marching cigarettes" TV commercials were shot in *stop motion.* The units being photographed are changed in position between each photographic exposure to give the illusion of motion on the screen. Animated cartoons also are shot in *stop motion.*

Reverse Motion is a trick accomplished by running the film backward in the camera and/or holding the camera upside down. (This may also be done optically by printing individual frames in reverse order during editing.) Thus is obtained the amusing shot of the diver coming



Title Camera on Lathe Bed



Stop Motion Model Set

out of the pool feet first and flying back to the diving board or the scene of the motorcycle running backward down the street.

Again it should be pointed out that all these trick shots are accomplished only with silent photography. Normal sound track is added later, during editing.

► MISCELLANEOUS CAMERA TERMS

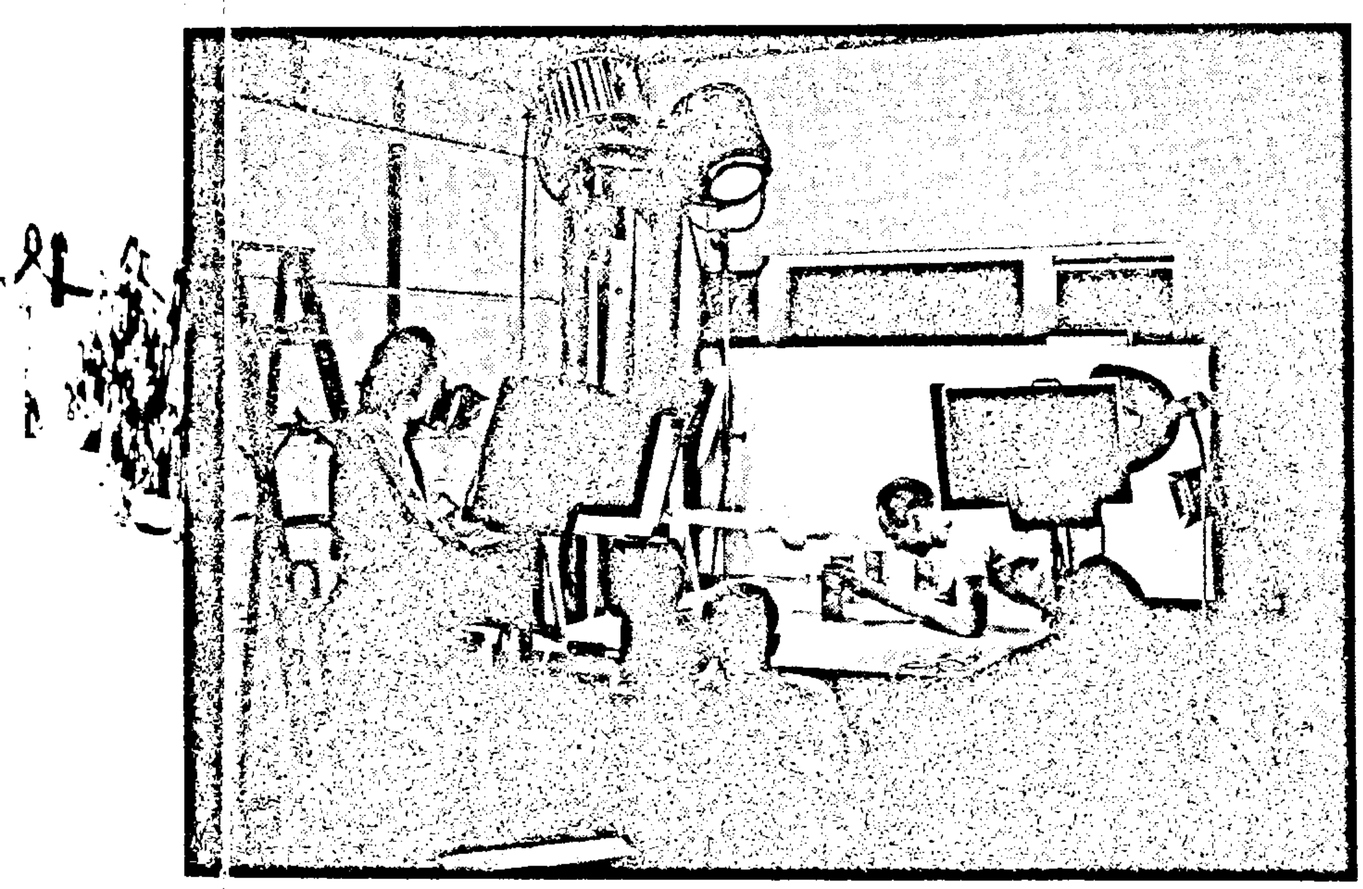
Camera Set Up or **Set Up** are noun terms to designate the physical location of the film camera and attendant equipment: lights, sound, etc. A production breakdown may concentrate on a half day's shooting with four basic camera *set ups.*

Lining Up is used as a verb to describe the placement of this film equipment. It may also include the job of measuring the distance from the subject to the camera lens and adjusting focus of the lens.

Tape is both noun and verb for measuring this exact distance from subject to lens. *Tape* is also adhesive tape of several types used for

various quick jobs around the set. (In another sense, it is the material on which sound is recorded magnetically.)

Ground Glass is a frosted optical glass within the film camera on which the lens focuses the image. The cameraman looks at this by using the **Rack Over** mechanism of the camera (on certain types, such as the Mitchell). This moves the film aside and reveals a direct view of the scene through the actual lens. The film camera cannot shoot in this position, but *racking over* permits the cameraman to check the scene critically for composition and focus. When the camera is racked back, in shooting position, the cameraman can view the scene, approximately,



Stop Motion Photography

through a **Finder** or **View Finder**, which parallels the actual lens.

Parallax refers to the difference between the actual field of view as seen through the lens on the ground glass, and as seen through the parallel viewfinder. Even as the two eyes of a human individually see a scene differently, so do the lens and the finder—and certain *corrections for parallax* must be made as the camera moves closer to or farther back from the subject.

Viewing Lens is a device, equivalent to the viewfinder, which is built into a **Live TV** camera. Since it is seeing the exact picture as the lens sees it, there is no problem of parallax.

Turret or **Lens Turret** is the revolving mount on the front of the camera. It holds the complement of lenses and turns to align and lock in place the desired lens for photography.

Sun Shade and **Lens Hood** are small square or round devices mounted in front of the lens to block off stray light from overhead or sides. **Matte Box** is a device (generally part of the sun shade) placed in front of the lens on the film camera to hold **Mattes** (pronounced *mats*),

small metal or fiber cut-outs which block out certain shapes or areas in the picture. Also called **Masks**, since they in effect *mask* off portions.

The matte box also holds **Filters** which are transparent glass or gelatin forms which act to correct the color characteristics of the scene, or to control the amount of light received through the lens. **N.D.** or **Neutral Density Filters**, for instance, cut down the amount of light received (but have no effect on the color characteristics). Also, for visual effects, various types of diffusion, haze and fog filters are available.

Diffusion refers to the softening of focus, sometimes desirable for artistic or dramatic reasons. To obtain this effect, the lens may be deliberately set out of focus or filters or gauze may be used. Note that lighting also may be *diffused.*

Filter Factor refers to the amount of light a filter absorbs within itself. Consequently this difference is a factor which must be computed in setting the exposure when a filter is used.

Polaroid Filter is a trade name for a filter which is used to eliminate unwanted glare from a scene.

Lens Cap is a removable cover placed over the end of the lens, when not in use. The story is told of a wealthy oil man from Oklahoma who took an expensive new camera on his African safari. He shot 12,000 feet of color film and when he finally got it back from the lab *completely blank* he discovered . . . yes, you ought to take off those lens caps when you shoot . . .

Sometimes when film travels through a camera, it will **Buckle.** This pile-up stops production until the film is cleared out and re-threaded. Some cameras have a *buckle switch* to cut off the power automatically when this happens.

Darkroom, as it does to all photographers, refers to the light-proof cubicle where the camera's film is loaded and unloaded. On location or where a darkroom is not convenient, this work may be done in a **Change Bag,** a portable sack-like cloth that is light-proof.

Blimp is the name of the soundproof housing which fits over the sound film camera to prevent the noise of the camera mechanism from being audible to the sound equipment. No blimp is necessary for silent film production, obviously. **Barney** is a heavy cloth blimp, sometimes used where camera noise is not too great.

BNC Mitchell is the trade name of a sound camera with a self-attached blimp—a "*B*limped *N*oiseless *C*amera."

Camera Report is the correct name for the log kept by the assistant cameraman for the laboratory records. It gives the correct number of each take, the footage exposed and other pertinent data. Scenes to be printed have their number *circled;* **T/E** on the report indicates: *t*est, *e*nd

of roll. **T/N** between takes indicates: a notch has been cut in the film at this point, and the lab is to cut out that piece for special processing. "**Notch It**" is the cameraman's instruction for this and the assistant then opens the camera and cuts a small "V" in the film's edge.

Test Strip is the term for a short section of film left at the end of a roll for the lab to check before developing the rest of the film.

Test Box is a small portable developing kit for hand processing of negative tests on location.

Tripod is a name for a three-legged camera stand, used primarily to hold the camera for stationary shots (on moving shots, a dolly or crane may be used). **Baby** is a smaller-size tripod. **A High Hat** or **Hi Hat,** only approximately 8 inches high, can serve in lieu of a tripod on the floor or on a table.

Triangle and **Crowfoot** are devices that are placed under a tripod's legs to hold them steady and prevent slipping or spreading.

For panning and tilting, the camera often is mounted on a **Free Head,** a device that fits on top of the tripod or dolly to hold the camera and permit free panning or tilting. There are various types of these, including the **Akeley Head,** invented by the famous African explorer, **Carl Akeley,** and the **Gyro Head,** similar to a gyroscope in that it can move in any desired arc.

Variable Speed Motor refers to one on which slower or faster speeds than normal sound speed of 24 frames per second can be obtained. Also called a **Wild Motor. Tachometer** is the speed indicator needed for such variable speed motors. Nickname:"**Tack.**" Sound speed motors always are driven at 24 frames per second, hence do not require tachometers.

Camera Chain is a **Live TV** term which refers to the camera itself, plus cable, monitor and all the necessary equipment required to produce a picture image in the control room. **A** small studio may operate with only two camera chains.

Mosaic is the light-sensitive plate within the **Live TV** camera upon which the optical image is focused by the lens. There it is scanned by the electron beam.

Multiplex refers to a single **Live TV** camera so arranged in the station's film projection room that it can pick up from multiple sources. **For** instance, two movie projectors and a slide machine may be *multiplexed* in **turn** on such a single camera tube.

"**Go Hunting**" is a merry expression used in **Live TV** to tell a cameraman he can use his own ingenuity in lining up the next shot. In other words, he hunts for what he thinks will be a good picture. Cameramen eternally do. . . .

ART DIRECTION
TITLES AND GRAPHIC ART
SCENERY TERMS
CURTAINS AND BACKGROUNDS
MISCELLANEOUS TERMS

9

Art, Titles and Scenery

ART DIRECTION

Someone has described an art director as an "executive creative artist" and this fairly well defines his relation to the task, whether it be for a magazine, a stage play, an advertisement or for a telecast. In television, his art direction may concern itself with the pictorial quality of literally everything in the video: the settings, the furniture and other interior decorations, the title lettering and even the wardrobe of the performers. In Live TV he may also include make-up within his supervision.

Obviously, the authority of his position varies from program to program, but the title **Art Director** indicates the person who plans and coordinates the *design* of the production as it meets the eye. His credit title may read "Production Designed by . . ." or "Art Direction By . . ."

The art director reports directly to the producer and director and works closely with the key staff in the pre-production planning stages. It is his responsibility to see to it that the physical appearance of the production is in keeping with the writer's mood, the director's staging needs and the camera-lighting problems of reproducing the picture, technically.

Not only must he have creative talent and artistic craftsmanship, but he must also be an artful businessman. He must know how to develop settings within a required budget, floor-planned to allow the desired

entrances and exits of the actors and the free movement of television cameras.

In some operations, the art director may be called the A.D., but this is confusing as these initials also stand for *assistant director* in TV. On major productions his staff may include a **Set Designer**, who develops the sketches for the settings, and the **Scenic Artist** who executes these sets. Also, the **Costume Designer**, who develops the sketches for special wardrobe.

Supervision may also include **Graphic Artists**, who work on the **Graphic Art**, a field which covers all art work that measures less than 30″ x 40″ in size (union rule!). Graphic art includes titles, still photographs, maps, signs, and so forth.

Visual is television's term for such graphic art work when it is telecast. "This script calls for three *visuals*."

It is possible for one art director to oversee a number of shows, supervising and coordinating the work of various set designers, graphic artists and others on individual projects.

Advertising agencies, long used to an art director system in the preparation of other advertising, now often employ their own television art directors who have the special task of supervising the pictorial quality of TV commercials.

Graphic art obviously is especially important in the telecast of advertising commercials since the sponsor's product may require retouching or special art handling for best pictorial transmission on TV. Titles and product signatures also are of considerable importance in advertising messages.

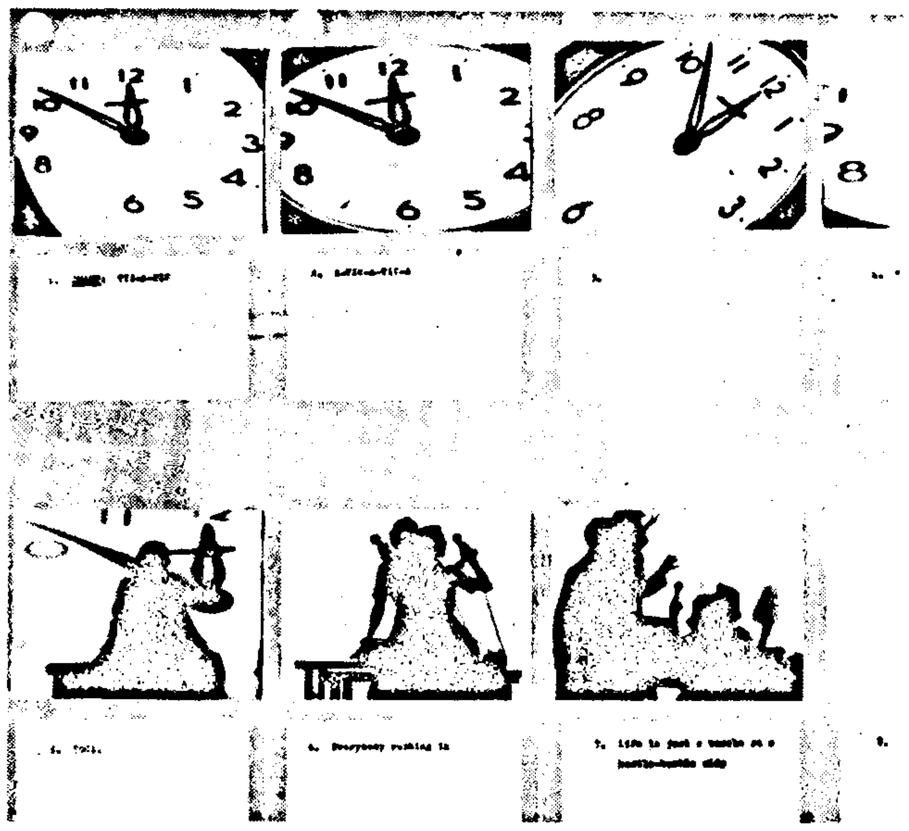
The **Agency TV Art Director** has the responsibility for overseeing all graphic art on commercials. He may also supervise set design, where needed, or cartoon design in animated films. It may also be his responsibility to oversee or execute the **Story Board** which is the scene-by-scene development, in sketch or photographic form, of the intended format of the commercial (or, in some cases, the program). The story board indicates visually how the script will be produced. This may include details of staging, sets, wardrobe and graphic art. The cartoon especially requires a story board, competently executed, before production. Live action does not necessarily require this adjunct if a script is well-written, because a story board may be restrictive or misleading to the later creative efforts of the director and cameraman.

► TITLES AND GRAPHIC ART

Title is used to refer to lettering or printed captions for the screen. In



Graphic Art



TV Commercial Story Board

Chapter 2 on Programming, mention was made of **Cast Title**, listing performers and possibly the names of the characters portrayed in dramatic roles, **Credit Title**, listing personnel related to the creation and staging of the production, **Main Title** or **Opening Title**, listing the name of the show at the start, and **End Title**, the concluding caption.

Studio Card or **Live Title** are terms used to refer to art work transmitted by a **Live TV** camera in the studio, rather than by film and projection room methods.

When the titles are long, they may be presented as a series of cards or they may be in one continuous strip which moves upward from the bottom to the top of the screen on a **Title Drum**, a revolving curved surface, or a **Guillotine**, a straight surface with rollers at top and bottom out of camera range.

Such moving titles are called **Crawling Titles, Creeping Titles, Roller Titles, Roll Titles, The Title Crawl, The Copy Crawl, The Credit Crawl** or simply **The Crawl**—quite a lot of titles for a title!

When title cards are individually presented they may be called **Flip Cards.** These are individual art cards, **11″ x 14″** in size, which may be mounted in ring binders placed horizontally so that they can be dropped in succession in front of the camera.

Flip Stand is the rack or easel for holding flip cards. When no ring binder is used, cards may be pulled out or lifted out in sequence from the stack. Network and some major stations handle these in **Flip Card Machines** which operate automatically by remote control.

Flip cards also are called **Drops** or **Drop Cards. Drop Out** indicates the top of the stack is being photographed and the title or art *drops out* of the picture as each card is let fall. **Drop In** indicates the bottom of

the stack is being photographed and each successive card is *dropped in* to camera range.

Telop is the trade name of the Gray Company projector for handling art work titles. The name is now fairly generic and is often mistakenly used even in referring to a rival projector, **Balop,** a trade name formed from the first letters of "Bausch and Lomb Optical Projector." The full name is **Balopticon.**

Balop Crawl, Balop Strip and **Balop Roll** are all terms for *crawling titles* presented on a special geared mechanism by this type machine.

Balop and *Telop* also are terms used to refer to the art work used in these projectors. Titles or inanimate pictures are reproduced to a size 4″ x 5″. These may be correctly called **Opaques** or **Opaque Slides,** since they are non-transparent and are projected by reflected light.

The **Transparent Slide** or **Transparency,** on the other hand, is projected by transmitted light; that is, the light goes *through* the picture as it does with motion picture film. Camera hobbyists are familiar with **Kodachrome** transparencies which are similar. For TV transparencies, art work can be reproduced on positive photographic film or photo-sensitive glass plates. (*Transparency* also can refer to translucent pictures or decalcomanias used by advertisers on the windows of retail establishments.)

Slide is broadly used to cover both the *transparency* and the *opaque.* Slides may be made in many sizes and used on many types of equipment. It is important in television to check the exact requirements of each station or network before ordering slides.

Slide Film refers to a series of still pictures or titles or art work which have been processed on a continuous strip of motion picture film (35mm). Also called **Strip Film** and **Film Strip,** this type of art presentation can be handled by various **Slide Film Projectors.** It has long been a standard technique in visual training.

Animatic is the trade name of a small film projector which operates like the 35mm slide film projectors, except that it uses 16mm film. It, too, projects one frame at a time but has an advantage in that its rapid pull-down of subsequent frames (in 1/200th of a second) enables it to give the illusion of animation. *Animatic* may be used in the studio or in the projection room.

Cellomatic is the trade name of a special projector used in the studio. It is capable of many unique optical effects and also a limited technique of animation.

Projectall, a development of an earlier device, **Multiscope,** is a trade name for equipment similar to *Balop.* **Epidiascope** is an opaque picture projector used in **England.**

A Flannel Board is a device used in presenting studio art work. As its name suggests, it is covered with flannel cloth. Visual cards, backed with sandpaper, readily cling to the flannel for demonstration purposes. Similarly, a **Magnet Board** uses magnets to hold visual cards with magnetic backings.

Cartouche refers to a decorative scroll-like panel which surrounds a title, label or art work.

Proscenium (from the Greek "in front of the scene") is the stage term for the ornamental arched framework between the audience and the curtain. Hence a **Proscenium Title** indicates one placed on a curtain with the theater-type arch above and around it. This is generally done in miniature.

Super is short for **Superimposure** and is used both as a noun and a verb to indicate one scene over another. Hence a **Superimposed Title** or a **Supered Title** is one placed or seen over another scene.

A Still Photograph or simply a **Still** is obviously one that does not move (as distinguished from a *moving picture*). **Photo** prints may be in two finishes, one called **Glossy**, having a highly reflective surface; the other **Matte Finish**, having a dull, non-reflective surface. Note that this is pronounced "mat" and the word is not to be confused with *matte* used in optical printing or in film cameras.

For most television purposes *matte finish* photographs do not reflect light "kicks" and so are preferred over *glossies*. One type of *matte finish*, **Portrait Proof** is especially popular for television reproductions.

Cropping is the word for trimming or masking out unwanted portions —"*Crop* the picture so that only the product shows."

Logo or **Logotype** in TV refers to pictorial presentation of the advertiser's trade name or trademark in its familiar and established form. This term is borrowed from newspaper advertising where it originally referred to a metal printing plate for this purpose.

Pierced Lettering indicates the letters are cut out inside their outlines so that light will come through from the rear.

B.G. is short for **Background**, the back plane of vision for the eye in a title, setting or animation work. In photography, it refers to area behind the subject. On stage, it refers to any set or curtain or material used behind the performers.

Stat is short for **Photostat**, an inexpensive reproduction made by a photographic process. It is used for duplicating art work, stills, storyboards, etc. The quality of a stat is not as good as a photo copy or photographic print, however.

Fixative or **"Fix"** is a fine transparent mist, generally a plastic that is not unlike shellac. It is used to spray on pastel, charcoal and pencil art

work to prevent smudging.

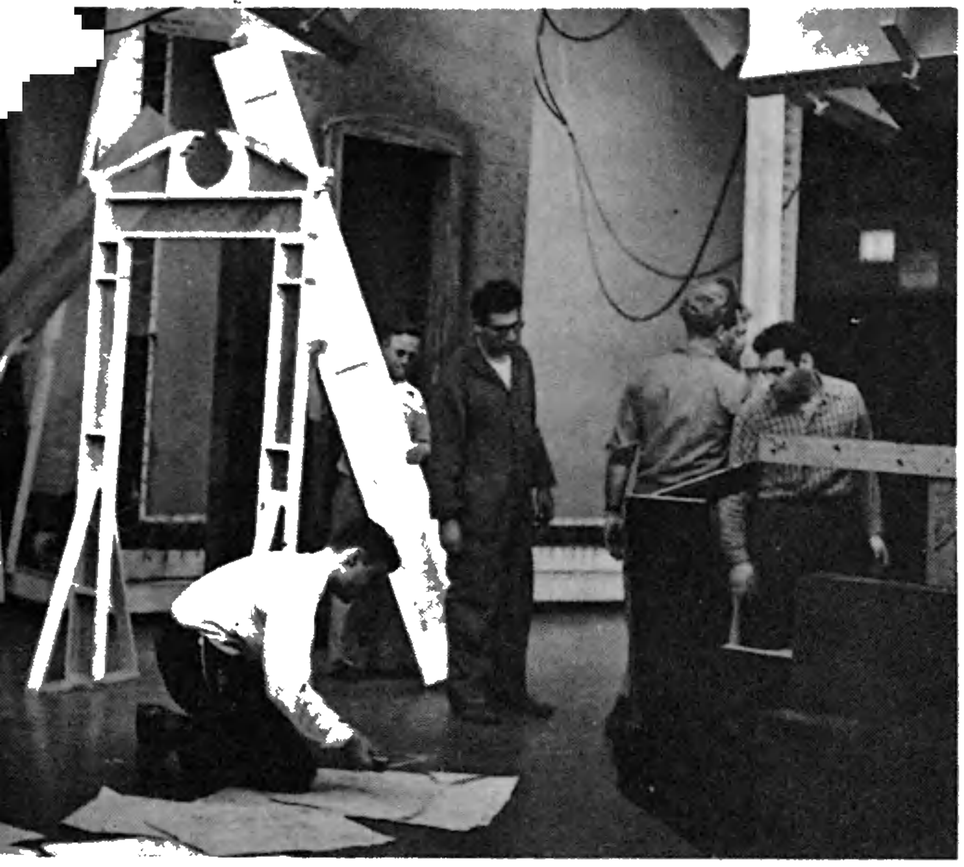
Mock-Up is a Hollywood term which means a reproduction made up to represent the original, such as a *mock-up* airplane interior, with one side exposed so that lights and camera will have ample access to photograph people inside. In commercial television, *mock-up* also is a verb meaning to reproduce a sponsor's product, so that it will photograph to best advantage. It may be normal size or **Magna-Scale** or **Heroic**, larger than life-size.

Blow-Up is an enlargement of a picture or photographic material. It may be *blown-up* for dramatic effect or simply for greater legibility.

It might well be pointed out that *blow up* is also what an art director sometimes would like to do—but never, never does . . .

► SCENERY TERMS

Set is short for **Setting**, the scenery and playing area required for one locale or scene. **Permanent Set** is one that is built and remains intact for continued reuse, as on a program series. Sometimès it is called a **Standing Set**, because it is left standing. It may be **Dressed** or decorated as occasion demands.



Erecting the Set



Faking the Floor



The Paint Shop at Work

A kitchen set has many uses in commercials. If water is connected to the sink, gas or electricity to the range, it is a **Practical Set,** meaning it *works* and can do everything it appears to do, rather than merely being simulated. **Practicable** (the correct form) or **Practical** can also be used in referring to parts of scenery, such as windows and doors, which *work.*

Turntable Stage is one in which the floor revolves to bring the successive sets to the camera. Note that **Turntable** also refers to various mechanisms which similarly revolve to show a succession of products or packages before a stationary camera. And don't forget *turntable* also means the revolving platform on which records and transcriptions are placed for playing.

The elementary unit in building settings is called a **Flat** which is a light portable panel of cloth stretched on a frame, usually 5'9" wide by 10' high in size. **Flats** can be fastened together to form a continuous wall with doors and windows placed within certain segments, as needed. A method to make the *flats* stand upright on the stage is the use of a **Jack,** a triangular frame extending back and held down to the floor with sandbags or U-shaped stageweights.

Returns or **Return Flats** (2' x 10' or 4' x 10' in size) are segments placed on an angle to add depth or indicate another wall of the set and so protect the camera from over-shooting the background. Sometimes called a **Protective Flat,** or a **Masking Piece,** because it masks off unwanted background; **Float** or **Floater** are similar terms, but further indicate that these flats are quickly movable.

Wild Wall is used in a similar sense, but primarily indicates a flat that can be quietly removed from the complete setting, even while the telecast is in progress, to permit a camera to get a more advantageous view.

Backing is a term for *flats* or anything in the way of scenery placed behind a door or window, parallel to the wall. These may be painted or photographic, opaque or translucent.

Tormentors are the flats placed at the sides of the stage, near the front.

Wing Flat has two or more sections, hinged together to stand alone. Sometimes simply called Wings, but this term has a different meaning, the original stage meaning: the sides of the stage in the theater.

Two-Fold Flats and **Three-Fold Flats** are obvious descriptions of sectionalized wing flats.

False Ceiling is the term for scenery which gives the illusion of an overhead dimension to a set. A chandelier and/or horizontal flats, for instance, can accomplish such an effect.

Teaser is the name for the material—generally, muslin—placed above the set to hide the overhead lights and unfinished scene area.

Ground **R**ow is the term for the scenery or material used in front of a mural background or painted drop to conceal the point it touches the stage. The ground row, by giving another point of interest at a different distance from the eye, aids in giving an illusion of depth to the scene. Similarly, **T**ree **R**ow, **M**ountain **R**ow.

Getaway is the slang expression for the passageway behind a curtain or set. It serves as an entrance or exit for actors or may permit them to cross the stage completely out of view.

Gobo, not to be confused with the same term in lighting, is a small piece of scenery which "goes between" the camera and the rest of the set. **F**or instance, a small window that the camera shoots through or a **B**reak **T**hrough, a piece of scenery that will split in two and can be moved apart by the stage hands as the camera dollies toward it. Not to be confused with **B**reakaway, a set or prop that will break up easily in a pre-determined pattern or manner by the action or on cue. **E**xample: a chair slammed down on the hero's head during the fight scene.

Miniature **S**ets or **M**iniatures are small-scale reproductions which give the illusion of full-scale reality. **A** train wreck on a mountain side, for instance, can be staged in *miniature.*

Model, a term sometimes loosely used for miniature, means copy or facsimile but is not necessarily small-scale. **A** model engine may be full-sized facsimile. (See *mock-up.*) **M**odel **S**ets are reproductions, often small-scale, often cardboard, used to pre-plan staging before the actual sets are built. (Note that *model* also is a person who poses.)

Table **T**op refers to a type of photography done with small miniatures or models (placed on a table top).

Diorama is a special type of setting which combines three-dimensional objects in the foreground with a flat one-dimensional background, painted to give the illusion of continuing depth of perspective. Any miniature set which has a background painting to represent distant portions of the scene is correctly a *diorama.*

CURTAINS AND BACKGROUNDS

Curtain indicates a hanging cloth or screen that is *movable.*

Drape indicates a cloth that covers an object or a wall. It is not movable in the sense that a curtain is.

Traveler is a curtain which travels on stage from the side (by overhead rail or pulley system), as distinguished from **D**rop, which is *dropped* or lowered from above. Consequently, **B**ackdrop means back-

ground curtain, painted to simulate an actual scene. **Sky Drop** indicates a curtain painted to represent the sky.

Cyclorama or **Cyc** (pronounced *syke*) literally means circular view. On stage it means a background that hangs *in an arc*. It may be painted, for instance, to simulate distant hills and sky for an outdoor setting.

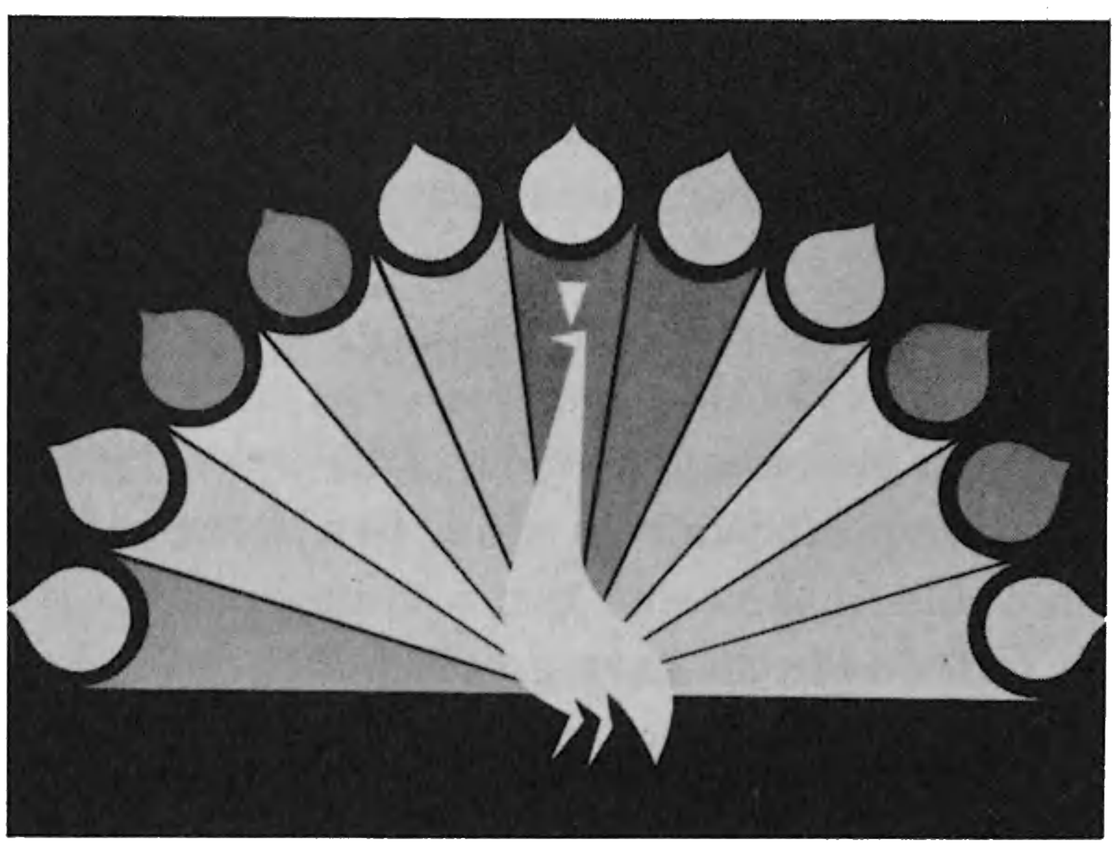
Photo-Enlargement Drops are background curtains on which are reproduced large, realistic photographic views. Sometimes called **Photo Murals**, or, loosely, **Murals**. These are generally called **Shipmans** in Hollywood—from the trade name, correctly **Shipman Backings.**

Backings, mentioned earlier in this chapter, may also be translucent. One of these is **Adlux,** a trade name. It is a device originally designed to show *ads lighted.* In television and film production—especially color—the device is used to show photo transparencies lighted from behind. It can be used to show signs or realistic photo scenes, as, for instance, an exterior view seen through a window.

Rear Screen Projection, mentioned earlier in Chapter 5, refers to the large translucent screen used to supply a still or motion picture background to the set, behind the actors.

Glass Shot is a trick of art design and photography to supply the background for a type of film scene. Part of the scene (such as a castle on a hill, or the upper structure of a cathedral) is painted on glass. This invariably is the upper portion of the scene, where there is no moving action. The actors work in the lower portion against an actual set which "fits" and matches into the painted glass. The two portions are combined on the film, either in the camera as it shoots or later, in the laboratory. This is a very intricate operation but obviously can save extensive construction costs.

The Matting Amplifier or **Electronic Inset** is an engineering feat in



NBC's Color Spectrum in "Gray Scale"

TV Gray Responses

COLOR-AID NOTATIONS					MUNSELL GRAY SCALE
TV WHITE					N-8.5
YOY-T 3	YOY-T 4	YO-T 4	YG-T 4	Y-T 3 YGY-T 4	
Y-HUE ORO-T 4	YOY-T 1 RO-T 4	YO-T 2 R-T 4	OYO-T 3 V-T 4	O-T 4 GBG-T 4	N-8.0
YOY-HUE ROR-T 4	YOY-S 2 RVR-T 4	YO-T 1 B-T 4	OYO-S 3 BGB-T 4	O-T 3 BG-T 4	N-7.5
Y-S 1 ORO-T 3	YOY-S 1 RO-T 3	OYO-T 1 ROR-T 3	OYO-S 2 VRV-T 4	O-T 2 V-T 3	N-7.0
Y-S 2 BV-T 3	YO-S 1 BVB-S 3	OYO-HUE B-T 3	ORO-S 2 BGB-S 3	RVR T 2 G-T 2	N-6.5
Y-S 3 R-T 1	YO-S 2 BVB-S 2	ORO-HUE BG-T 2	RO-T 1 GYG-T 1	ROR-T 1 RV-T 2	N-6.0
O-S 1 VRV-T 1	ROR-HUE VRV-S 1	ROR-S 1 VBV-T 2	R-HUE VBV-S 1	RVR-S 1 BV-T 2	N-5.5
GBG-S 1	O-S 2	BGB-T 1 RV-S 1	BGB-S 1 BVB-T 1	BG-T 1 B-T 1	N-5.0
O-S 3	VRV-HUE	RV-S 3	V-S 3	VBV-T 1	N-4.5
RO-S 1	R-S 2	V-S 1	V-S 2	YG-S 3	N-4.0
RO-S 3 BGB-HUE	BVB-HUE BG-HUE	B-HUE BG-S 1	B-S 1 G-S 2	B-S 2 G-S 3	N-3.5
		BV-S 1	BV-S 2	BG-S 3	N-3.0
TV BLACK				VBV - HUE	N-2.5

CONTRAST RANGE TELEVISION

The Gray Scale

Live TV which can accomplish something even more spectacular than the glass shot. Perfected for color as well as black-and-white use, it takes action as photographed by one camera and places it in a scene as photographed by another camera. Consequently, the background scene portion can be painted or photographed in miniature size, and in the combination appear to be life size. Or, the background can be life-size with the actors represented in miniature.

► MISCELLANEOUS TERMS

Props, as previously mentioned, refer to the properties or items of furniture, set decorations and miscellany required to prepare or **D**ress a set. A set that is over-dressed is said to be **B**usy, meaning it keeps the eye "too busy" and distracted. *Busy* also is used to describe similarly any material or scene which has an over-abundance of non-essential detail or action.

Gray **S**cale is a term used in black-and-white **L**ive TV (and film) to describe the accepted range of tone values, from off-white to near-black, which transmit best in television. **P**ure white and pure black, in large areas, cannot be successfully transmitted. Hence, art directors must consider all settings, costumes and graphic art in terms of their tone values on the *gray scale.*

Value is used in describing the lightness or darkness of a color in terms of a gray scale. **H**ue, in discussing color, refers to the classifications of color: *red, blue* and *green* and their intermediates. **S**aturation (with *value* and *hue* the third attribute of color) refers to vividness of hue. **F**or instance, "the blue lacks saturation" would indicate the color is on the pastel side (and might reproduce even lighter on television).

Color **C**harts or **C**olor **A**id **C**harts are printed scales which indicate how the various colors, in different values, reproduce in black-and-white.

Texture, as an art term, is used to describe the appearance of surface depth in a fabric, painted material or solid. Texture is achieved by irregular variations from a plain surface.

Shadowing means the effect of shading on title letters and subjects to add the illusion of depth. **D**rop **S**hadows are clear cut shadows which give dimension to title letters.

Free **P**erspective is an art term meaning that, in the painting or construction of a set, the normal perspective has been distorted to give the illusion of greater depth to the scene.

Abstract **S**et refers to an art treatment that only broadly suggests, but never specifically portrays, a locale or a mood.

A somewhat related term is **L**imbo, used to describe a non-recognizable background especially for closeups of products in commercials.

The Flies is the entire space above the stage, up to the roof. Here is housed the overhead lighting equipment, and the mechanisms for handling curtains, travelers and scenery from above.

Fly is a verb meaning to suspend in the *flies.* You can *fly* a curtain. A backdrop that can be taken up into the *flies* is called a **Flying Drop.**

Grid or **Gridiron** is the metal framework in the *flies* on which equipment is suspended. **Catwalks** are the paths in this above-scenery area on which the electricians and other workmen walk about.

Riser, Step Block, Apple-Box, or **Pancake** are all terms for a movable block platform that can be placed under actors or furniture to raise the position as viewed from the camera. Not to be confused with a **Parallel** which is a hinged, foldable platform used to raise the height of equipment. A camera may shoot from a parallel, or a light may be placed on it for greater height.

Dutchman or **Rhinoceros Hide** has nothing to do with Holland or a zoo—it is simply a narrow strip of cloth or brown paper pasted over the crack where two flats are joined.

Scene Dock or **Scenery Dock** refers to the place where the flats and scenery are stored.

Rig is a slang noun indicating any contrivance made with ingenuity, but it also is a verb meaning *to set up,* as "*rig* the lights."

Rake is a verb meaning to set at an angle: "*Rake* that *gobo* so it hides the light from the camera."

Erect is the rather obvious term for putting the set into position on the stage. Slang-wise, when this happens, it is said the production **Hits the Floor,** as rehearsals are ready to begin on stage.

Break or **Strike** are verbs meaning *to take down.* Hence, you "break a set" or "strike a set." But note the word *strike* also has a different meaning in the processing of film prints: to "strike a print" is to make one by physical contact with the negative. Unions of course use the word to indicate a stop-work movement. And the success of an actor or entertainment project can be called a lucky "strike."

So, *strike* means to tear down and it also means to make. It means to stop something and it also means to succeed. Four meanings, all fairly opposite . . . this is typical of the language of television . . .

STOP MOTION,
TECHNICAL AND CARTOON ANIMATION
DEGREES OF ANIMATION
ART STYLES
PERSONNEL AND PROCEDURES
MISCELLANEOUS TERMS

10

Animation

STOP MOTION, TECHNICAL AND CARTOON ANIMATION

Animation brings to television the wonderful world of cartoons that move. It explores the fascinating fun of bringing inanimate objects to life and giving stringless third-dimensional puppets the power to move and talk.

Animation also can be serious with technical, analytical drawings, but it is better known for its humor—and its advertising commercials.

Animation is the art of creating and photographing a series of drawings (or a series of poses in inanimate objects) which, when viewed in sequence, give an illusion of movement.

This is, of course, exactly what happens in live action movies. The pictures do not really *move,* but a succession of still pictures (24 per second) when projected at this speed achieve such an illusion. Animation simulates an identical procedure with a series of still drawings or poses.

Animation is done entirely on film. Various tricks are done in Live TV, such as moving portions of a cartoon drawing or pulling inanimate objects by hidden strings, which give the appearance of animation but technically, these are not truly classified in the same field.

In fact, there is a divergence of opinion regarding the inclusion of **Stop Motion** as a classification of animation. This is the technique whereby inanimate objects are given the illusion of motion. The subject is photographed one frame at a time, with slight changes in its position between each successive frame's exposure. In this way, cigarettes can be made to

march, oven doors can open mysteriously, and stringless puppets can sing and talk and move about.

Beyond this similarity in frame-by-frame photography, there is very little resemblance between the procedures of stop motion and drawing animation.

Drawing animation includes two basic categories:

Technical Animation gives a factual interpretation of the action of a device or method. Working in basic sketch form and showing only key factors or cross-section, technical animation can simplify and explain many activities not readily demonstrable by the normal photographic treatment. Also called **Animated Diagrams**, these can show how a vacuum cleaner works, how the human heart pumps blood or how a corporation manages its far-flung personnel. It is concerned with information, rather than entertainment.

Cartoon Animation, on the other hand, gives a fictional interpretation, generally exaggerated, of the actions of people, animals and objects. It is primarily concerned with entertainment although it can also cloak information.

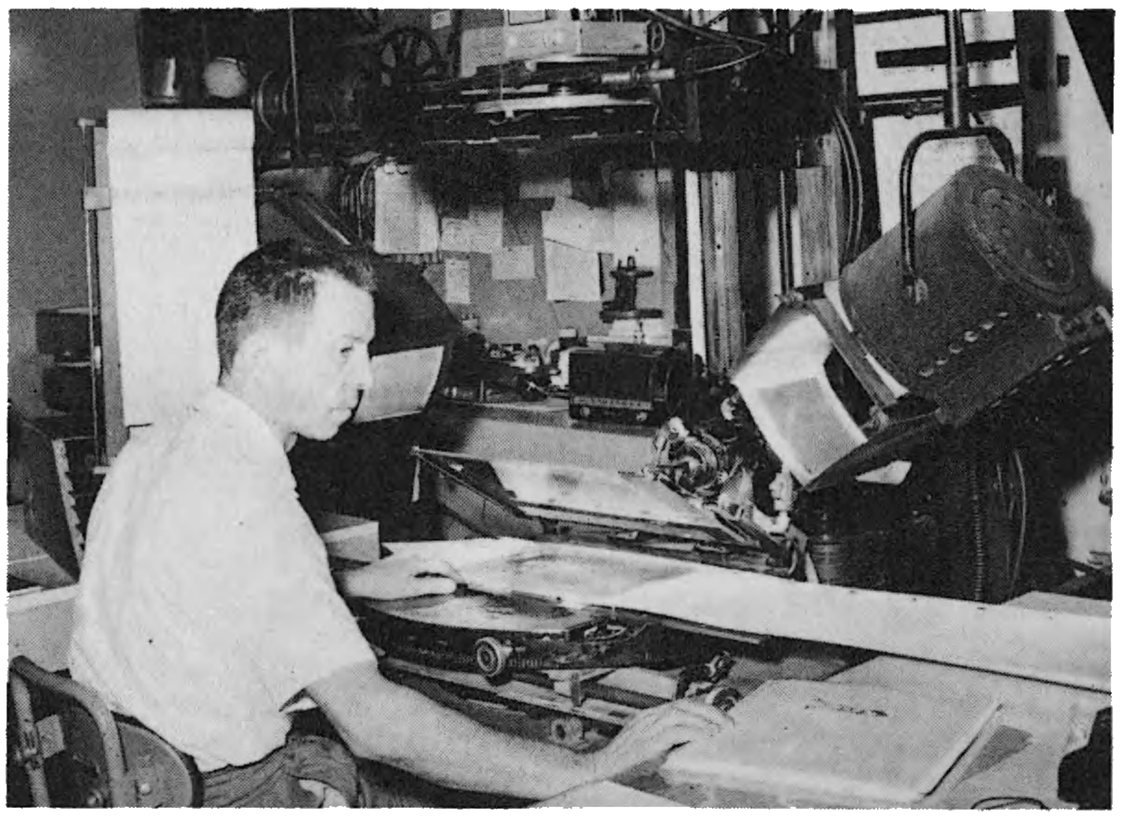
► DEGREES OF ANIMATION

There are various degrees of effort—and resultant effect—in the development of drawing animation:

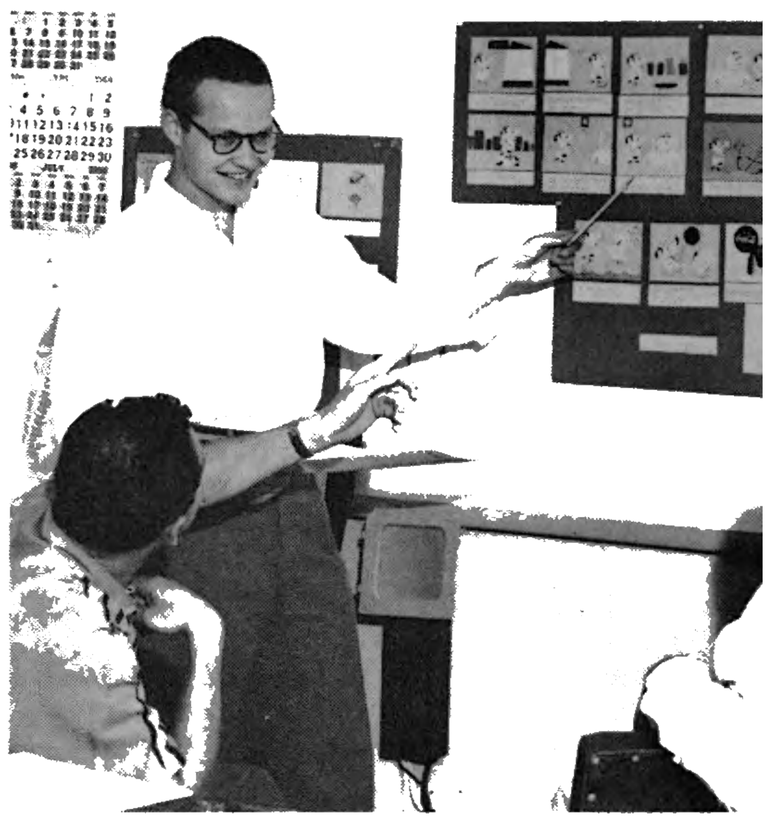
Full Animation indicates a maximum of smoothness and fluidity in movement, achieved by actually drawing separate progressive steps of the action into each of the 24 drawings required per second. Actually it is quite possible to animate certain slower actions quite successfully with only 12 drawings per second. Each is then photographed twice in succession to obtain the necessary 24 pictures per second required in projection. This is called **Shooting on Twos** (2s). Some consider this a step short of *full animation,* but nearly all entertainment and commercial cartoons take advantage of this short-cut, at least at some times.

Partial Animation or **Limited Animation** is applied to methods which use even more substantial short-cuts. For instance, if only the lips of a cartoon character move, without the head and body moving as it normally would, this is called *limited* action. Many other such devices are used to limit the amount of art work required, thereby effecting considerable savings on cost. Where it is not unusual for *full animation* to cost $15,000 for a minute of screen time, the tricks of *limited animation* can cut costs to as little as a tenth of this amount.

Scratch-Off Animation, sometimes called **"Grow" Cartoon,** requires still less art work and cost. One basic drawing is made and it is then



Animation Camera



Cartoon Story Conference

photographed in *reverse* with fractions of lines *scratched off* before the exposure of the subsequent frame. (In other words the *last* frame is photographed *first*, then the animation camera continues frame by frame until all lines have been removed and the picture is a blank.) On the screen this appears in opposite direction, going from a blank picture line by line until the drawing is completed. It "grows" before your eyes, a comparatively inexpensive illusion of movement.

Comic Strip is a term used occasionally to refer to a type of television cartoon which is nothing more than a series of cartoon drawings shown on the screen for several seconds each, without animation. It is the equivalent of a newspaper comic strip, seen one panel at a time.

Photo Animation, sometimes called **Fotan,** deals with *limited animation* of still photographs, titles and trademarks. It is relatively inexpensive.

Simple Animation is used in the sense that only one figure or subject moves in the scene. Some studios refer to this as a **Unit of Animation** and they compute costs according to the number of *units* required.

Compound Animation indicates several subjects moving at the same time in the same scene. *Compound* is more expensive than *simple* animation since each little movement requires a succession of drawings to complete the animation. It is the tremendous amount of art work and tedious hand labor that increases the cost of animation. The rule of thumb is: what moves, costs.

Camera Animation indicates that it is the camera rather than the art work that moves. For instance, the camera is trucking in to a closeup of the subject that holds a set expression. (An animation *truck* is equivalent to a live action *dolly*.) This gives an illusion of action within the scene.

Camera animation, skillfully staged, saves money, since camera work

is faster and cheaper than art work. It gives Free Footage to the animation director since continuing art work is not required. He may also get free footage by camera animation of a pan or moving shot from one part of the scene to another, as from a street scene to the window of a house where the animation will begin. A Cycle also saves money. This is a sequence of animation which is repeated: For instance, a horse galloping or a wheel rolling. Only 8 drawings may be required for this action, which is then photographed in repeated sequence for possibly 4 seconds; 4 x 24 = 96 frames . . . from 8 drawings!

There are many tricks an animation director can use to cut costs and still achieve a quality result, but they must be carefully planned in the initial stages of the story or the commercial.

► ART STYLES

Techniques of cartoon animation fall into three primary art styles:

Disney-esque, which follows the happy, easy-going style of Walt Disney as exemplified in his Mickey Mouse and other cartoons. The lines of the drawings have gentle curves, the backgrounds are complete, the mood is happy exaggeration.

Modern, sometimes called **UPA Technique,** because United Productions of America has been a leading exponent, is similar to the trend found in other art fields. It sets out to explore other individual interpretations and art styles in cartoon, contending that Disney merely represents *one* artist's viewpoint on how a mouse might be pictured in this medium.

Abstract, as in other art fields, deals in *avant garde* forms and designs which create a mood and feeling that suggest rather than actually show the subject. Even Disney went to abstract sequences in *Fantasia* to interpret visually how the sound of music might *look.* Various television commercials have experimented in this field.

► PERSONNEL AND PROCEDURES

Animation Director is the title given to the man who supervises the entire production. He determines how scenes and sequences will be developed and how they will be fitted to the action requirements of the sound track. Working with the cartoon characters, he is in every sense as vital, as influential to *their* performance as the live action director is to his human actors.

In animation the sound track is almost always recorded first and then transferred to film, so that it can be analyzed and measured frame-by-frame. The film's editor will then **Read the Track,** marking on the film

where each word, syllable and letter (or position of the beat of music, or sound effect) appears for each of the 24 frames per second.

This analysis is then copied on an **Exposure Sheet** which, line by line, reveals what the sound track contains so that the animation can be designed to match it exactly. It may take two seconds or 48 frames to say "It's a F-O-R-D!" and the animation director must know exactly which frames his cartoon character will shape his mouth for "F," then go to "O," then "R," then "D." The exposure sheet is the master guide for the entire operation of animating up to the camera work, at which time the sheet is supplemented with additional notes and directions for photography.

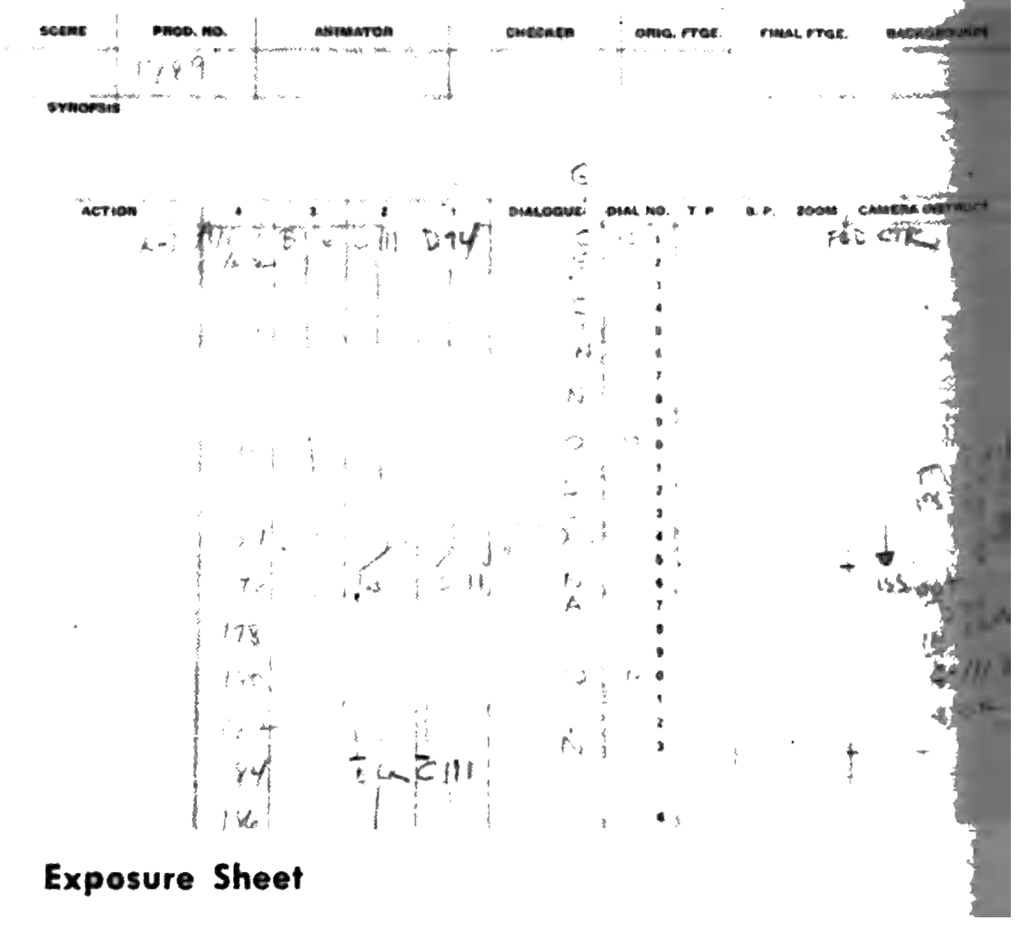
Meanwhile, the artists have been busy. The **Story-Sketch Man** has interpreted the script in small drawings, perhaps 20 to 30 for each minute of proposed action. Next the **Layout Artist** or **Layout Designer** actually sketches the backgrounds and designs the production. He also must have vast experience, with a virtual slide-rule in his head to figure how his two-dimensional art work can achieve three-dimensional action.

Sometimes he also is the man who paints the **Backgrounds** or **B.G.s,** the art work, design or setting on which the animation will be staged. Cartoon backgrounds are somewhat equivalent to the sets of live action. These B.G.s may be the separate work in larger studios of the **Background Artist** or **Background Designer.**

Animators and **Assistant Animators** work under the animation director on the individual scenes, animating key drawings to describe the high points and extremes of action. For instance, if 24 drawings are required per second (for full animation), they may draw only frames 1, 6, 10, 18, 24. These sheets then are turned over to the **In-Betweener,** who makes the needed drawings in between: 2, 3, 4, 5, 7, 8, 9, 11, 12 etc.



Animator at Work



Exposure Sheet

All of these drawings, sometimes called **Flip Drawings,** are made with pencil on white paper. Each is approximately 11″ x 14″ in size although some technical animation uses a larger size. Each sheet is punched uniformly with peg-holes so that all may be kept in exact registration. The animation men all work at special desks with peg-bars that hold the paper in register over a back-lit ground glass. When turned on, this light behind the paper makes it possible to see through several sheets and determine the smoothness of the action as the subject progresses in movement from position to position.

Pencil Tests may be run when the in-betweeners finish their work. This means the early drawings are photographed in sequence on film and then screened to evaluate the action before proceeding further with the art work. Television commercial cartoons, in their haste to meet deadlines often must do without pencil tests, so there is no opportunity for the animation director to evaluate and improve the work.

Clean Up refers to the work of erasing and defining rough lines in the early drawings. Generally, this is not done until after pencil tests. Clean up work is the responsibility of the *assistant animator.*

The drawings are now ready to go to the **Ink**ing-and-Painting department, where girls take over and trace or copy the drawings from the paper to **Cel**s or **Cell**s or **Celluloid**s (also approximately 11″ x 14″ in size). As many as three or four of these transparent cels of cellulose acetate or other plastic may be used, one on top of another, to put all the component subjects into the final picture for a single frame.

Inkers trace the outlines in India ink on the top of the cel. Then the **Painter**s, sometimes called **Opaquer**s, paint the opaque portions such as faces, bodies, clothes. Black is painted on top (to prevent a mirror-like





Pencil Test **Finished Cel**

reflection) but all else in painting goes on the underside of the cel. Colors or the equivalent shades of gray may be used, but great care must be taken to see that identical shades follow through on the hundreds of cels. Otherwise the colors will "jump" in tone.

Checking must now be done to be certain all the cels and backgrounds called for on the *exposure sheet* are now properly completed and in order, ready for camera. This is the work of the **Checker.** In smaller operations the assistant animator may assume this responsibility.

The camera used in animation is completely different from other types of camera equipment. It is designed to shoot only one frame at a time, and it must be mounted on a special **Animation Stand** or **Camera Stand** which permits the camera to make calibrated movements in all directions (called on the exposure sheet: "North, South, East, West"), as well as trucking or moving in and out. Generally, the camera shoots straight down on the cels, each registered to peg-holes as they have been each step of the way. It is not unusual to have 12 backgrounds and almost 2,000 cels (some working 2 or 3 deep in certain scenes) to achieve a one-minute cartoon film. No wonder it's an expensive business!

► MISCELLANEOUS TERMS

Model Sheets refer to the sketches which show a principal cartoon character in a variety of poses. This sheet or sheets show relative dimensions of the head and figure from different angles and often typical facial expressions. This is to be used as a *model* for all animators and others to follow. Thus, different artists working on different scenes of a production will develop an identical figure.

Story-board has been defined elsewhere as the scene-by-scene sketches of the intended development of a program or commercial. In cartoon work the story-board is the essential first step.

Thumbnail Sketches or **Thumbnails** are miniature quick sketches which many artists use before preparing a complete story-board. They are also used in working out details of animation scenes by the *story-sketch man.*

Field is the animation term for the size of area to be drawn or photographed. There are several methods of computing these, each based on the type of animation stand to be used. For instance, a 12-field may indicate a full area of 12 inches in width, so that a 10-field then would be the approximate size for titles to allow for the *television cut-off*, and a 4-field would be a good closeup size. Everything on the camera and animation stand must be computed in mechanical fractions, which is why the layout man must have a slide rule in the back of his mind.

Rotoscope is the involved process by which cartoon can be combined with live action photography. First, the live action scene must be photographed, then this film is viewed frame-by-frame in a special projector process, called **Projecting Down,** which permits an artist to trace (again on that 11″ x 14″ drawing paper, with peg-holes) the exact position of the live subject in each frame. These sheets then form a guide for the animation. When animation work is completed, it is then combined photographically with the original live action, one frame at a time. This is why it often takes 8 weeks to complete the animation for r*otoscope* into a live action scene that itself took only 8 seconds to shoot!

Cartoon Sound is an expression used to refer to the exaggerative treatment generally given to sound recordings for this technique. Cartoon voices are usually amusing in quality and the sound effects (as of a train, for instance) and music are done with a planned whimsicality. Cartoons are fun, and the humor must begin with the sound recording.

Pose Reel refers to a test film made with the finished sound track to show the cartoon figures in key poses or peaks of action before the intervening action is started. For TV commercials, the *pose reel* often is preferred as a check point instead of the more finalized *pencil test.*

Lead (long "e") **Sheet** and **Cue Sheet** are both terms for the special analytical guide used in cueing music before animation. It computes mathematically the relations of the musical notes, sound effects and dialogue for the exposure sheet. Note that both these terms have other meanings, to be found in the music section of the next chapter.

THE FORMS OF SOUND
PERSONNEL AND RECORDING METHODS
SOUND EQUIPMENT
TERMS AND JARGON
MUSIC TERMS TO BE NOTED

11

Sound

THE FORMS OF SOUND

Audio is *what you hear* and, while networks allow only a **25%** rebate when a commercial fails to present its audio, it would be hard to convince anyone who works in sound that they are not fighting half the battle. Motion pictures, they point out, never really came into their own until sound came along.

Audio recording is a highly specialized work, requiring a "good ear," a sense of the qualities, shadings, and proper balance of sounds. Considerable craft ability is a pre-requisite, a knowledge of music is often essential, and a feeling for pace and timing can always be helpful.

Audio Signal is Live TV's term for the sound as it is broadcast. This may include: **Live Sound,** audio being picked up as it actually happens, **Recorded Sound,** audio previously stored on magnetic tape or record, and **Sound Film,** audio recorded on motion picture stock (generally with the picture also on film).

The word *audio* is rarely used in the film industry, which prefers **Sound** to describe *what you hear*: the voices, the music, and the auditory effects or **Sound Effects,** which include everything except voice and music: from a foot-step, a door slam, an auto crash to a train whistle, an outboard motor, a tornado on the loose.

Acoustics is the science of sound: the field of knowledge about its

origin, transmission and effect. The term is especially used in film and television to refer to the sound recording characteristics arising from the design and size of a studio or place.

Noise has a particular connotation in audio work. It refers to sound *not wanted* in recording or reception.

Recording or **Sound Recording** is Hollywood's verb for the act of transcribing the audio portions of film. Both are also used as nouns to describe the finished work. The crew and equipment used in this work is a department of production and as such may be simply called **Sound**, as in the expression "*Sound* is ready to roll."

Sound Stage refers to a studio which has been acoustically treated and "silenced" with a soundproof lining to keep out extraneous noise. The term is used in film production to distinguish from *silent stage*, where certain non-sound types of production are scheduled. Since Live TV has practically no silent type of production, the radio term *studio* or the stage term *stage* are generally preferred in this branch of the business to *sound stage.*

Sound Track is a film term for the audio recording to be used with the picture. On released film, the track becomes a narrow visual band that is printed alongside the picture. It may be called the Sound Image, when it is the photographic version of sound, but generally it is termed simply the **Track.** Technically, you may hear the term **100-Mil Track;** this refers to a film printed with the standard width (1/10 inch wide) sound track. For original recording and for filing purposes (never for printing with the picture), sometimes a **200-Mil Track** (1/5 inch wide) is specified.

Sound Picture refers to a finished composite picture print with the sound recorded on it; sometimes indicated as **S.O.F.,** meaning *s*ound *o*n *f*ilm to distinguish this type of print from a silent print, generally marked **S.I.** or **N.S.,** meaning *no sound.* This marking indicates to the audio engineer in television that it will require a live audio with it when it is telecast.

Audio techniques include various types of recording: **Direct Sound** or **Direct Recording** means that the film is photographed simultaneously as the sound is recorded; hence the voices will match the lip actions. **Dialogue Sequence** is a lesser used term for this; also Sync Sound (because the picture and sound are in *sync*hronization). If the resultant picture and audio are improperly put together, they are said to be **Out of Sync.**

Non-Sync Sound or **Wild Track** or **Wild Sound** indicates a recording made without a picture being simultaneously photographed. Such "unseen" voice tracks then may be used with a separate picture photographed silently for **Voice Over** or **V.O.,** also sometimes called **Narrative Sound**



A "Gaffoon" at Work



Live TV Audio Booth

and the voice referred to as a **N**arration or **C**ommentary.

Re-Recording or **D**ubbing is the process of combining previously completed sound tracks, adjusting different scenes to identical volume levels or changing the auditory characteristics of previously recorded sound.

It is possible, of course, to record singing or speaking voices in advance of photographing the film (or staging the live telecast), as previously mentioned. This is called **Pre-S**coring or **Pre-R**ecording, as against a reverse procedure, **P**ost-**R**ecording, which indicates the sound—especially *non-sync* or voice over—is recorded after the picture is made.

Post-**S**ynchronization indicates the lip movements are synchronized with voices (or actions with sound effects) at a later time, after photography. This in some cases is called **P**ost-**D**ubbing, which actually means to re-record. So, if a voice is not satisfactory on an original *direct recording*, it is possible to "dub in a new voice." This is done by taking the film scene and making it into a continuous loop which is projected again and again for the new actor. The lip action is rehearsed until a new voice recording can be made to match.

Sometimes the previous voice which was made with the picture, called a **Cue T**rack, is played to establish pacing and inflection for the new voice. This is not to be confused with **C**lick **T**rack, a sound track that has periodic clicks, like a metronome, to guide singers to tempo at a post-synchronization or other recording session.

Foreign language films can be made understandable to American audiences by dubbing carefully devised new words to old lip movements. It is well to note that dubbing is broadly used to cover any re-recording of audio material and the term is not completely interchangeable with

post-synchronization. It will be mentioned again in this other meaning later in this chapter.

Lip Sync correctly refers to the method of post-synchronization of a voice to match previously photographed lip movements. However, it is misunderstood and misused throughout the industry (many use it to mean *direct* recording) so it is a term to be used with caution.

PERSONNEL AND RECORDING METHODS

Live TV's audio crew was discussed in Chapter 4, especially noting the **Audio Engineer** who is responsible for the technical quality and physical control of the sound, as received in the control room for telecast, and his key man on stage, the **Boom Man,** who handles the microphone to pick up the sound.

Film TV, as discussed in Chapter 5, has a similar *boom man* on stage, but the senior member of the crew is called the **Mixer,** the sound engineer who controls the balance and quality of the sound recording, as he listens with ear-phones at his desk console in view of the set. The sound is then carried by line to magnetic tape or film recording equipment in the studio sound department, or, in some instances, a sound truck which carries such equipment. There the man called the **Sound Recorder** or **Recordist** handles the physical recording of the sound on magnetic tape, magnetic film or regular film.

Cameras for sound recording, in synchronization with lip movement, are of two types: **Double System** indicates that the sound recording mechanism is separate from the camera, but works synchronously. **Single System** indicates the recording mechanism is within the camera and the sound is actually recorded on the same film at the same time that the picture is photographed. *Single system* has been used for newsreel-type productions but it presents problems in editing and is generally of poorer sound quality than *double system* work.

Magnetic Tape or **Tape** is used in both film and live TV, as it is in radio. The tape is a narrow continuous strip or ribbon of a thin plastic or film material, held on a reel (400′ or longer). On one side the tape is coated with iron oxide particles that can be magnetized. The magnetic field of this metallic surface is "rearranged" in recording to a precise pattern. This pattern is the record of sound and it can be played immediately, broadcast on the air, duplicated, transferred to a permanent film record or completely erased and used again for recording.

Tape can be recorded at a speed computed in terms of how fast it passes the recording head: **I.P.S.** or *ips,* inches per second. For extra sensitive fidelity (faithfulness to the original sound), 30 *ips* is used. Most

professional work is recorded at 15 *ips*. Music is not as faithfully produced at slower speeds, but voice records satisfactorily at 7½ and even 3¾ *ips*, the two popular speeds for home magnetic tape recorders. Portable pocket tape recorders can record at 1⅞ *ips*, and even 15/16 *ips*, the slower speeds giving longer playing time at a proportionate sacrifice of fidelity.

Tape comes in four popular widths for professional recording: **Quarter-Inch Tape**, as used in radio, is also used in film recording work. **Seventeen-and-a-Half Tape** (17½mm wide) is a film base with iron oxide coating. It has sprocket holes or perforations on one edge, so that the driving motor and the camera motor can be kept in synchronization. **16mm Tape** and **35mm Tape** are, as might be expected, film stock of these standard widths with the special coated magnetic recording surface. These likewise work in motor synchronization with the film camera.

All tape can be played back instantly (it does not require processing as film does) and it can be erased and used again and again. This saves both time and money, but tape's great advantage over other methods is its superior fidelity.

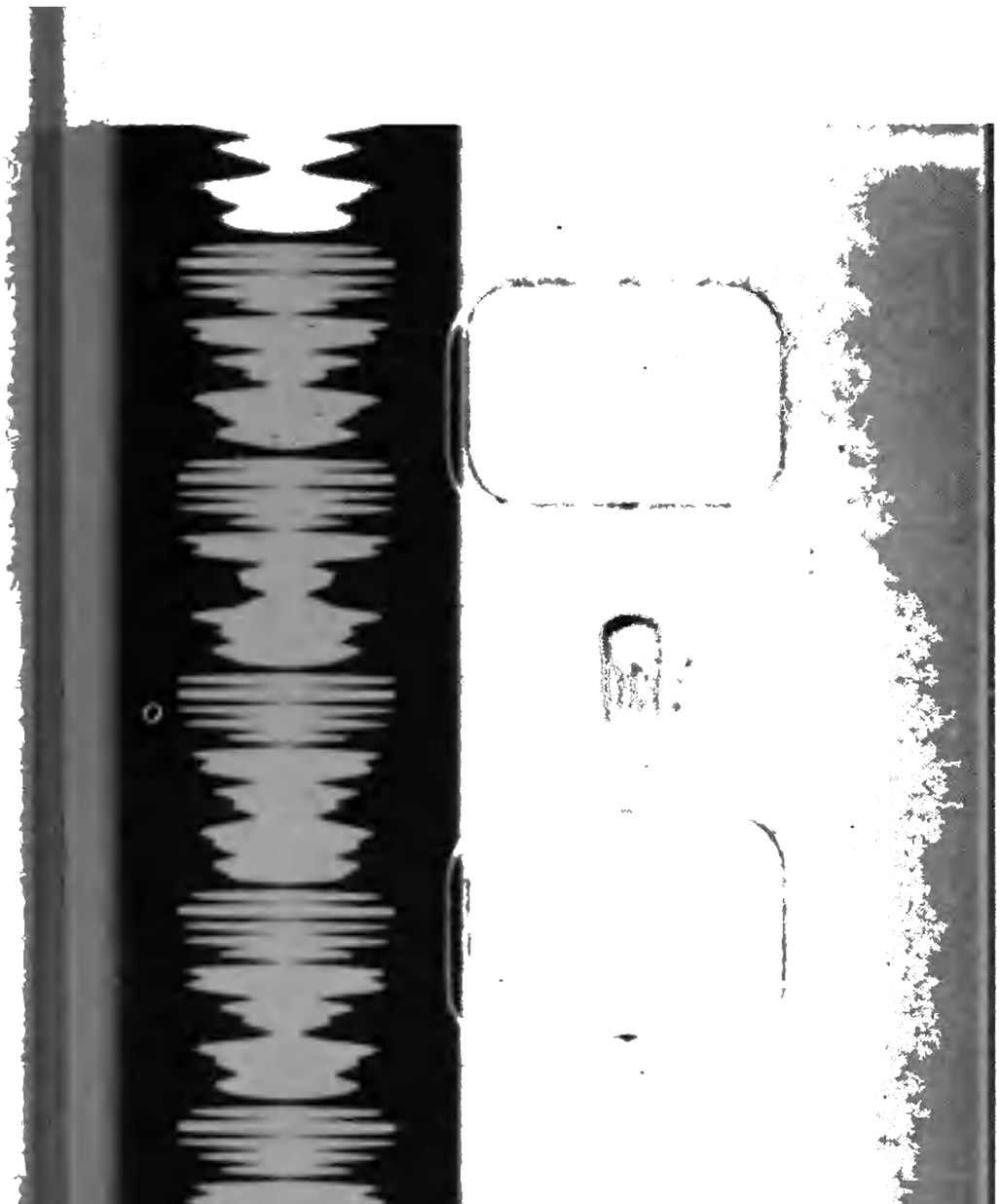
VTR or **Video Tape Recording**, mentioned in the first chapter, is the industry's newly-developed method of recording *pictures* as well as *sound* simultaneously on magnetic tape.

Magnetic Wire, an earlier method of recording magnetically on an unwinding metallic strand, has fairly given way to magnetic tape.

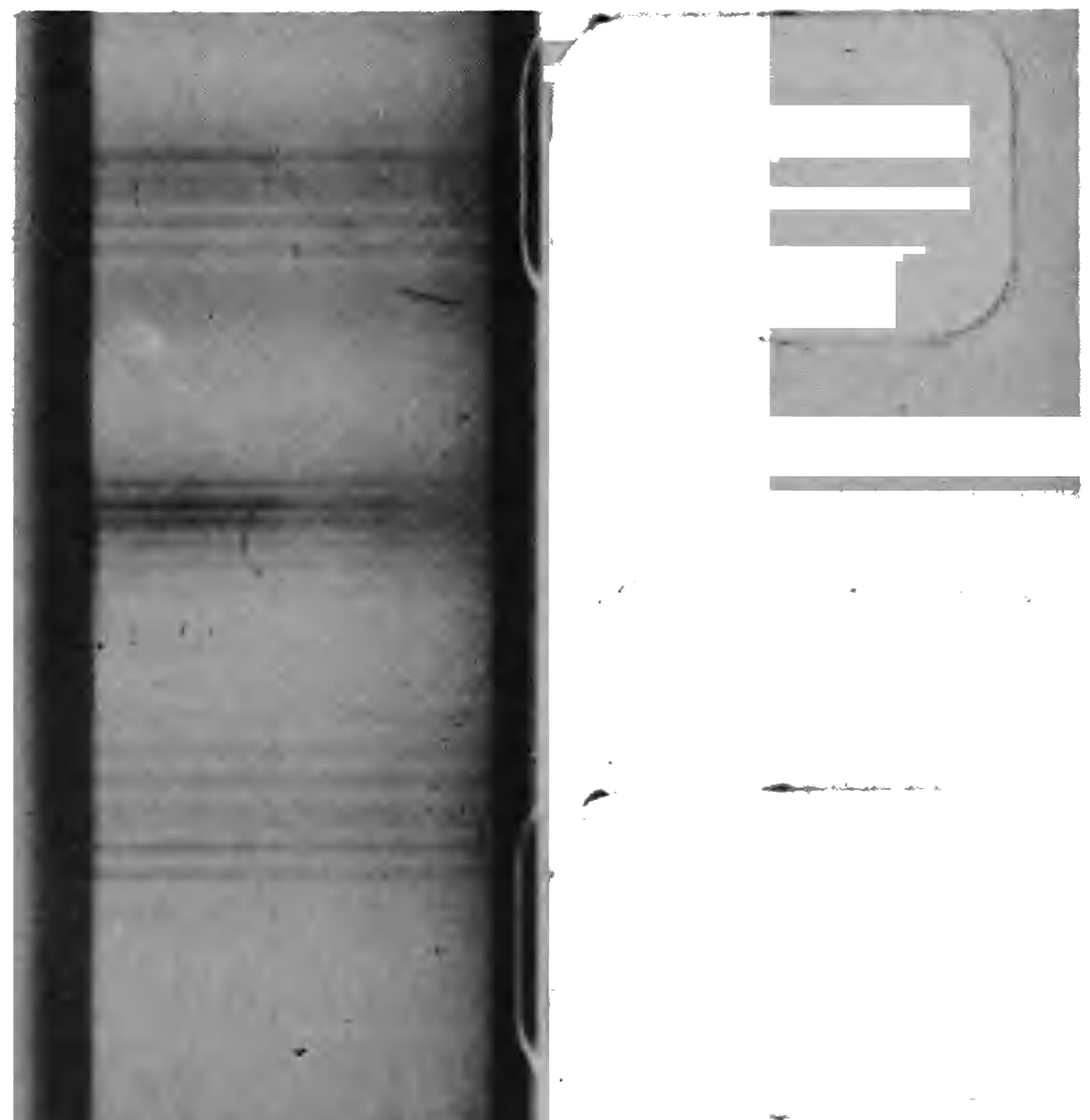
Magnetic Tracking, also called **Magna-Striping**, is a method by which a completed projection print of a film picture, without sound, is coated with iron oxide in the narrow sound track area. This is then subjected to a magnetic recording which supplies the sound track and it can then be immediately shown in a projector equipped to handle magnetic track reproduction. This permits quick erasure and re-recording of different sound tracks for the same picture for experimental work, business films and the home movie field. It is not widely used in television, where printed optical tracks are generally required.

Sound Film Recording was the standard method used until the development of magnetic tape and it is still in use. Sound equipment, synchronized with the picture camera, records on film which is then processed as an **Optical Track**, so-called because you can actually *see* the sound modulations. Generally, magnetic recording is transferred to *optical track* for editing purposes or laboratory printing purposes. The final prints used in telecast projection by stations and networks are almost always on optical track.

There are two primary types: **Variable Area**, sometimes called **RCA Track**, because it was first promoted by the Radio Corporation of Amer-



Variable Area Sound Track



Variable Density Sound Track

ica. It is distinguished by a wavy, wiggly line. The wider the wiggle, the louder the sound. The alternative type of optical track is Variable Density, sometimes called Western Electric Track or **Westrex** because it was first promoted by Western Electric. It is distinguished by narrow hair lines stacked sidewise like infinitesimal ties of a railroad track. The various striations have differing degrees of density, the lightest being loudest. (Note that *Westrex* is a trade name used on editing equipment, etc., as well.)

Film experts soon learn to virtually "read" optical tracks by eye through careful observations of the characteristics of the wiggles or striations. Of course, editors also have special machines to accomplish this, as will be explained in the chapter on editing. The accompanying photographs show *area* and *density tracks,* and also a microscopic closeup of the grooves of a phonograph record—experts can "read" these, too! But,

it might be added, no one can read a field of magnetic tape without a special machine. The magnetic pattern just can't be seen!

Disc Recordings are the flat, circular type (like home phonograph records) that play on a turntable. They may be classified according to the material used in manufacture: a **Lacquer** or an **Acetate** refers to a synthetic plastic surface on an aluminum base, for original recording or reference use. Note that *acetate* is also the name given to a safety film stock. **Vinylite** or **Vinyl** is the trade name of an almost unbreakable plastic used in making quantity copies. **Shellac** is the name for a shellac-like material long used for phonograph records.

Wax is a slang term for a *recording* (as a noun) and *to record* (as a verb). It is borrowed from the pre-1940 days when all original recordings were cut in this material. **Platter** is a popular slang word for any disc recording. **Pressing** refers to a copy processed from an original recording.

Electrical Transcription or **E.T.** is the formal term for *recordings* cut especially for broadcasting.

In playing records it is well to point out that television, even as radio, can use any of the three popular phonograph speeds: 33⅓, 45 or 78 r.p.m. **R.P.M.** or *rpm* refers to *r*evolutions *p*er *m*inute. Most broadcasting professional work is at 33⅓ rpm.

So, the three standard methods for original recording of sound for television are: magnetic tape (or magnetic film), optical film and disc. Magnetic recording with its greater fidelity is most generally used, but it is quite feasible to transfer from one method to another or to combine from all three.

For instance, a film may have recorded voice on magnetic tape, music on film and certain sound effects on disc. These can be individually transferred to either magnetic or optical film, edited with the picture, and then combined at a **Dubbing Session** or **Re-Recording Session** in which the various components are balanced and blended into a single new sound track.

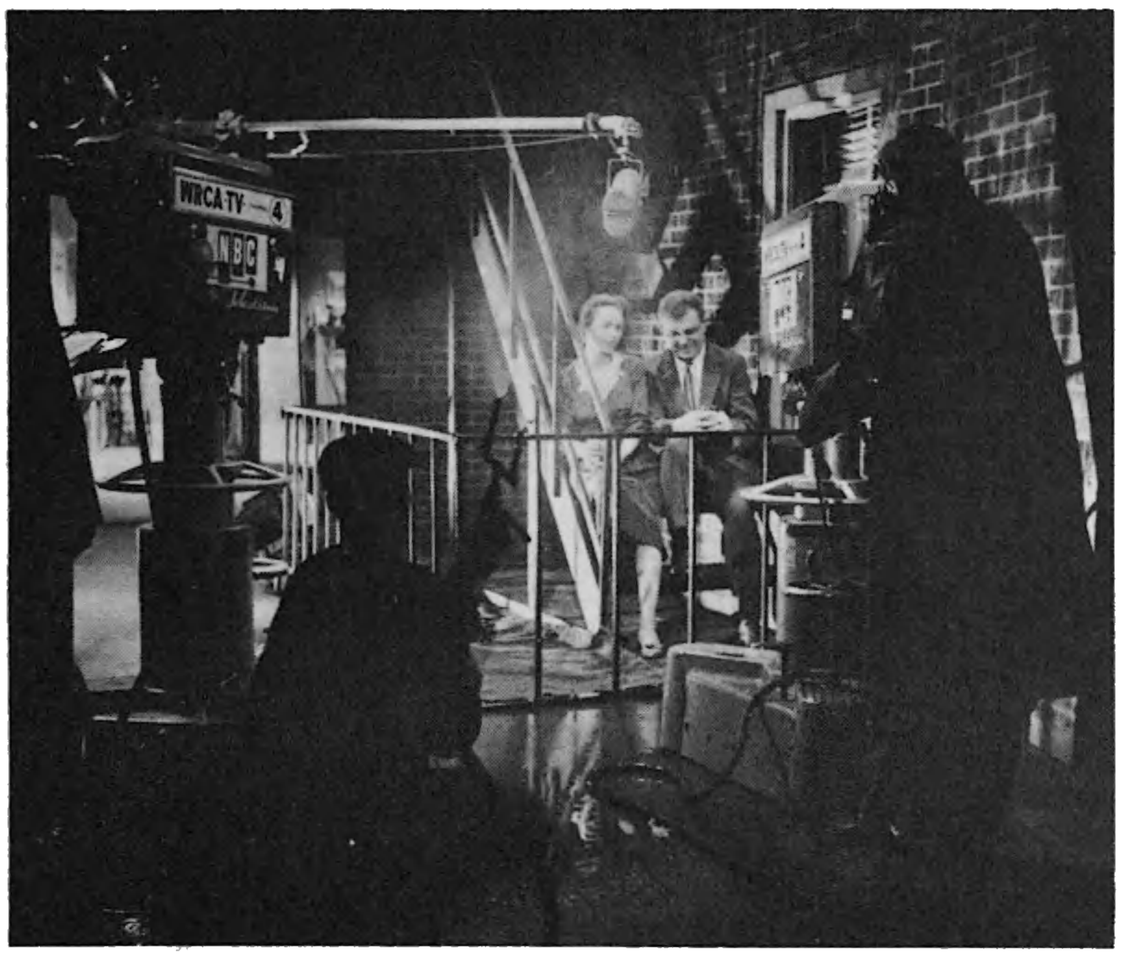
Loosely this session is called a **Dub** or a **Mix,** but note that as verbs these words have rather fine connotations: *dub* correctly means to re-record from an existing record, while *mix* means to combine from two or more sources. *Dub, dubbing* and **Dupe** all are used as nouns to refer to any *duplicated* recording itself.

► SOUND EQUIPMENT

Whether for film, live television or radio, sound first is picked up by a **Microphone,** the instrument which converts sound waves to electrical vibrations. The quick word for microphone is **Mike** and, of the many

types weighing from a few ounces up to 8 pounds, there are two general classifications: **Uni-Directional**, also called **Directional Mikes**, all those that pick up sound only from directed areas (not being sensitive to other, undesired areas), as distinguished from **Non-Directional** or **Multi-Directional Mikes**, which pick up sound from all sides.

Aside from technical factors, performers know microphones by their shape or usage, for instance: **Acorn Mike** is no larger than an acorn, the **Eight-Ball Mike** is shaped like a billiard ball, while the **Lapel Mike** is worn on the coat lapel, the **Hand Mike** is held in the hand, the **Table Mike** is placed on a table, the **Stand Mike** is mounted on its own



The Mike Boom in Action

stand, and the **Gooseneck** or **Gallows Mike** suspends from above, generally on a **Mike Boom**, or movable extension arm.

Performers also know, or soon learn, that there are really only *two* types of mikes: **First**, the **Dead Mike**, which is not connected to the circuit for operation, and the **Live Mike**, which is. The latter is sometimes called a **Hot Mike**, and smart performers eventually learn to regard all microphones as *hot*, lest an unguarded word (or their personal opinion of the director!) in rehearsal be transmitted to recording and be set down for posterity.

From the microphones, sound is carried by one or more lines or cables to the mixer in film recording, or to the audio engineer in **Live TV**.

Console or **Mixing Panel** or **Control Panel** are terms for the equipment where the mixer or the audio engineer sits. Dials indicate the volume of the sound from the various microphones or sources and a bank of knobs permits the control of volume and quality.

Pot (short for *pot*entiometer) is the nickname for such a knob. Each mike has its own *pot*. The command "kill the *pot*" indicates the potentiometer is to be closed off, eliminating the sound from that source.

Volume Unit Meter or **VU Meter** or **Volume Indicator** or **VI Meter** are terms and abbreviated jargon for the dials which show the volume of sound. It permits the engineer to *see* the volume as the continuing sound hits peaks that indicate a top level. "You're bending the needle" is an extravagant way of saying "Your volume is too loud."

Amplifier is the term for a device that increases the volume of sound, boosting it to a higher level without impairment of its quality.

Selsyn is a trade name for a *self-syn*chronizing electric motor used for interlocking projection, recording or camera mechanisms.

Exciter Lamp is the incandescent lamp in a sound reproducing mechanism (a film projector, for instance) which supplies the light that causes the photoelectric cell to convert the photographic optical sound trace to sound waves for the loudspeakers.

► TERMS AND JARGON

Raw Tape or **Virgin Tape** is simply magnetic tape before it has been recorded.

Decibel is the unit that measures change in sound volume, or intensity. It is a unit about as small as the human ear can identify. **Abbreviated:** *db* (never in caps) and not to be confused with the similar initials *D.B.* which indicates *delayed broadcast.*

Fade (up or down) are commands to change gradually the volume of sound, even as the same term is used in the control of the density of the picture. **"Bring It Up"** is another way to command *fade* up. **"Take It Down"** is another way to command *fade* down.

Board Fade indicates a *fade down* of all studio sound that is made at the engineer's console rather than by the performers fading away the sound at the microphones.

Level refers to volume or loudness. So, "high level" would be another way of saying "loud volume."

Gain means level of sound. "Bring up the *gain*" means increase volume. **Riding Gain** is the engineer's job of watching the dial which indicates the sound level and adjusting the *pots* to compensate.

Below the Threshold is the engineer's term for a sound too soft to be recorded. **"In the Mud"** is his slang for a sound that can be heard but not clearly distinguished.

Modulations are the waves of sound which in their various forms can be heard, seen and measured. **Over-Modulation** is a distortion in

sound caused by too high volume.

Presence is the sound engineer's descriptive word for relative proximity of sound. It is used to define a feeling you are so "close" that you seem to be standing right next to it. A director may say to the sound mixer, "Give me more *presence* in this actor's voice."

Fidelity is the engineer's word in evaluating the faithfulness of sound to the original. A recording may have good *fidelity*, meaning it has excellent reproduction, or poor *fidelity* if bad. This indicates the obvious derivation of the recording industry's **High Fidelity** or **Hi-Fi,** taken from the engineer's term for "the best."

Balance refers to the proper location and handling of microphones in recording the instruments of an orchestra. Therefore, **Out** of **Balance** indicates component sound elements (for instance, the brass and string sections of an orchestra) are not at sound levels which give the proper total balance or **Ensemble Effect.** *Balance* also refers to the frequency response characteristics of an audio circuit; hence **Balanced Line** is a specific telephone company wire which has highest quality sound transmission characteristics for broadcasting use.

Sound recording studios are scientifically constructed to give not too much but some reverberation, or sound reflection, from the walls. **Engineers** refer to this as a "low reverberation time." In some cases, certain walls are designed with curved surfaces to diffuse the reflection of sound, while opposite walls may be completely sound absorbent. Many film and television studios depend on the walls of the setting itself, rather than the full studio, to give the desired sound reverberation.

A studio is said to be **Bright** or **Brilliant** or **Live** when sound has a moderate amount of high reverberation or reflected brightness. When sound is too completely absorbed, the studio is said to be **Dead**—it has no reverberation.

Dampen means to deaden sound reverberation in a studio with rugs, draperies or other soundproofing. **Baffle** refers to a portable wall or surface used to *dampen* sound.

Echo Chamber refers to a device which gives a reverberating effect simulating sound as it might be heard in a large hall or cave. This can be done by putting a loudspeaker in a small, hard-surfaced room and then picking up the sound on another microphone as the broadcast sound reverberates. **Reverb** is short for reverberation and is a term used to indicate a similar echoing effect obtained electronically. Such synthetic reverberation is sometimes used to make a studio more "live."

Filter is still another engineer's trick which electronically "strains out" certain qualities in a voice. Hence, to get the impression of a voice on a telephone, the script may call for a speech **On Filter.**

Sonovox is a patented electronic device which gives the effect of "speech" to a non-human sound. Thus, a train whistle or a car engine "talks."

Distortion refers to an unnatural difference in quality between the original sound and the reproduction.

Boomy is a descriptive word for a preponderance of low frequency sounds recorded. Consequently, a studio may be called *boomy,* if its acoustical characteristics accentuate low reverberations.

Barny (not to be confused with *barney,* a film camera soundproofing device) refers to a barn-like echo.

Feed-Back refers to an unwanted "echo" distortion in sound such as caused by a loud speaker being picked up and re-recorded in the microphone.

Other distortions in sound will be discussed in Chapter 15.

Crack A Mike is slang for "open a microphone."

Off-Mike or **Off-Microphone** is an instruction to performers to deliver their lines away from the sensitive side of a microphone and so give an impression they are at a distance.

Mike Shadow, the bane of all boom men, refers to an identifiable dark outline which can be seen in the picture when the microphone gets between the light source and the subject or background.

Wind Screen is a wire net and cloth scrim placed around the microphone to cut down wind noises in outdoor locations.

Sound Effects Man, in some parts of the country called a **Gaffoon,** is the person who creates or plays special records to simulate the sounds (door slams, pistol shots, etc.) required on stage for **Live Tv.** His work is separate and apart from the sound picked up from record or tape elsewhere in the studio.

Background Sound, also called **Atmosphere,** is a term for any sound used "behind" or incidental to the primary source of sound, to establish the locale and color of a scene. For example, crowd roars at a football game, night sounds of frogs and crickets, street noises, etc.

Background Noise (singular) is an engineer's term referring to an unwanted sound being picked up by the microphone or possibly inherent in the film or tape (especially magnetic tape re-used without proper erasure).

"Print Through" is a problem which can occur in magnetic tape recording when one layer of tape transfers by accident to the next layer on the reel.

Pipe or **Feed** are slang verbs for conveying sound by wire or cable in a studio, to a transmitter or over a network. "*Pipe* the sound in from Studio C." The terms originated in radio and now are used both

for sound and picture transmission.

Channel in the recording studio refers to the electronic circuit through which the sound reaches the recorder—not to be confused with the term as used in referring to a station's broadcasting frequency or channel.

Loop, in addition to its usage for post-synchronizing voices, is important in sound re-recording for the handling of sound effects. Such continuous sounds as motors, night noises, etc., are first put on a small endless loop of film or tape and then cut in or out at the will of the mixer.

Dubber refers to the sound reproducing channel itself. A re-recording room may have six dubbers, so six sound tracks can be combined into one final track. Sometimes the operator himself is also called a *dubber.*

Sync Tape refers to quarter-inch tape as it is used in film recording, electronically kept in synchronization with the camera. This is done by means of superimposing an Inaudible Impulse or high frequency signal (above 14,000 cycles—above the range of the human ear) at periodic intervals. This signal then, when the tape is matched to the film picture, supplies the impulse that maintains a correct, constant speed.

Audible Tones are those sound waves between 30 and 14,000 cycles per second which can be heard by the average human ear. (Dogs, for instance, can hear much higher tones.)

Room Tone is jargon to describe a special "silence" track recorded in a particular studio. This track is used in film editing to space out between dialogue segments when no other sound is required and is essential because, little as it may occur to the layman, every room or studio has a distinctly different quality of "silence," depending on its own acoustics—and the temperature! Consequently if the "silence" of one studio is cut into a sound track of another studio, (or if recorded in the same studio on different days when changing temperature might affect the "silence") there may be a noticeable difference due to the normal room background hum and acoustical reverberation or r*oom tone.* It is customary to record r*oom tone* after a film recording session, especially with commercials, for this use by the editor.

Room Sound is another term for r*oom tone.*

Assembly refers to the operation in recording studios (not film studios) where sound tracks on various discs and tapes are dubbed together in desired sequence. This differs from **Editing,** which describes the work of deleting and rearranging the parts of a sequence. Note that *editing* has a similar meaning in film work, as described in Chapter 13.

Erase and **Erasure** refer to removing the recorded sound from magnetic tape (neutralizing the magnetic pattern), after which it may be used again.

► MUSIC TERMS TO BE NOTED

Singing Jingle of course connotes the musical commercial; also called **Jingle** or **Commercial Ditty.**

All the familiar descriptive words of music criticism: *loud, brassy, prominent, soft, subdued* and many more are used in the sound studio. Also such descriptive jargon as **Schmaltz,** which refers to saccharine, over-sentimental music (or drama, for that matter!) and **Square** or **Corny,** which refers to anything considered unsophisticated—by the sophisticated!

Noodle means to improvise music in an unobtrusive way, while a **Clam-Bake** is an every-man-for-himself improvisation on a given tune, everybody participating. This may be at a **Jam Session,** which is an informal gathering of musicians playing to entertain themselves rather than the public.

Riff is a repeated phrase played over and over again by one section (usually the sax or trumpet) either by itself or behind the soloist.

Paper Boy is an epithet for the musician who reads music but cannot improvise and so is unable to **Fake** or do an extemporaneous solo. He's not favored in jam sessions.

Clinker or **Blue Note** indicates a musical note that is incorrectly played or sung.

Bouncy music has a light but accented rhythm. **Hurry Music** is apropos when the hero is chasing the heavies, and, more seriously, **Mysterioso** is an accepted term for music that suggests the "unknown" while **Suspense** music builds tense excitement.

Mood Music refers to music that establishes or interprets the action.

Theme or **Musical Theme** refers to a melody which identifies a program or a character.

Background Music is obviously music that is played behind or underneath the other sounds, dialogue or effects. This may be indicated in a script by "**Music Under**" or "**Down** and **Under**" or, referring to dialogue, "**Over Music.**" Another script term, "**Up and Out**" means that the music volume is to be increased as the talk finishes and the selection played at full volume until the closing. "**Sneak**" means to gradually bring in—or take out—the music. "*Sneak* the theme under the applause."

Scoring of course refers to writing or selecting music to fit specific visual or spoken action. **The complete work is the Orchestral Score. Arranging** is the work of taking the song or score and writing individual parts for the instruments and soloists. **The completed work is the Arrangement.**

Lead Sheet is a music manuscript on which is written out the basic melody with chord symbols. **Cue Sheet** indicates where music is scheduled in a program, in relation to the other parts of the program.

Fanfare is a musical attention-getter—a few bars of resounding brass, generally—used to gain interest for a short title or special announcement, or a new act.

Title Music refers to the music played while the title of the program is being seen.

Sting or **Stinger** indicates a short musical chord accent.

Segue (pronounced seg'-way—from the Italian "it follows") is both noun and verb for *blend* in the sense of smoothly joining one musical number to another without a break. "Segue from the closing number to the theme."

Bridge means a transition between two numbers or scenes. It also means **Release,** the middle portion of a popular song, as distinguished from the first stated melody of the chorus or refrain.

Play On and **Play Off** are terms for the musical themes used to announce the introduction or the departure of an act or star. A *play off* is sometimes called a **Chaser** or **Exit Music.**

Can is a slang word for *record.* Hence **Canned Music** has come to mean any music recorded on tape, film or recordings. **Stock Music** refers to any music so recorded and available from the library of the station or network or other organized filing system.

Performance Trust Fund is a union welfare project maintained by union musicians. Into this fund a payment must be made, in addition to the musicians' salaries, a fee of 5% on most types of musical recordings. In TV commercials, the Trust Fund requires a flat fee of $100 per year per spot when union musicians record.

There are three primary groups that control the licensing of copyrighted music to stations and to programs.

ASCAP is the American Society of Composers, Authors and Publishers. An "*ASCAP* writer" has a recognized number of tunes or lyrics published and so receives royalties as a member of this organization.

BMI is Broadcast Music, Inc., a competitive organization.

SESAC is the Society of European Stage Authors and Composers which handles most European music. All broadcast stations pay licensing fees to one or all of these three groups.

Original or unpublished music requires special clearance from the lyricists and composers.

AFM means American Federation of Musicians, labor union developed to its present position by James Caesar Petrillo. All stations and studios using live musicians have AFM contracts. New York's

musicians belong to Local #802; Chicago's, Local #10; and Hollywood's, Local #47.

Musical soloists usually belong to **AGMA,** American Guild of Musical Artists. Some local soloists also belong to *AFTRA, AGVA,* and *SAG,* the other talent unions.

P.D. or **P**ublic **D**omain means that the copyright has expired (on music as on any other literary work) and it is now open to the public's free usage without licensing charge. An original copyright is good for 28 years and may be renewed for a similar period. Hence, any literary work bearing an original copyright more than 56 years ago is automatically in p.d. and requires no license or royalty to be broadcast. These limitations vary slightly in other countries. For instance, in Canada and England, public domain is not effective until 50 years after the death of the author.

CARRIER OF THE IMAGE
THE LABORATORY
TYPES OF FILM PRINTS
FILM GENERATIONS
MISCELLANEOUS TERMS
COLOR FILM AND PROCESSES

12

Film Stock and Processing

CARRIER OF THE IMAGE

Film TV is telecast from a recorded image that already has passed through various forms and processes. From camera lens to viewer screen, many steps in laboratory and editing carry the image on its way. Anyone who has dabbled in amateur photography has a head start on the words of this phase of the business, but soon the technical terms fly thick and fast.

It all begins simply enough:

Film, as used in the motion picture and television industry, is a continuous strip or ribbon of transparent flexible material chemically coated to produce a series of photographic images. At all stages, both before and after the image is produced, it is called "*film*" but Hollywood old-timers still pronounce it with an affectionately added syllable: "**Fillum.**"

On the edges are regularly spaced **Perforations** or **Perfs** or **Sprocket Holes** (35mm has 4 perforations per frame; 16mm has 1) to fit over the **Pins** or **Sprockets** or teeth of various driving mechanisms of camera, laboratory, editing and projecting equipment.

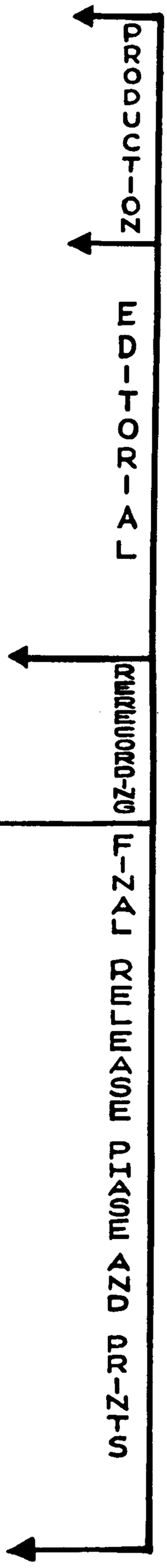
Emulsion is the term for the chemical coating which *becomes* the photographic image. It is a coating on the **Film Base** or the basic flexible material. The manufactured product is called, within the trade, **Film Stock,** which refers to the particular type of film. (Not to be confused with *stock film,* to be mentioned later.)

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PICTURE PHASE

- [ ] NEGATIVE
- [ ] POSITIVE
- [ ] DUPE NEGATIVE
- [ ] FINE GRAIN
- [x] STUDIO OPERATION
- [ ] LABORATORY

SOUND PHASE



PREPARED BY

HAL ROACH
STUDIOS INC.

Either base or emulsion may vary in characteristics, so there are many types of *stock* used in photography and laboratory work. For instance, **Safety Stock** or **Safety Film** refers to a base that is slow-burning and consequently less hazardous in handling. This is also called **Acetate Stock** since it is made on a cellulose acetate base. Safety stock has been universally adopted in the industry (1950) replacing **Nitrate Stock**, which was very inflammable. Note that **Safety** also is used in the sense of a **Standby** or extra print held in readiness for emergency use. Networks often run both 35mm and 16mm prints simultaneously during broadcast so that if one fails, the other may be switched on.

Raw Stock refers to the condition of the emulsion, in that the sensitive film has not yet been exposed or processed.

Camera Stock or **Taking Stock** refers to film with emulsion characteristics suitable for original photography in the camera, while **Printing Stock** is suitable for certain laboratory needs, to be explained later.

The Photographic Image itself takes two forms:

Negative refers to film on which the lights and shadows of the image are exactly opposite to what is normal to the human eye. As in the amateur snapshot negative, blacks are seen as white and whites are seen as black. Negative is the film used in the camera. The term *negative* may be also applied to the *raw stock* required for making negatives or the negative *image* itself, after it has been processed. The reel of processed stock, too, is called *negative.*

Positive, printed from the negative, presents the image back to normal. **Positive** is the film used in the projector. **Likewise** this term may be applied to the *raw stock* required, the processed stock, or the *image* itself.

The negative-positive operation is combined in one type of stock, called **Direct Positive** or **Reversal Stock.** This film is used in the camera to take the negative image, then is so processed that the blacks and whites are r*eversed* and the same strip of film ends up as a positive. Obviously this short cut has its faults in loss of quality and the fact that there is no negative remaining from which to make additional prints. Reversal stock is primarily used in amateur films, quick 16mm newsreel work and certain color processes.

► THE LABORATORY

Lab of course is the popular nickname for **Laboratory,** the place where negatives are developed and positives are subsequently made, with related functions.

Developing is the term for treating the emulsion on the exposed



Negative (Note Edge Numbers) Composite Positive (Note Sound Track)

film from the camera to make the photographic image visible. It is one of *four* steps in **Processing,** which also includes the laboratory steps of **Fix**ation or **Fix**ing (making permanent) the image, then washing and drying the film, after developing.

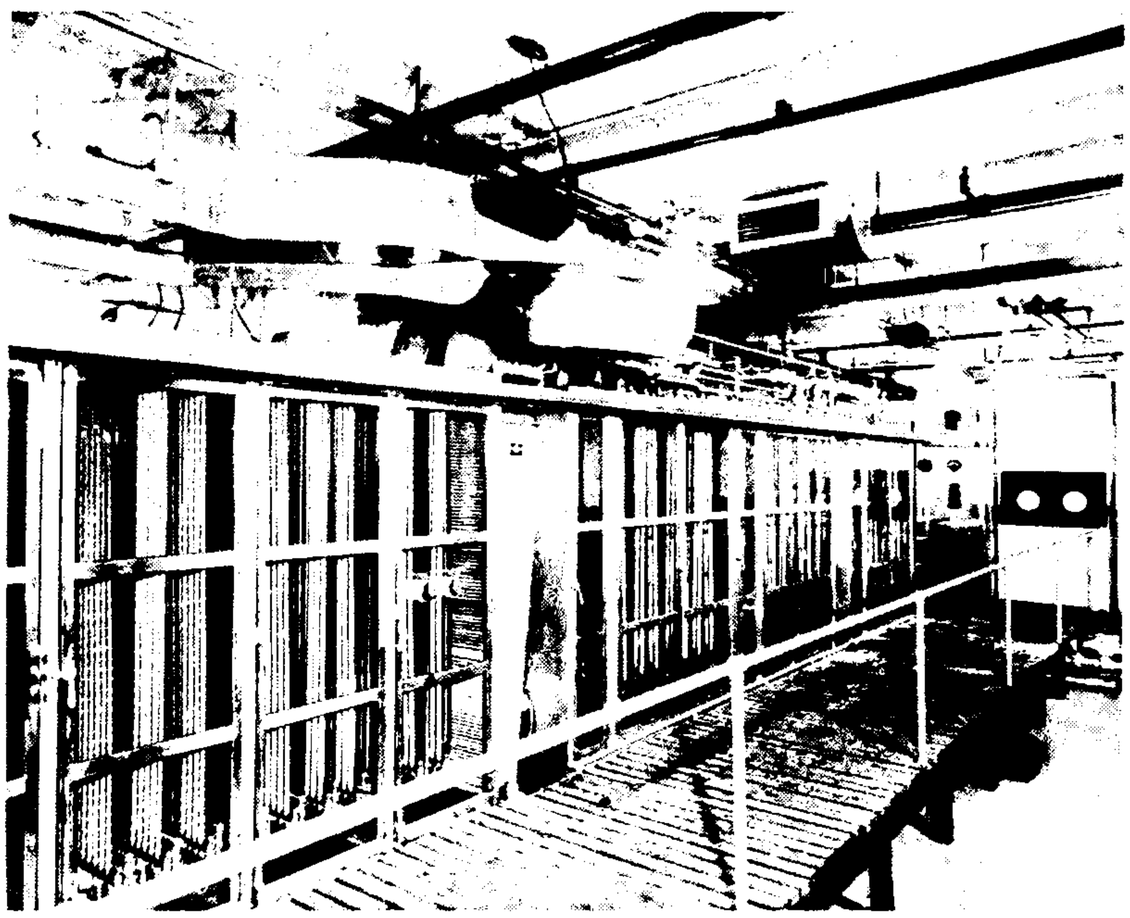
Printing is the step of mechanically exposing raw stock to a previous negative or positive film image in order to make the opposite form. Thereby a negative produces a positive print or a positive produces a negative. After printing the stock goes through the developing and processing steps even as the original camera negative did.

Printing may be done in two ways: **C**ontact **P**rinting indicates the previous film image is placed *next to* the raw stock and exposed to light for reproduction in exact size. **O**ptical **P**rinting or **P**rojection **Print**ing indicates the previous film image is projected for copying on the raw stock. This reproduces in exact size or, if desired, permits enlargement or reduction of the image in copying.

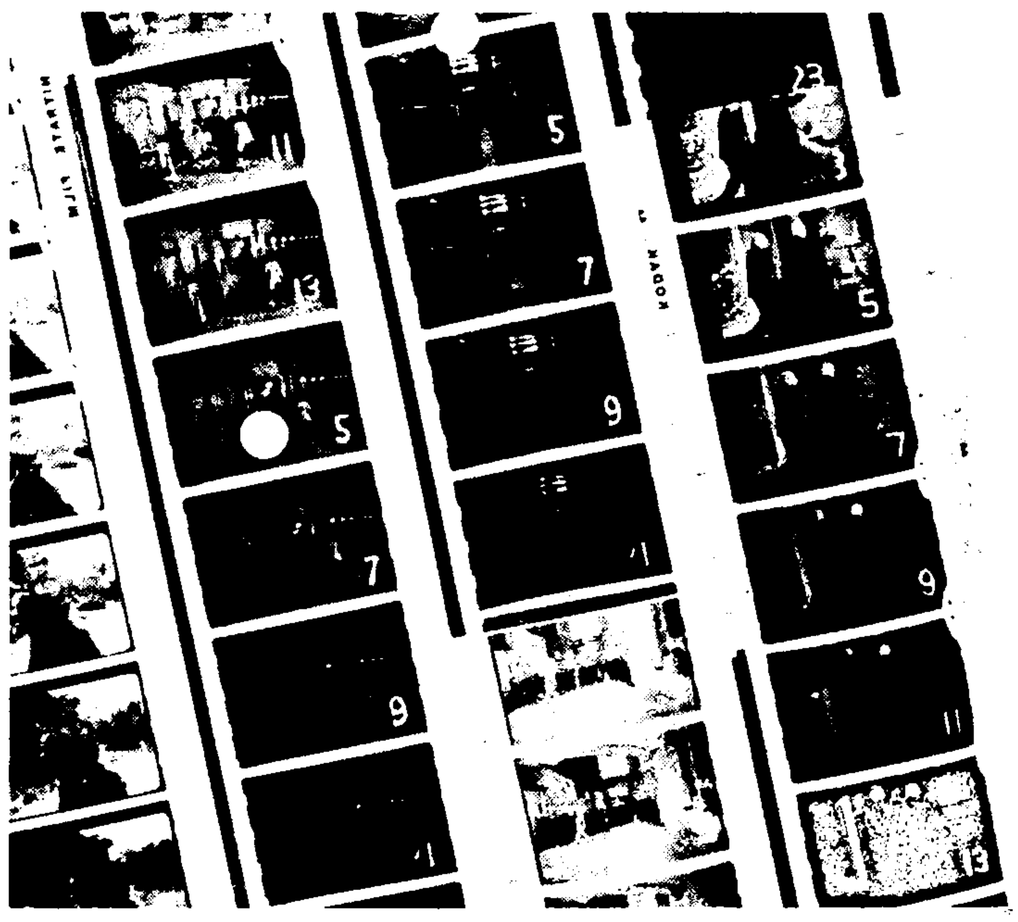
Print, as a noun, means a positive picture. As a verb, it means to accomplish the required laboratory work in exposing an image to the appropriate printing stock.

Cinex Tests or **Cinex Strips** or **Cinexes** (also spelled **Cynex,** etc.) are the laboratory's short tests of each scene, made to determine how light or dark to print the forthcoming positive. Each cinex has 11 numbered frames (alternately: 1 to 21) graduated in progressive steps like a gray scale, and the lab man takes his choice in determining the printing **Density,** or degree of darkness to be given each scene. Thus a scene with a light negative may be printed darker, a scene with a dark negative lighter, thereby balancing all scenes to the same desired scale.

"**Right Down the Middle**" or "**Middle of the Scale**" are favorite descriptions of cameramen for cinexes which indicate consistently *good*



Film Travels Almost Endlessly in Processing



Cinex: #5 Is Best in First Scene

exposure on all scenes, permitting the lab to print on any middle number, such as 11 or 13, without any scene-to-scene corrections. Cinexes are a good indication of a cameraman's ability to light and expose a set.

Timing is the lab's term for this work of balancing a series of scenes. An expert judges the cinexes (or a previous print) and *times* the amount of light exposure required through the negative to make a good positive. The cinex numbered frames each represent a **Printing Light** or numbered step in light exposure. So, a scene may be "printed on 7," the next scene on 13, the next on 5, each numbered printing light achieving the desired exposure for an overall balance.

One-Light Print refers to a quick print rushed through the laboratory on a single *printing light,* selected to give a satisfactory average to all scenes. This is a familiar word at the first screening of camera work, to explain why certain scenes are too dark or too light and that **Scene-to-Scene Corrections** will be made later, that is, each scene will be individually *timed* later to achieve a **Corrected Print.**

Notching the negative (done by cutting a notch or indentation in the film edge, but also sometimes done electronically) at the beginning of each scene causes the *printing light* to be reset, so each scene is separately timed in printing, yet in an automatic continuous operation.

► TYPES OF FILM PRINTS

There are many terms which describe the various kinds of prints which come from the laboratory. A *one-light print* was mentioned. This is a rushed first print expedited to enable all concerned to see the film as quickly as possible. In the screening room it is generally called a **Rush Print** (because it was rushed through) or a **Daily Print** (because in major studios it is customary to look at the previous day's work *daily*). These terms are generally used in the plural: "Let's look at the rushes" or "It looked great in the dailies—we can strike the set."

Picture Print is a term for any positive print made from the picture negative (without sound). **Sound Print** is the term for any positive print made from the sound negative. It refers to the audio track only, but it is misleadingly used sometimes to differentiate between a picture combined with sound and a picture without sound.

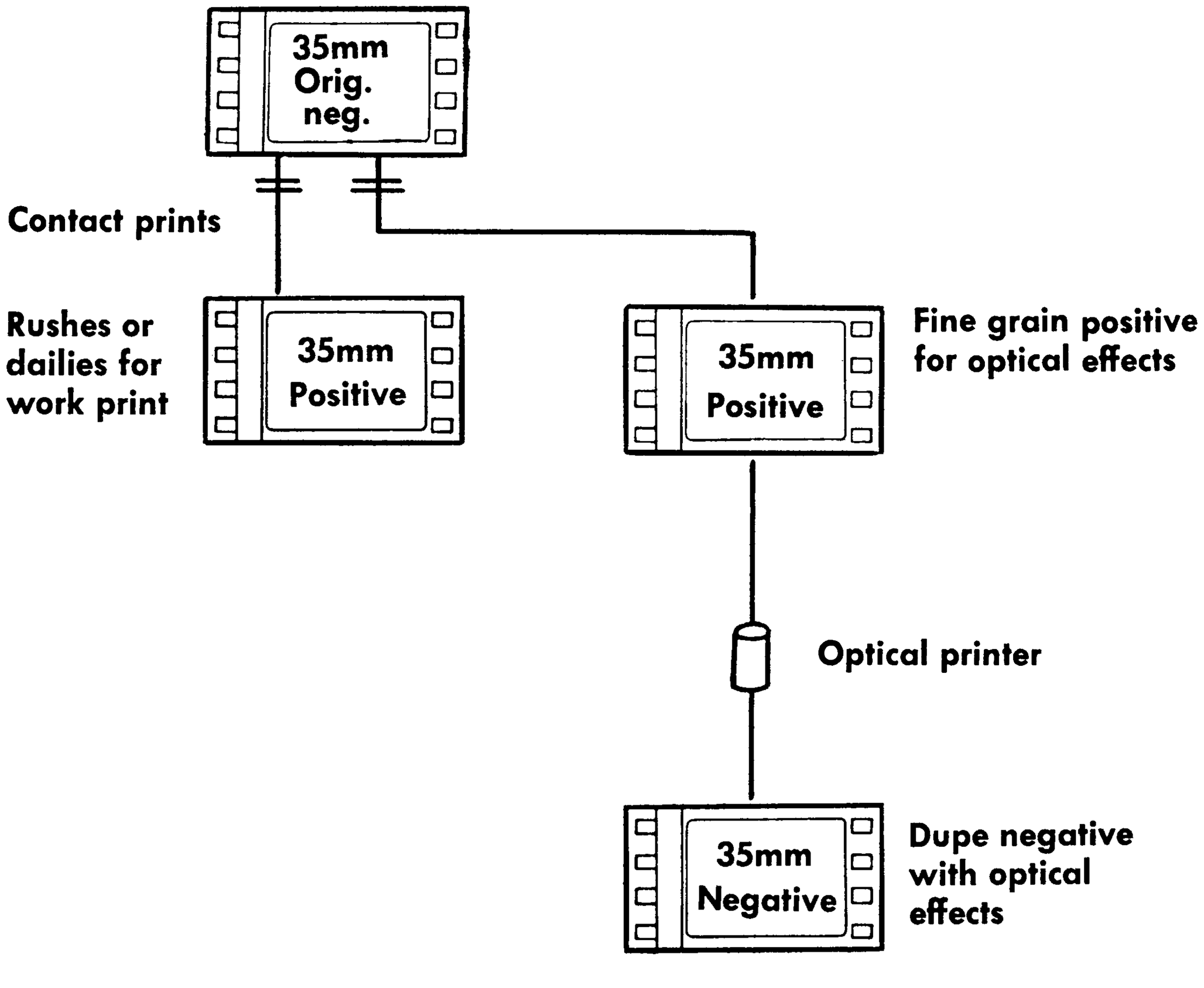
Picture Check Print refers to a print made from the edited picture negative (without sound) to review the editing, the printing lights used and other factors. **Sound Check Print** refers to a print made from the edited—and generally re-recorded—sound negative (without picture) to review its editing, balance and quality.

Composite Print is the correct word to indicate that now both the picture and matching sound images are on the same strip of film. Our British cousins call this a **Synchronized Print** or **Married Print.**

The first such combined print of a finished film may be called an **Answer Print** because it gives the answer as to how all the components look when put together for the first time. Picture and sound quality, synchronization, editing and the timing can all be checked and "answered." Answer prints are occasionally called various other names (none as apt!) such as **Grading Print** (British), **Composite Check Print, Composite Test Print, Trial Composite Print, Pilot Print** or **Sample Print.**

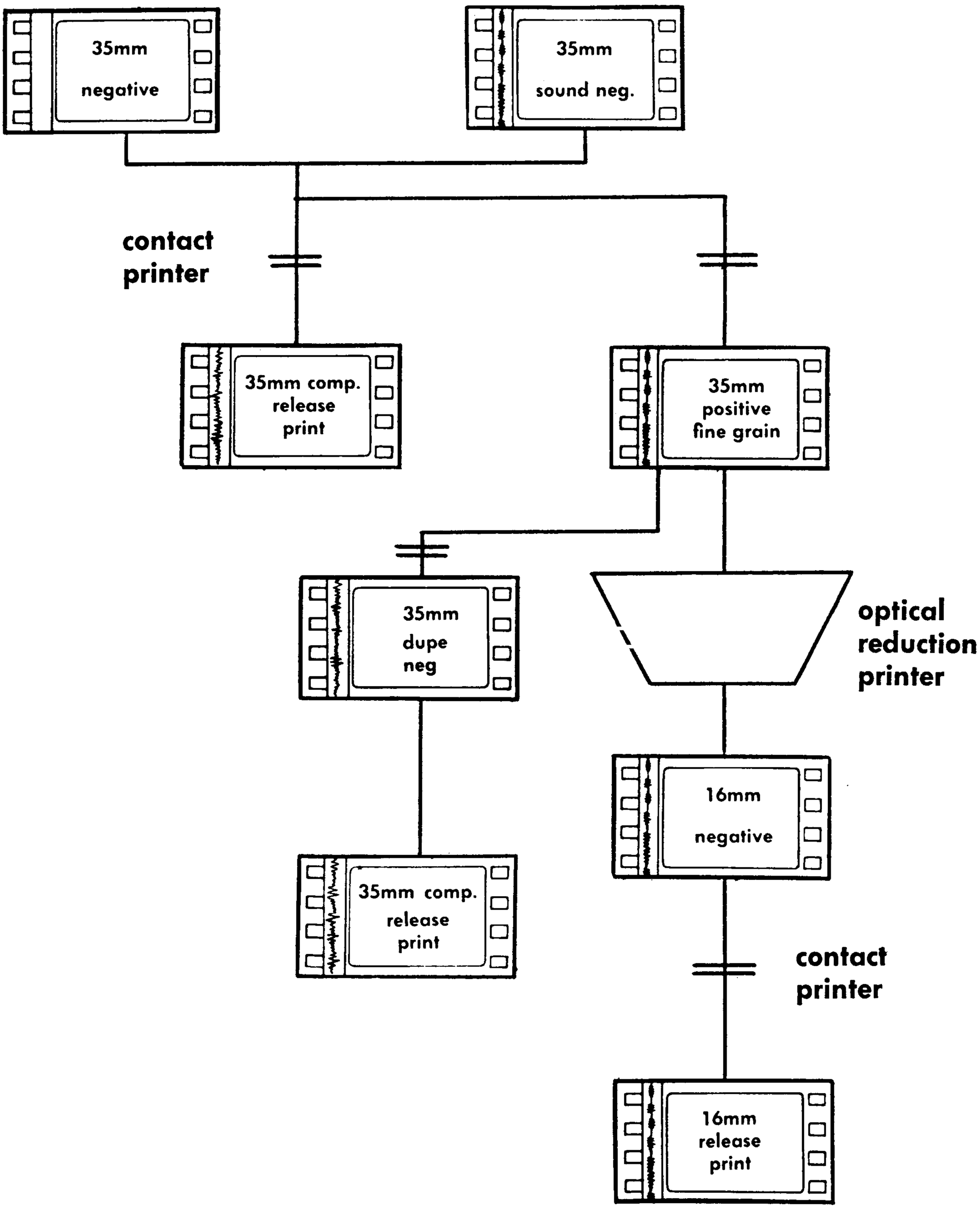
It is possible that two, three or more successive prints may be needed to answer all the corrections (hence **2nd** and **3rd Answer Prints**) and to be ready for a **Release Print,** the term used to designate prints made from the finally approved negative for use on the air. The term originally was created by Hollywood for movie prints in *release* or distribution to theaters and it still retains this usage. Sometimes also called **Show Print.**

CHART ONE



Primary Steps from an Original Negative

CHART TWO



Steps In Making Release Prints

Reduction Print refers to 16mm positives optically reduced from an original 35mm negative. These are generally required in television because 16mm prints handle easier, costs less, ship with less bulk. Also, it may be pointed out that many TV stations have only 16mm projectors.

Enlargement Print or **Blow-Up Print** is the reverse of the reduction process and attempts to make a 35mm positive from a 16mm negative. It can be done more successfully from 16mm *color* because color has less *grainy* appearance than 16mm black-and-white.

► FILM *GENERATIONS*

Aside from the various types of prints, the eventual release print has a family tree with a complicated genealogy. The successive steps generally follow this pattern:

Original refers to an initial picture negative exposed in the camera and then developed. (It can also refer to the *sound* negative, but the coming of magnetic tape, readily duplicated, makes the use of this term with sound more and more obsolete.) From the original picture negative, the *daily print* is made.

Then it is normal practice to protect this valuable negative by having a duplicate made of the selected scenes. To do this, first a **Fine Grain** is made. This is a high quality positive on a finer emulsion stock which can then be reproduced with a minimum loss of quality. Other names for fine grain are: **Duping Print** (used in editing work), **Master Positive** (used in release of the final picture), **Lavender** (a trade term, now fairly obsolete) and **Blue Print** (British). The terms *lavender* and *blue* originated because of the bluish color of certain fine grain stock.

Precision F.G. or **Registered F.G.** refers to a fine grain made on a printer which uses highly accurate register pins. These are required in optical, title and background projection work where steadiness of picture is essential. **Bell & Howell Perforations** (*rounded,* rather than square-cornered sprocket holes) are a feature of such fine grains—and **B & H Prints** likewise indicates such perfs and such precision registration of picture.

The terms *duping* and **Dupe** are standard terms in the business, deriving from *duplicate* or copy. Consequently, a negative that is then made from a fine grain positive is called a **Dupe Negative,** because it is an exact reproduction of the original camera negative. It is made by printing from a positive and is said to be a **Generation** away from this original negative.

Generations are computed from negative-to-negative, so if the dupe negative is then printed to another fine grain and a new dupe negative

made from this, it may be called a *second generation negative* or a "dupe from a dupe." If for some reason (in extreme emergency) a dupe from a dupe must be copied still again, it becomes a third generation and by this time there will be a more noticeable loss in quality. The more generations between original and release print, the more the loss in quality, bcause the loss between each generation is compounded in subsequent printing.

Where dissolves between scenes and other optical effects are required, it is always necessary to have fine grains. The optical camera that does this special work delivers a dupe negative called an **Optical Negative** which can then be cut into the final negative for release prints. Should another fine grain be made of this final negative, as is often desired for safety's sake, it is called a *master positive,* as mentioned before, or **Protection Fine Grain.** Then in case of damage or loss of the final negative, additional negatives can then be made for release printing purposes.

► MISCELLANEOUS TERMS

Soup is the slang term for the chemicals in which film is developed. So a negative, exposed and now being developed is "in the soup." In this sense the connotation is favorable.

Composite Negative indicates the sound track and picture are combined on the same strip of film, in negative form. It is to be noted, however, that as a general rule this is not a regular requirement, except for such purposes as filing. Most composite prints are made from picture and sound on separate negatives.

Aspect Ratio refers to the width of a motion picture image, across the screen, in relation to its height. Normally, this is 4-to-3; CinemaScope, VistaVision and other wide-screen processes extend this to 2-to-1 or more. All television standards, however, are 4-to-3.

Latent Image is the technical term for the image put on the negative by the camera *before* it is developed. Hence it is latent or not visible at this point. It must be handled in darkness as the negative is still sensitive to all light until developed. **Latensification** is a laboratory process by which the latent image if *under*exposed is intensified by controlled light before developing. This permits the original shooting to be done with less light than normal; consequently a film stock of slower film speed may be used.

Film Speed or **Emulsion Speed** is the numbered rating established by the manufacturer to indicate the ability of a particular film stock to react to light. This rating, therefore, is useful to the cameraman in

computing the proper exposure. If the emulsion requires a great deal of light or a longer time of exposure to form a satisfactory latent image, it is said to be *slow*. Slowness often is desirable in getting a higher quality picture, and color film stock naturally requires more time of exposure than simple black-and-white. A *fast* film speed stock is required for use where shooting must be done with limited lighting, as for instance in photographing an actual manufacturing plant or a night scene in a convention hall, when high intensity studio lights are not available.

Latitude is a term for the range of exposure within which an emulsion will produce a correct image.

Wet End is a lab term for the portion of the developing equipment (and the film being handled there) where darkness must be maintained to prevent loss of the latent image. Once this image has been developed, the film may travel on its way to the **Dry End**, where processing can be completed and the film dried without the necessity for darkness or a **Darkroom** which is the term for any light-safe room where sensitive film is loaded, unloaded or processed, whether in the studio for camera use or in the laboratory.

B & W (caps or lower case) is the popular abbreviation for *b*lack-and-*w*hite. It may also be called **Monochrome**, which describes a film stock which is developed in a single color (this might be sepia or green, instead of black) as opposed to **Color Film**, which indicates two or more colors of the spectrum are recorded in the image.

► COLOR FILM AND PROCESSES

Color Process refers to the chemical and laboratory methods through which a particular type of camera stock becomes a color print.

Multilayer, technically called Integral **Tripak**, designates a color film camera stock coated with three emulsion layers, each sensitive to only one of the three primary colors: red, yellow, blue (or an equivalent combination, red-green-blue, regarded as best for photographic reproduction) which together can simulate all the colors of the spectrum. It is an all-in-one negative from which complementary positives can be printed.

Bipak, which indicates two separate negatives used together in the camera. This process omits a yellow negative so consequently cannot simulate full color and as a result is fairly obsolete in the industry.

Three-Strip is the term for a three-negative color photography method which requires a special camera. Through prisms and filters it separates the light coming through the camera lens into blue, green and red components for each of the three negatives (black-and-white rather than color negatives serve the purpose).

The three-strip system was developed by **Tec**hnicolor, best known trade name of the dozens of color processes evolved in the industry during the last fifty years. The name *Technicolor* is so well known that it is often mistakenly used by the public to describe *any* color process.

In addition to the three-strip photography shot with the special Technicolor cameras, this firm also handles *integral tripak* film stock photographed with any 35mm motion picture camera (as well as 16mm color blow-up) by making Color Separations, individual film records for the blue, green and red components from the original. With these (in black-and-white form), the process makes prints in a manner not unlike offset lithography printing plates. Each imbibes or absorbs its particular dye color and transfers the image in contact with the print. Each of the three is printed in succession, with a fourth (black) for neutral shading and to print the sound track.

This Technicolor process, differing from all others, is technically known as an **I**mbibition **P**rocess, because it absorbs then transfers the separate colors, ending up with a **Dye Transfer Print.**

Other popular color processes print directly on a multilayer color printing stock already coated with the three separate emulsions and this single stock then goes through various developing stages to bring out the three over-printed images. Some processes have worked on a principle of making **Internegatives** or **S**eparation **N**egatives, each representing the separate primary colors from an original multilayer photographic stock. **S**eparation **P**ositives also may be made from multilayer color negatives. These are used in optical work for dissolves, title superimposures, **etc.**

Eastmancolor and **Ansco** are the two best known trade names of multilayer film stock in this country. **E**uropean multilayer color films include **Agfacolor, Gevacolor** and **Ferraniacolor.**

Technicolor makes release prints from any of these original stocks. And Eastmancolor, for instance, can be the original camera stock for processing by various laboratories and known in release by such trade names as **Warnercolor, De**luxe **C**olor, etc.

Other color processes include the well known **Kod**achrome, Eastman **K**odak's trade name for **16**mm reversal color film familiar to amateurs. The camera negative becomes the positive on the same strip of film.

Monopak is **T**echnicolor's trade name for a similar 35mm reversal color stock.

Commercial Kodach**rome,** used in industrial films and for television production work, is a reversal stock which can be printed on **K**odachrome duplicating film—still another reversal stock.

Anscocolor is another trade name in **16**mm, a reversal color stock.

For kinescoping color television programs, still another process has been developed by Eastman. It uses a Lenticular camera film stock, meaning that it has a series of tiny cylindrical lenticules or small lenses in the emulsion. These lenses capture the three primary colors through filters. The film can then be rapidly developed (within an hour) and appears to be black-and-white. However, when projected through the three filters again, the original colors reappear. This process is devised for quick kines only, since only the one film is available and duplicates cannot be made.

Successive Frame Negative refers to a color taking method used in animated cartoon photography. It uses black-and-white negative stock, but shoots each picture *three times* in succession, first through a blue, then a green, then a red filter. The filters are mounted on a wheel in front of the camera and rotate automatically in the successive exposures. Obviously such a method is good only for shooting static frames rather than live action moving pictures, hence usage is restricted to the cartoon or stop-motion frame-by-frame technique.

Video Tape Recording, mentioned in earlier chapters, is a process which eliminates film and laboratory work entirely by recording the picture as well as the sound on magnetic tape. As it is developed to handle color as well as black-and-white, it covers the color kine field as well as the standard field of color production work. In a sense it may be termed a "color process" and as such it offers revolutionary possibilities for color television.

Cinerama is a process which requires a special camera using three separate negatives for three separate lenses. Each frame is six perforations deep (rather than the normal four) and each negative covers a different one-third of the scene. Consequently three projectors are required for projection, presenting the three adjoining scenes simultaneously as one large scene.

VistaVision also requires special cameras which photograph the picture on a different principle, the film stock traveling horizontally rather than vertically past the lens. The scene then is sidewise on the frame, eight perforations wide (equivalent to the area of two normal frames) and this larger size permits more detail in wide-screen projection.

Wide-Screen is a movie term to refer to the use of a wider projection area than the normal aspect ratio of 4-to-3. Cinerama and VistaVision use special cameras to achieve an image in this wider proportion. With a normal camera, this effect also can be obtained by the use of an **Anamorphic Lens,** which compresses or "squeezes" the image horizontally on the negative. A similar lens on the projector expands it to a greater width than normal.

The use of this lens under the trade name **Cine**ma**Scope** stimulated the lagging movie business when TV made its first competitive inroads in the early 50's and brought about a Hollywood revolution in wide-screen development. Cinerama, an earlier development, could be shown in specially equipped movie theaters only. CinemaScope could be shown in any theater by changing the projector lens and the screen.

Todd **A-O,** a later technique, uses 65mm film and special cameras. There are more than a dozen other color and wide-screen processes of lesser prominence.

Oddly enough, virtually all these inventions—the anamorphic lens, the horizontal camera image mechanism, and wider negatives up to 70mm—had been developed and proved for more than a score of years in Hollywood, yet were not made commercially available to the public until television's threat to the movie box-office.

CinemaScope "Squeezed" Image



Anamorphic Lens "Unsqueezes" in Projection



OF TIME AND SPACE
TERMS IN FILM EDITING
CUTTING ROOM EQUIPMENT
EDITING PROCEDURES
MISCELLANY

13
Film Editing

OF TIME AND SPACE

Some of Hollywood's finest film directors first learned their craft in the editing room. The relation of camera angles to visual story telling, the length of scenes as a factor in pacing, the limitations and the potentials of the film medium—all these things are most readily studied at an editor's viewing device where he may roll each scene backward and forward, over and over, fast and slow, to analyze its relation to the overall story.

In Live TV, the action must be continuous and the work of the switcher serves the function of the film editor. But the switcher does not have the editor's opportunity to study, rearrange and improve the sequence. The movement of the actors in Live TV is limited by the physical area of the studio floor. Costume and make-up changes must be made within the time limit of the program itself. So again the film editor has an advantage.

Of time and space, film knows no limits. The movie camera can wait for changes of costume and make-up, can go outdoors on location as readily as it shoots on stage. Only the budget limits where or when it chooses to tell its story.

Editing brings the many bits and pieces together to *assemble meaning* in the filmed story. Suppose the editor has these miscellaneous film shots at hand: two inserts from the library, one of an ambulance siren screaming, one of a pistol firing; a staged closeup of a woman's face

screaming, plus various newsreel shots of a presidential inauguration.

By selecting, juggling, trimming, cutting, *editing*, he can put together a series of scenes that conveys to the audience—without a word of dialogue or narration—the impression that a president has been assassinated! Perhaps he would open with an establishing shot from the newsreel of the inaugural scene, cut to a closer shot of the president, cut to a section of the audience, cut back to a closer shot of the president, cut to a single person in the audience, cut to his biggest close-up of the president, cut to the insert of the pistol as it cocks, cut back to the president, cut back to the pistol as it fires, cut to the woman's scream, dissolve to the screaming siren. Sound effects would do the rest, without a word.

Fortunately, the editor has more logical and related material than this in most cases. The writer and the director have seen to that. But his creative imagination, his knowledge of techniques can sharpen the mood and pacing of their story.

Bad editing can ruin a picture. Good editing can sometimes make a mediocre picture succeed. Editing is that important.

Film Editing means the skillful work of selecting the best takes of each scene, trimming to desired length and fitting these into a sequence that tells the story with maximum meaning. Editing covers all phases of shaping the original material, picture and sound, to become the final release print.

Editor is the correct title for the man (or woman) who does this work. With more dignity, **Editorial supervisor** may be used, although this title generally refers to an editor who oversees and coordinates the work of various editors on separate projects (such as a series of 30-minute TV shows). He'd rather not be called a **Cutter,** although this word is used by the less tactful. Cutter is used with other related functions, such as the **Negative Cutter,** who actually cuts the negative to match the positive, a mechanical rather than creative task.

Assistant Editor is the obvious title for the second in command. His function includes such work as breaking down the film scenes and marking each, individually, preparatory to the work of editing.

► TERMS IN FILM EDITING

Editing Room and **Cutting Room** are used interchangeably, as are the verbs Edit and **Cut.** *Cut,* of course, has many other connotations in the business. It is the word of command in Live TV and in film scripts to indicate a direct change of scene. It is the word of command in Film TV to end the scene being photographed. In recording discs, it means to make sound grooves. In any production it also means *to delete* and, in some

sections of the country, it is a noun referring to a piece of film trimmed and deleted from the scene to be used—but more correctly this last is called a **Cutting** or **Trim.**

Footage, as mentioned before, refers to a length of film, since it is measured in linear feet. For 35mm, the normal speed is 90 feet per minute; for 16mm, normal is 36 feet per minute. (An identical number of frames, at the rate of 24 per second, are presented whether 16mm or 35mm, of course.)

Frame refers to the area of each individual picture in the series of 24 required for each second. Between each is a horizontal Frame **Line**



"The Face on the Cutting Room Floor"



Splicing Equipment in Action

which is outside of the projection area. It is useful to register the picture in editing, laboratory and final projection. All film is driven through the various mechanisms by sprockets or teeth which engage the **Sprocket Holes** or **Perfs** or **Perforations** which are precisely spaced holes in the edge of the **film.**

Splice is the editing term meaning to join together two pieces of film so that one follows the other. The splice is done at the frame line. **Patch** is another term for splice, but not in general usage.

Edge Numbers refer to the numerals imprinted consecutively on the edge of each foot of film, outside the sprocket holes. These indicate the type of film stock, date of manufacture, and numerically record the footage as it progresses. Edge numbers from a negative (in black) can be automatically printed on the positive (in white) which aids in matching negative to positive scenes in editing. **Footage Number** and **Key Number** are lesser used terms for *edge number.*

Code Number is more specifically used to refer to edge numbers imprinted on a film stock *after* processing. Code numbers are used to keep picture and sound track in sync during editing. The process of applying these numbers is called **Coding.**

Emulsion Number is the manufacturer's key to the type of film, lot number, etc.

Heads, as you might surmise, indicates the same as **Start.** On the other extreme, **Tails** is bound to equal **End.** Films are marked both ways. Therefore a roll of film is said to be *heads out* or *tails out.*

Leader is the term for any blank film used for cutting at the beginning or end (and sometimes within!) a roll of film. **Head Leader, Start Leader, Tail Leader,** etc., are obvious designations.

Academy is the nickname for **Academy Leader,** the special *start leader* specified by the Academy of Motion Picture Arts & Sciences for use on release prints. This twelve-foot leader has numbers in descending order at each foot mark from 11 down to 3. As it flashes by on the screen . . . 5, 4, 3 . . . it is an aid to the projectionist (and television engineers) in knowing the exact start required for smooth change-over from one projector to another. This is the same Academy, incidentally, that awards the Oscars each year!

Note that there is a **TV Academy Leader** as well as a standard motion picture Academy leader. There is a slight difference in that TV Academy leader also has a pattern which aids engineers in setting picture values while the leader is rolling just before the film goes on the air.

Society Leader (no, not a dowager!) refers to a newer type of leader, developed by the Society of Motion Picture and Television Engineers. It can be used on 35mm or 16mm TV or Theater films.

Slug is a piece of blank leader inserted in editing to represent missing footage, to be supplied later. *Slug* is also used, as it is in printer's jargon, for *mark* or *inscribe,* and consequently for such an identifying mark on the leader.

Trims are the unused footage cuts at the beginning and end of film scenes, snipped off in editing. Also called, in the East, **Cuts. Clip** or **Film Clip** is used occasionally to refer to a short piece of film representative of a scene, but more usually refers to any strip of motion picture film that is inserted within a **Live TV** program.

Out-Takes refer to the *takes* (or various filmings of a single scene) which are not used in the edited version. They are filed in case of need later. Here in the out-takes is the so-called "**Face on the Cutting Room Floor!**"

Paper is a verb meaning to mark with a piece of paper (or plastic clip) the scenes or approximate footage desired in a longer reel of film.

Cord Off is an equivalent verb, when string (tied in a sprocket hole) instead of paper is used to mark the editor's selections of footage for the laboratory. Cording is obviously more accurate than papering.

► CUTTING ROOM EQUIPMENT

Splicer is the term for the device that splices or joins the strips of film together in sequence. The operation is done by scraping off the emulsion from the narrow frame line (to reduce bulk and facilitate adhesion) then overlapping the first frame line of the second piece of film, using Film Cement as an adhesive. Pressure is momentarily applied.

Most professional work is done with a Hot Splicer, which has mild heat at the splice to aid the operation. Splicers without heat are obviously Cold Splicers. There is also a rare device called a Butt-End Splicer, which does not require the two sections to overlap.

It should be pointed out that splices in magnetic tape are made with types of cellophane tape. Ordinary masking tape is sometimes used to hold strips of film together in sequence, awaiting splicing, but Hollywood generally prefers plain paper clips for this purpose.

Mercer Clips are a trade named item used for the same purpose by some editing rooms in Hollywood. Each "Mercer" is about the size of a third of a frame of film, with points that catch in the sprocket holes on each side. They can be used to hold two ends of film together, awaiting splicing, and can also be used in tabbing a scene or footage marks within a scene, as in papering.

Every editing room of course has at least one work table or Bench, equipped with a Light Box, which reflects light upward through a frosted glass surface, so the film can be viewed readily. The light box is normally placed between two Rewinds, hand-turned spindles on which the film is wound from reel to reel. Rewinds also are required equipment in laboratories and projection rooms for fast rewinding of film.

Reel of course is obvious but film also may be rolled on a Spool or Core, which are interchangeable terms for a plastic or metal hub which corresponds to the center part of a reel, but without the reel's sides.

Flange is a term for a one-faced reel or metal disc used to hold a core for winding film. Once the core is wound, the flange slips off. This is sometimes called a Split Reel.

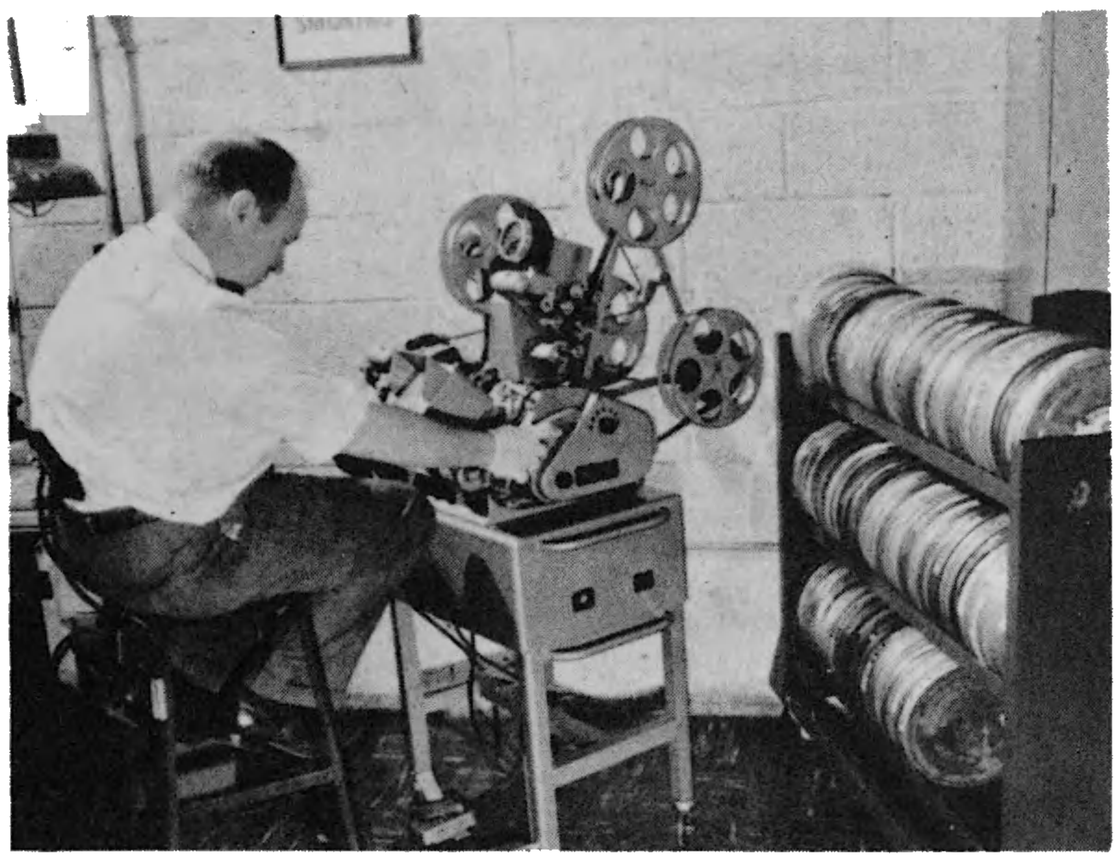
Moviola is the trade name for a device used by the editor for viewing film. It can handle picture and sound film (35mm and 16mm) separately or in synchronization. Speed can be fast or slow, as the editor desires, permitting him to see and review each scene frame-by-frame, then mark it and match the action to other scenes. Moviola, best know editing device

in the business, is almost a generic term for such equipment.

Westrex Editor and **Acmiola** (British) are other well known trade names for other editing devices.

Viewer is loosely used for any device which projects or shows an enlarged image for the editor to study. **Craig Viewer** is a trade name for such a silent 16mm editing device. It is hand-driven. Hand Viewers are light boxes, generally with a lens for magnification, in front of which the editor can informally hold up and review short lengths of film.

Sound Reader is a small sound reproducer for "reading" or listening to the sound track (which, remember, is on a separate reel in the editing



Looking at the Scene on a Moviola

stage). While Moviolas and other editing devices generally have sound reproducers, *sound readers* are useful to permit the editor to check and mark the exact position of words on a sound track and, for instance, make the exposure sheets of frame-by-frame sound sequences required in advance of production for animated cartoons.

Sync Machine or **Synchronizer** is a small geared set of sprocket-wheel rollers to keep two or more rolls of film (especially, picture and sound) in synchronization. These may be called a two-, four-, or six-Gang **Synchronizers** according to the number of rollers. Generally, the synchronizer also has a **Footage Counter**, or simply **Counter**, which is a mechanical measuring indicator recording the feet (and sometimes the frames) as the film passes through the synchronizer. Footage counters also are installed on cameras, editing devices (such as the Moviola) and re-recording consoles.

Bin or **Barrel** or **Cutting Basket** is a receptacle for loose film in some

stage of editing or discard. It is always lined with a flannel-like cloth bag to keep the film clean and to prevent scratching the emulsion. Above it is often a *rack* with Pegs or nails from which the various film scenes can be hung (by a sprocket hole) for reference.

Rack also refers to the shelving on which reels or rolls of film are stored, above the bench, along the walls or in the Vault, which is the term for the storage space near editing rooms and in laboratories for more permanent safe-keeping of films. Vaults must be constructed to safety regulations and generally have controlled temperature and humidity, both of which factors affect the flexible condition, shrinkage, and life of film.

Carbon Tet or, correctly, Carbon Tetrachloride is the chemical most often used to clean dirt from film. It is applied with a soft velvet or lintless cloth to both sides of the film as it is rewound. Also used as a solvent.

► EDITING PROCEDURES

Ideally, the editor is on the shooting stage so that he can be completely familiar with the production schedule and advise the director of any additional shots he may need for alternate editing variations. Film TV does not always permit the luxury of the editor's being on the set, however, and his work may begin when he goes over the shooting script and marks it for cutting purposes.

Then in the screening room, he will see the Rushes or first print on the camera work as rushed through the laboratory. Rushes, as mentioned in the last chapter, also are called Dailies.

If the shooting is in sound, the editing room syncs up the separate picture and sound track and these are projected in Interlock Screening, which means picture and sound are on separate films and on a special projector or separate projectors, mechanically interlocked to run at sound speed, or 24 frames per second. Interlock screenings also are used in later stages of editing, before the separate picture and sound are combined into a composite film where a single projector suffices. "Running Double-Headed" is the British description of an interlock screening.

At the screening of the rushes, the editor will hear the comments of the director and others regarding the takes they prefer and he will plan his editing. He then goes over the scenes on the Moviola, backward and forward, and makes his final selection of scenes. The print is then spliced and is called a First Cut or Rough Cut, meaning that it is roughly in correct sequence, although overlong. This may be screened for others and it is then rearranged if desired and cut down to proper length and the editor's satisfaction.

Work **Print** is another term for the film during all this period, because it is the editor's *work*ing print. Work print normally means *picture* and presupposes that an equivalent *sound* track is being cut to match it. But technically, these should be called **Picture** Work **Print** and **Sound** Work **Print,** to distinguish their relation.

Similarly, **Picture Daily Print** and **Sound Daily Print** distinguish these two components. However, when the word *daily* or *rush* is used by itself it is presumed to refer to *picture,* and automatically includes *any* sound, if sound is a necessary part.

The work print, rough cut, may go through many changes until it becomes a **Final Cut** or (as distinguished from "*rough*" *cut*) **Fine Cut,** a version edited to everyone's satisfaction.

At this point the work print goes to the **Negative Cutter** or **Negative Matcher** (quite often a woman) who matches each scene of the positive with the correct negative, guided by the edge numbers.

Certain optical effects, fades, dissolves, etc. may be required, whereupon the editor will send the negatives on the scenes involved to the laboratory for fine grains and optical work, from which a complete new negative and new positive print will be forthcoming. The positive generally is cut into the work print and screened for approval. Then it goes back to the negative cutter, and, for the final work print, a **Matching Negative** is made. From it as many copies as desired may be printed.

Sound meanwhile has gone through a similar process of editing. The dialogue, music and sound effects from separate tracks must be carefully edited, synchronized and dubbed together in a re-recording session. An editor's creative skill may be at its best in handling the sound. It is not simple. The perfect wedding of sound to picture is vital.

A few words about sound:

Modulated Track refers to any track which has sound on it: dialogue, music, sound effects. Otherwise it is **Unmod** or **Unmodulated Track,** meaning it has no sound on it. Actually it may have, as mentioned two chapters back on Sound the r*oom tone* or *room sound* of the same recording point. This is essential in editing because *complete silence* would be noticeable, while normal room sound would not. The "silence" of different stages and studios varies in acoustics. Such unmod also is called **Buzz Track.**

Synchronism, generally shortened to **Sync,** sometimes spelled **Synch,** refers to the time relationship of sound and picture in a physical sense on the print (or on the two prints, when sound and picture are separate). There is a fine point of difference between *synchronism,* which refers to the time element by position, and *synchronization,* which refers to concurrent action as a fact. To be safe, just say *sync* which stands for either word!

Sound and picture, in interlock screenings and on the Moviola are in **Dead Sync**, meaning that they are in exact alignment. The editor may call this synchronism **Straight Across**, since it is so marked on the twin geared rollers of the synchronizer or sync machine. He may indicate this with **S.A.** for *straight across* at appropriate places on the leader ahead of the film, so the projectionist will know. Another term for this is **Editorial Sync** or **Cutter's Sync.**

Later, when composite prints are to be made, the sound must be printed ahead of the picture, due to the fact that projectors have the sound reproducer *ahead* of the projection lens. This **Sound Advance** or **Track Advance** or **Sound Displacement** amounts to 20 frames (19½, actually, since it is measured from the center of the corresponding picture) in 35mm. It is 26 frames (25½, actually) in 16mm. All release prints are made this way, which explains why it is difficult to remove a scene from a release print without removing the overlapping sound track. When negatives are marked for composite printing, this sound advance is computed, and the *dead sync* marks replaced with **Printer's Sync** or **Projection Sync** marks, which indicate the sound is correctly advanced for composite printing. Obviously the projection sync marks must be changed to compensate for the different sound advance required for 35mm and 16mm, when both types of prints are required from the laboratory.

Pulled Up indicates the track has been advanced.

Start Marks are the marks which indicate to the editor, printer or projectionist where sound and picture prints are to be threaded to be in sync. Release prints also carry a single start mark, printed on the Academy leader, which indicates the point at which the projector is to roll in order to be "up to speed" by the time the sound (and picture) come on.

► MISCELLANY

There are certain terms used in the telling of a film story—and consequently the business of editing—that bear noting:

Dynamic Cutting is a technique of cutting contrasting shots in a fast tempo to achieve an exciting emotional reaction from the viewer.

Newsreel Cutting refers to a somewhat similar rapid sequence of short film scenes. **Flash Cutting** is another term for this, since a short scene briefly on the screen sometimes is called a **Flash**, but don't confuse this with a flash, or flare, which suddenly hits the image as the result of camera or laboratory problems.

Vorkapich is a name for a dynamic (and arty!) flash cutting technique which develops a montage or series of related scenes. It is named for Slavko Vorkapich who was among the first to realize the emotional effect

from such a sequence.

Intercut means to cut back and forth between two scenes.

Insert or **Cut-In** refers to a short piece of footage, such as a closeup edited into a scene to explain details or action *within* it. *Cut-in* also is used as a verb, meaning *edit-in.*

Cutaway refers to a short piece of footage edited into a scene to explain detail or action *outside* it. Suppose the scene is two children playing with a dog. In the middle of the scene, there is a closeup of the mother anxiously watching from the window. That is a *cutaway.* (Generally the scene is resumed at a different camera angle.) Such a cutaway often moves the story forward more rapidly, because when the editor cuts back to the main scene an interval of time may have elapsed.

Cutback refers to the resumption of a second piece of action occurring simultaneously. Suppose the father of the boys has heard a mad dog is loose in the neighborhood. From the scene of the children playing with the dog, the editor would *cutback* to scenes of the father rushing home. A carefully paced series of *cutbacks* between the two simultaneous actions would build suspense.

Match **Cut** refers to a scene as shot with a different camera lens, generally closer to the subject, which has matching action with the previous shot. The editor can cut directly to this second shot and the action continues, without the viewer being particularly conscious of a cut.

All the above indicate **D**irect **C**uts, or an immediate splicing to the next scene. Otherwise, in changing locale or to indicate the passage of time, the editor may prefer a **D**issolve, which blends the new scene as it fades in over the old scene, fading out. Other optical effects may also be indicated, as the next chapter will describe. It is the editor's job to decide (unless the script has specified) what these transitions between scenes will be and he will order the fine grains and optical work necessary to tell the story on the screen.

Here is a simple chart to get the relation between 35mm and 16mm. Both are photographed (at sound speed) and projected at 24 frames per second, but the obvious difference in size of the two images affects the relative footage.

Sound **S**peed = 24 frames per second

1 minute = 1440 frames

35mm	*16mm*
16 frames = 1 foot	40 frames = 1 foot
90 feet = 1 minute	36 feet = 1 minute
approx. 1000 feet = 1 reel	approx. 400 feet = 1 reel

35mm is 2½ times as long in footage as 16mm at *sound speed.* Here, *reel* means an approximate 10-minute subject (it also means the

flanged spool, of any size, that holds film or magnetic tape). In exact measurement, 990 feet of 35mm will run 11 minutes—the maximum it is safe to carry on a 1000′ reel.

In 35mm, standard reels run 200′, 400′, 1000′ and 2000′. In 16mm standard reels at 50′, 100′, 200′, 400′, 800′, 1200′, 1600′. A full 1600′ reel of 16mm will run a fraction over 44 minutes.

Reading of a sound track, in editing, refers to listening to it on a sound reader and marking directly on the film with a grease pencil where each word (or phonetic syllable) lies; also the music beat and sound effects, when these appear. This r*eading* before editing is essential in narrative-style sound tracks and animated cartoons, as mentioned earlier.

Bloop is the apt name for the noise made when a splice in the track goes through a sound reproducer. To eliminate this, the editor has it **Blooped** or **Blooped Out** by making an opaque triangle over the spliced area of the sound track. This may be painted out with opaque ink, covered with a triangular black patch of tape, or in the case of negative, removed by a device that cuts a small wedge from the film (this negative hole then will print black in the resulting positive). This essential operation of removing bloops from sound track also is called **Blooping** the **Track** and sometimes **De-Blooping. Both** terms mean the same, so the latter is falling into disuse.

Cue Print is a work print marked with grease-penciled cues directly over the picture to show, while it is projected at a post-recording session, where various voice, music or sound effects are to be expected.

Sound Effects Library refers to an indexed library collection of frequently used sound effects available to the editor. **Stock Music Library** is the equivalent index of various types of music similarly available to the editor, for use in scoring or backgrounding a picture. See *canned music*. **Stock Shot Library** is the equivalent index of commonly used scenes, especially locales and events. Most major studios have such a library and newsreel companies, among others, offer such "wild" scenes for a fee.

Library Shot is the term for such material when available from within studio files.

Stock or **Stock Shot** refers to such material when purchased from an outside source. Scripts usually refer to such shots, already photographed, as "stock shots."

Scratch Print is such a positive print, borrowed from file sources. It is deliberately scratched down the center of the picture to discourage other than editorial use without payment of the fee to the owner of the negative.

Test refers to an experimental piece of film used to check the exposure or focus of the camera, the reactions of film raw stock (especially

color), the appearance of sets or costumes or make-up, or the acting ability of performers.

Loop, mentioned in earlier chapters, is a continuous band of film (its two ends spliced together) prepared by the editor so that a particular action or sound may be repeated over and over again. Picture loops are used, for instance, to guide performers in camera action to a pre-recorded track. Sound loops are used in post-recording sessions to guide performers in matching the timing and inflections of a previously recorded voice which is to be replaced. Sound Looping also is used in re-recording sessions to give continuous sound effects.

It is well to note that *loop* also refers to the slack section of film required above and below the intermittent movement at the lens of a camera or projector.

THE WORLD OF MAGIC
OPTICAL EFFECTS
TRICKS OF RE-PHOTOGRAPHY
SPECIAL EFFECTS
MISCELLANEOUS TERMS

14

Optical Effects and Special Effects

THE WORLD OF MAGIC

Since movies and television are a world of make believe, the tricks and effects are a vital part. Rain, snow, explosions, train collisions and a multitude of visual devices are forever intriguing.

Illusion is the word. How to achieve an illusion of the real thing? How to simulate something so that the viewer will believe that it is real?

Special cameras, miniatures, models, animation, unbelievably intricate devices are the resources of production. It is a never-ending world of magic.

In live television the effects are achieved in staging and in the electronic camera. In films, staging, camera and laboratory are used.

Optical Effects or **Opticals** are terms used in the film industry to refer to laboratory tricks, especially those devices that blend two scenes together. They are normally made in editing after the original photography has been completed in **Film TV**. Similar effects can be made electronically in the control room in **Live TV**.

Special Effects refers to any production device which aids in achieving an unusual scenic or dramatic effect not obtainable under normal production methods. Weather effects and other similar staging illusions all are the province of the special effects department.

Magic it is, but a very practical magic.

► OPTICAL *EFFECTS*

Opticals are made electronically in Live TV by a man in the control room known as the switcher, while the show is being telecast. In Film TV opticals are planned by the editor and may require several days to complete. He must order fine grains on the scenes involved (after original photography has been completed) and send them to a special department in the studio or at the laboratory.

Here the work goes through a **Projection Printer** or **Optical Printer,** a special camera mounted on a type of lathe bed and equipped to make optical or visual changes in the image as it reproduces by projecting on a new negative. The optical printer can enlarge a portion of a frame to full frame (or enlarge a 16mm frame to 35mm size), reduce a part or all of the picture (or 35mm to 16mm), invert it, reverse the action so it appears to be running backwards and many other so-called "optical tricks." It can combine two scenes and make transitions between them.

Opticals begin with an elementary effect, the **Fade,** which brings the picture from black to full visibility (fade in) and, later, may make it disappear (fade out). The length of a fade may be controlled according to pacing desired. Standard lengths of fades are 8-, 16-, 32-, 48- and 64-frames. Fades are normally used to open and close complete sequences within a story.

Next comes the **Super** or **Superimposure,** which gives the effect of placing one scene (or a title) over another scene.

The direct cut is the most used transition between scenes. Next in usage, by the switcher or the editor, is the **Dissolve,** which gives the effect of one scene blending into another by fading out the first scene while the other is simultaneously fading in. Dissolves are used to bridge a change of locale or time, although they may also be used simply to soften the transition between two camera angles of the same subject.

Cross Dissolve is another name for dissolve, the cross sometimes being symbolized in notations as an "*X*"; hence, **DX.** Another abbreviation is **Dis,** and when it overlaps two scenes, it is also called a **Lap Dissolve.** The ordinary dissolve is not to be confused with the **Match Dissolve** which is a special transition between two scenes, a dissolve between two objects of related characteristics. For instance, the shot of a billiard ball may be match dissolved to a closeup of a bald-headed man. The match dissolve is a favorite, almost hackneyed, story-telling device used in both live and film television.

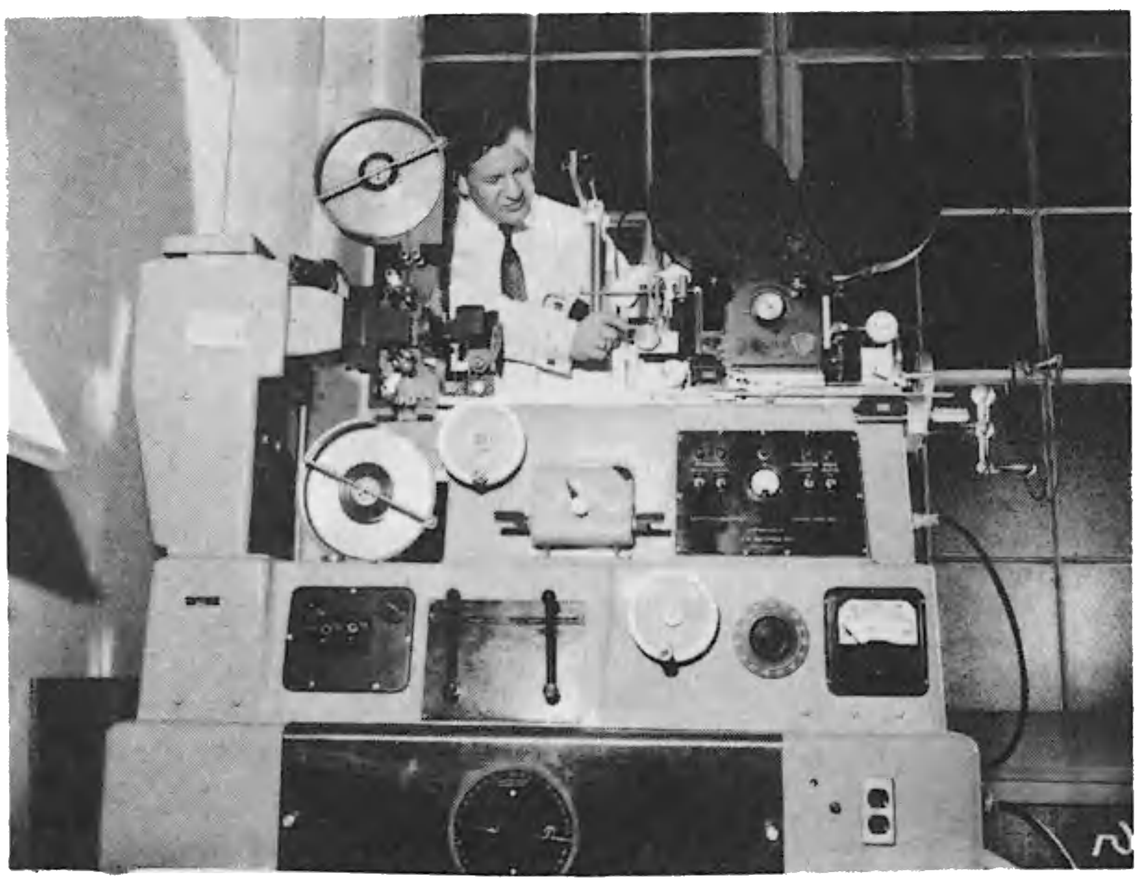
The Wipe is the third important transitional optical effect, generally following geometric patterns in *wiping* or pushing on a new scene to

replace the previous scene. The French phrase for *wipe* means literally "one scene that chases another."

It is also called an **Optical Wipe.** There are dozens of different types of wipes, made in an optical printer for film, electronically in Live TV. The most popular names for wipes begin with the **Vertical Wipe,** which features a flat line across the screen moving up or down, as desired. *Vertical* refers to the *movement.* Likewise, the Horizontal Wipe features an upright line moving right or left. Of course, *wipes* can be constructed to move the scene diagonally or in any direction desired.

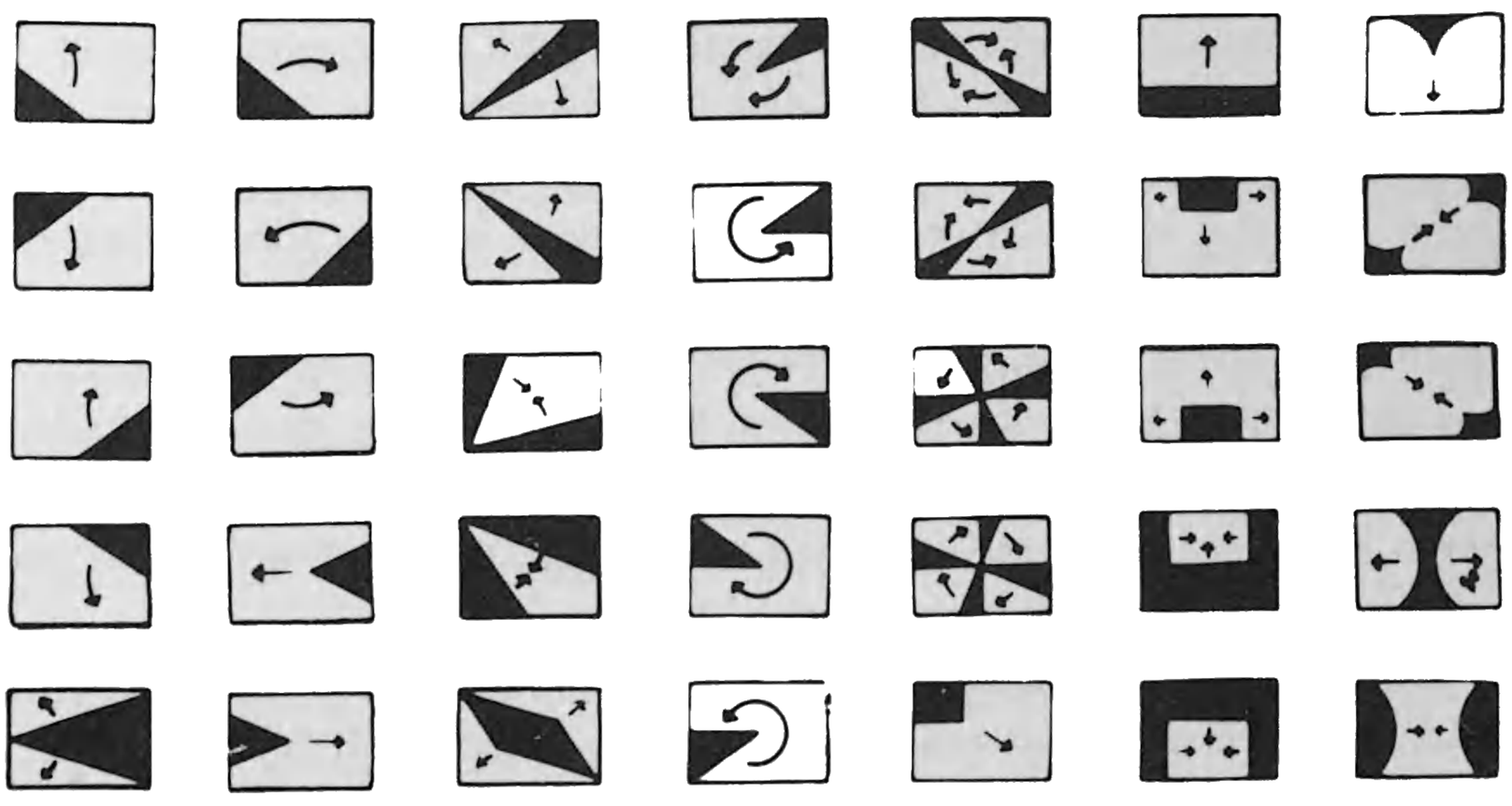
Iris Wipe has the effect of the new scene coming in as a small circle in the center of the screen, gradually getting larger to full screen as it *wipes* off the old scene. This action can be reversed, of course: *iris in* instead of *iris out.* (Because of confusion with "fade *in*" and "fade *out*," the meanings of these often get transposed.)

Flipover Wipe or **Turnover** Wipe has the effect of the first scene turning over like a card and becoming the new scene on the reverse side.



The Optical Printer

A Few of Many "Wipes"



Bombshell Wipe or Explosion Wipe has the new scene "exploding" in the middle of the old.

Fairly obvious are such wipes as the Expanding Square Wipe (the square gets larger until it fills the screen), the Barn Door Wipe (the big wide doors wipe open, presenting a new scene), the Clock Wipe (the effect of a clock hand wiping the old scene off as it sweeps around) and others. There are hundreds of possible wipes. Across the page are shown some of the many kinds used in live television (through special electronic equipment) and in film television (made by re-photography in the optical printer).

Soft Edge Wipe simply refers to a technique in handling any wipe, wherein the edge of the new scene is softly blurred, rather than sharp or hard.

► TRICKS OF RE-PHOTOGRAPHY

Traveling Masks, also called Traveling Mattes or more correctly Matte Rolls (pronounced *mat*) are used in the optical printer to obtain wipes and other optical effects, such as overlaying one image on top of another. This involves two strips of film, each of which blocks out different parts of the frame. Together the two strips, or matte rolls, are exactly complementary and fit together to block out the entire screen area. Where one is clear, the other is opaque and vice versa. The term "traveling" comes from the fact that the strips actually travel or progress with the film scene through the optical printer, frame-by-frame, to produce the new negative.

Traveling mattes can combine two scenes to create the illusion of a car flying through the sky or a commercial product moving from a grocery shelf to a woman's hand. To accomplish this, frame-by-frame art work must be done to block out the alternate unwanted material in the two scenes, then matched complementary traveling mattes must be made from the art work. Combined, they make a single scene.

For all standard wipes, matte rolls are already prepared for optical printers. Others can be prepared to order to achieve any desired effects in combining two scenes on film. It simply takes time and money.

Multiple Image is the effect of several repetitions of the same camera subject at once, possibly rotating around the screen. This is generally done with a prism device placed in front of the camera (live or film) or in front of the lens of the optical printer.

A similar effect which combines several different images, rather than repeating one, is called a Montage, which has the various images on the screen all at once, as a composite picture or overlapping sequence. The

effect of any montage is to give highlights of many little things to create an impression of the whole. It may cover events in the passage of time or it may cover the many uses of a commercial product. A montage effect also can be achieved by using a number of scenes in fast sequence, blended together with fast dissolves or wipes.

Montage, incidentally, had an original European connotation of *editing* and one type of montage is the **Vorkapich,** mentioned in the last chapter, which montages such fast scenes together with direct cuts, without the need of an optical printer for transitional dissolves.

Montage also is used as an overall term to include the **Split Screen, Divided Screen** or **Composite Shot.** This effect shows different portions of the screen are blocked off to reveal two or more separate pictures. *Split screen* is the favored term for this. It may be a 2-way *split* as when both people in a telephone conversation are shown on either side of the screen, or a 4-way *split* as in a newsreel opening montage.

Reverse Motion can be achieved in film photography, of course, but also can be achieved in the optical printer by running the fine grain backward and the negative taking stock forward. This makes the resulting action run backward on the screen so that, for instance, the diver comes out of the pool and flies back upward to the diving board. It is used primarily for comedy effects.

Reverse motion is not to be confused with **Reverse Scene** or **Flop-over Action** which turns the scene over so the original right is now on the left of the screen. This is sometimes necessary to match action with a previous scene, but care must be taken as it makes a right-handed person left handed, lettering is reversed and the resultant effect may not be exactly what was expected.

Freeze Frame refers to the trick of the optical printer in holding one frame and printing it as long as desired, so that the action appears suspended when it is finally projected on the screen. The diver may be held in mid-air or an unusual point of any action may be *freeze framed* or **Frozen** for analytical study.

Live TV can do all these tricks of re-photography, long the province of films, with the exception of reverse motion, the overly intricate montage and the freeze frame. **Electronic Inset** or **Matting Amplifier,** already mentioned, accomplishes the same illusions of film's traveling matte. This permits the insertion of a live human figure in motion, as picked up by one camera, into another scene, picked up by another camera. So, a painting or a miniature set can serve as the background for human action, the television cameras electronically blocking out (as a traveling matte does) the exact area in which the transposed figure appears. In color this is called **Color Inset.**

► SPECIAL *EFFECTS*

Special **E**ffects cover practically everything that is unusual or not normal in production, both for **L**ive TV and **F**ilm TV.

In **L**ive TV, this includes weather effects—rain, snow, lightning, fog. These may be achieved by special devices on stage, with the illusion aided by superimposure effects from another camera controlled by the switcher.

In **F**ilm TV, special effects include the weather-making devices used in the studio and also various illusions obtained by tricks or re-photography in the optical printer.

Special **E**ffects **M**an is the title applied to the clever technician in charge of this work, and the credit "Special Effects by . . ." often appears on the screen. **C**ertain specialists are employed within this field. **F**or instance, in films a **P**owder **M**an is one who has skill in handling explosions.

Minature sets and dioramas are within the province of the special effects department, both in **L**ive TV and films, so they may stage miniature train wrecks, burning buildings, etc.

Glass **S**hots, mentioned in an earlier chapter, are the work of special effects in films. A portion of the scene, such as a castle on the hill or the upper structure of a cathedral is added to the scene from a painting on glass, rather than being an actual part of the set. The two parts of the scene may be combined in the camera or in the optical printer.

Traveling mattes, where concerned with combining two elements into a scene, also are the work of film's special effects department.

► MISCELLANEOUS *TERMS*

Superimposure was defined earlier as giving the effect of placing one scene (especially a title) over another. When it is a simple white lettering, this can be done by a **Burn In,** or exposure over the other scene until the image in that specific area turns completely white. If a black shadow on the title (called a **D**rop **S**hadow) is desired, a matte roll is required to block out the specific title area and control the shading. Such titles are more expensive but are cleaner, sharper and more distinctive. The term *burn in,* abbreviated to **B.I.,** also is used by optical film men to refer to the film print which carries such white letters with a black background. The negative of a *burn in* (carrying black letters on a white background) is called a Hold **Out** or **H.O.** Together they can be used to make titles with shadowed lettering.

Double Exposure is synonymous with *burn in* or *superimposure,* but originally referred to such work being done in the camera, with titles doubled over another scene by exposing the films twice. Even as it does in amateur photography, *double exposure* also can mean the error of accidentally exposing the negative twice.

Multiple Exposure refers to more than two exposures on a single negative. Although difficult, camera montages have been made with such multiple exposures. It's far simpler and more readily controlled in optical printing.

Ghost In is also an equivalent term for *burn in,* but it generally refers to less exposure for the second scene, to give a ghost-like quality.

Double Printing is another term that indicates two negatives are used in making one positive. For instance, in making English sub-titles on foreign movies, the second negative contains only the titles which are *burned in* in double printing.

Vignette, as it does in still photography, refers to a soft edge around a picture which is printed in only the central portion of the frame area. It is generally oval or rounded in shape, although in addition to the familiar **Circle Vignette,** other shapes include **Binocular** and **Key-Hole Vignettes. Vignetting** can be done with a mask placed in front of the camera lens or in the optical printer.

Step Printing refers to the method of printing film stock one frame at a time, rather than continuously.

Skip-Frame Printing is a trick of optical printing that automatically selects a given sequence of frames to alter the action of the original picture. For instance, by selecting every second frame of the original, the effect will be to speed up the action. Conversely, to print each frame twice would slow it down.

E.O.F., in skip-frame-printing, is an abbreviation for *E*very-*O*ther-Frame.

Optical effects, such as wipes, cannot be achieved readily in 16mm color work. To avoid the unsightly splices of 16mm and to obtain dissolves between scenes, a method known as **A & B Printing** is used. One roll of 16mm original contains one set of scenes, the other roll being edited with the alternate scenes where dissolves are desired. Side by side, the dissolve portions overlap. To make release prints, then, Roll **A** is run with the printer automatically fading out the scene where a dissolve is indicated. Roll **B** then is exposed to the same stock with the printer automatically fading in a new scene at the equivalent spot. A *fade out* superimposed over a *fade in* equals a *dissolve* . . . mission accomplished!

THE CRITICAL EYE
PICTURE PROBLEMS
SOUND PROBLEMS
NEGATIVE-POSITIVE FILM FAULTS
PRINT HANDLING PROBLEMS
MISCELLANEOUS QUIBBLES AND NOTES

15

Evaluating Picture Quality

THE CRITICAL EYE

Obviously in such a complicated miracle as television, there are an infinite number of things that can go wrong. And often do.

Now, it seems a shame to encourage any more pseudo-critics of the telecast, but this chapter must take such a calculated risk. You, too, can be one of those irritating persons who sounds like an expert when he speaks of the quality of the picture with words like "contrasty," "degradation" and "keystoning."

The basic terms that evaluate picture quality, whether in Live TV or Film TV, begin with a definition of **Definition.** This term is used to refer to the distinctness of detail in an image. A picture that is clear and "easy to read" is said to have *good definition.*

One factor in obtaining definition is **Sharpness,** which refers to the fact that the detail is in **Focus** (the rays of light that form the image are correctly converged in the same plane). There are three prime points at which focus is adjusted: at the lens of the camera, at the lens of the projector (in the case of film) and at the viewer's receiving set. Unless all three are correctly focused, the picture will be **Fuzzy,** meaning *not sharp* and the detail not clearly defined.

Another factor in obtaining definition is **Resolution,** which refers to the ability of film stock to reproduce detail. Similarly, in TV, the amount

of detail is restricted to the number of *lines* transmitted. In the United States, 525 lines is standard. Fewer lines would lose definition.

Contrast, in a picture, refers to the r*ange of difference* between highlight and shadow. The engineer controls contrast during the telecast, but he is limited in the amount of correction he can make, so it is important that the picture's settings, costumes, makeup all be within television's required **Contrast Range.** This term refers to the maximum latitude for satisfactory telecasting of the shadow-highlight scale. In black-and-white telecasting, this contrast range covers television's g*ray scale,* as mentioned in the chapter on **Lighting. Lighting,** too, has an important bearing on contrast range and, in film processing, laboratory handling and type of raw stock also can affect it. Remember that as much contrast as possible—within a satisfactory *contrast range*—is desired.

Good Contrast is an approving term for a picture that has approximately the widest satisfactory contrast range. **High Contrast** indicates a wide difference between highlight and shadow but does not necessarily mean g*ood* or *bad.* **Too Contrasty** means *bad,* as this indicates the range is too great for satisfactory telecast. Sometimes the single word **Contrasty** is used in a fault-finding sense, meaning more contrast than desired.

In a film negative a similar term is **Hard. On** the other extreme is the term **Flat,** meaning *lacking in contrast,* likewise undesirable. **In** the **Mud** says the same thing: flat, lifeless, dull, too low in contrast.

Low Contrast indicates a very narrow range of highlight and shadow, but does not necessarily mean *good* or *bad.* "High contrast" and "low contrast" are usually used in referring to film stock where these basic characteristics are helpful. **For** instance, where a negative is too contrasty, it may be printed on *low contrast* stock and with special processing decrease the contrast in the image. **Likewise,** it is possible to build contrast in film generations. **Laboratory** processing always is concerned with the problem of contrast.

Low contrast in a film print is readily built up in telecasting, so prints for television generally are made with lower contrast than prints for theater projection. **Films** with high contrast are extremely difficult to handle on **TV,** and should be avoided. It is also well to note that motion picture theater prints have a wider contrast range than television prints; hence, theater prints generally are too contrasty to telecast well. **TV** prints likewise are generally too flat for theater projection. Different prints, each controlling contrast, can be made (from the same negative) for the two purposes.

Some contrast corrections can be made electronically by the video engineers. Darkening up the black is called **Batting Down.** This darkens the whole scene and whites become light gray. If the picture is lightened

by the Hitting the Whites, then the darker grays become comparatively lighter.

Finally, remember *contrast* also is something the TV viewer can knob up or down on his receiving set.

Snap is jargon for *good contrast* and *sharpness* in the picture. "This print has lots of *snap!*"

Brightness refers to the overall average of light in the picture—equivalent to density in film processing. The engineer controls brightness, making the overall picture darker or lighter as he chooses. The home receiving set also can control brightness. And in the projection of films, especially in a screening room, the wattage of the projector bulb affects brightness.

Fidelity is the engineer's term for faithfulness of reproduction, as compared with the original. Fidelity can be used to describe picture quality as well as sound, hence: *good fidelity, high fidelity, poor fidelity,* etc.

PICTURE PROBLEMS

Halation refers to a halo or bright circle of light caused when the lens of the camera is pointed toward a bright light or the sun. In Live TV this may also occur when extreme white is seen next to extreme black—quite undesirable. Sometimes it is called Flare, but the latter term more often refers to the problem of a *reflection* of a too strong light (not the direct light) as from a glass surface, chrome, glittering jewelry, bald heads, etc.

Flash is sometimes used to refer to an objectionable flare, but is more correctly used only in the sense of a *short scene,* to avoid confusion.

Kick and Hot Spot are slang for small flares. This problem may be rectified by lessening the light source causing it, moving the light or the camera, or by toning down the reflective surface with a wax or spray. Another way to correct it is through the use of polarizing filters which eliminate certain unwanted light rays.

Flares also can be caused by stray light leaking into camera or laboratory mechanisms, as will be explained later in this chapter.

Bloom and Blossom are other names for *halation,* and it is also called Womp, a Live TV slang term for a sudden flare-up of brightness in the picture.

Other Live TV terms:

Clouding refers to an electronic fogging of large dark (or light) areas, when the image is too contrasty.

Streaking refers to the unwanted presence of horizontal streaks or

lines across the picture, another electronic problem.

Snow is a sprinkling of fuzzy white dots in reception, caused by a low level signal.

Pigeons are white spots that similarly fly over the receiving picture.

Tearing is a word for a rip-like effect in the receiving set picture, caused by interference.

Microphonics, also called **Static** or **Noise,** refers to a *picture* disturbance generally caused by a faulty tube in a studio camera. Static also means interference and noise in the audio.

Ghosting refers to a second image that haunts a picture tube as a result of the receiving signal "bouncing" from off a building or other obstruction. A ghost also can be created in an image orthicon camera when high lights are too great. The word also refers to *double-exposure,* as mentioned in the previous chapter.

Lens Distortion or **Aberration** refers to an abnormal reproduction of the image caused by a lens or an optical element. A wide-angle lens causes distortion of the human nose in a closeup. Straight lines at the edge of a picture may appear curved just as the shape of the television tube causes a minor distortion at the edge of the picture.

Keystone or **Keystoning** refers to a distortion which affects square or rectangular shapes, such as boxes or buildings. In the picture, these appear to be wider at the end near the camera (hence, shaped like a *keystone*). This is the result of using the wrong camera angle and is a common problem. It also can happen in projection when the projector is tilted too high or too low to the plane of the screen.

Throw is used as a noun to mean the distance from the film projector to the screen.

► SOUND PROBLEMS

Many of the words listed under **Picture Problems** also apply to the audio: fuzzy, in the mud, poor fidelity, static, noise, distortion all have similar, obvious meanings as sound problems. Likewise, **Distortion** refers to abnormal, unwanted change or difference between the original and the reproduction, whether in sound or picture.

Blast also is used to cover both video and audio. Originally, it referred to an overloading of the capacity of equipment in recording causing a distortion in sound. Now it also refers to a similar overloading in **Live TV** camera transmission, causing a similar distortion in picture.

Fading is used as a noun to refer to an unwanted drop in sound or picture signal.

Ground Noise refers to unwanted noise that is the result of the faulty

conditions of the basic recording material (tape, disc, film) or faulty condition of the equipment. (Ground noise is also mistakenly used in some quarters as a synonym for r*oom tone.*)

Surface **N**oise refers to unwanted noise in reproduction that is the result of the *present condition* of the material, which was not necessarily in the basic recording. **F**or instance, a worn phonograph record develops surface noise.

Burp is appropriate jargon for an unexpected interrupting noise in the sound equipment.

Birdie is the "tweet" or whistle-like sound that occurs when equipment is about to lay an egg.

Frying is a bacon-cooking sound from faulty equipment.

Wow refers to the distortion in sound, varying the pitch, caused when recording or playback equipment goes off speed. **F**or instance, a warped phonograph record that slows down a little each full turn. **A** slow or off-speed projector also *wows.*

Flutter is a distortion similar to *wow,* but comes at a faster rate. **F***lutte***r** can also be applied to a rapid **Fluctuation** or variation of brightness of the **L**ive **TV** picture or film.

► NEGATIVE-POSITIVE FILM FAULTS

Underexposed indicates that the film negative did not receive enough light through the lens. When printed on the positive, the image may be dark, smoky, and too dense.

Overexposed indicates the reverse, that the film negative got too much light through the lens. When printed on the positive, the image will be so light, it barely can be seen. **T**he positive print is said to be **Thin** or **Burned Up,** meaning the amount of light exposed was "too hot."

Underdeveloped and **Overdeveloped** are terms for faults in the processing, and both result in positives with too much or too little density.

Grain refers to the texture of the picture itself. **B**lack-and-white pictures are formed by patterns composed of tiny grains of silver halide, and when these **are** noticeably magnified hundreds of times on the screen the picture is said to be **Grainy** or to have **Graininess. T**he screen may appear to be crawling with millions of tiny particles. This is particularly apparent when the negatives are duped too many times.

Flare was mentioned earlier. **Lens Flare** refers to an intersurface reflection of light within a lens. It may cause lack of contrast.

Edge Flare or **Edge Fogging** is due to light accidentally exposing intermittent areas along the sprocket holes of the film. **T**his may be the result of careless handling or defective equipment.

Light Leak is the term for this unwanted flaring in camera or darkroom equipment. Even a tiny crack or hole may permit light to enter and cause a stray exposure on the film.

Fogging is the result of accidentally exposing undeveloped film to light. The fogging, of course, ruins any previous camera-exposed image and the scene must be reshot.

Flash Frame refers to a frame of film that is flared or so over-exposed that it is not usable. This is caused at the beginning and ends of scenes if the camera stops with the shutter open. It also can happen in making prints when the printer makes a wrong light change at the beginning of a scene. Such a printing mishap may be part of a **Mis-light**, meaning the exposure of the scene (as printed) is not as intended.

Double Exposure, while intentional as a *superimposure* in some cases, can be a fault should there be an unintentional exposure of two scenes on the same negative, in the camera or laboratory.

Degradation refers to the loss of image fidelity through reduplication of a negative too many times.

► PRINT HANDLING PROBLEMS

Obviously all the mistakes of negatives can be transferred to positives. In addition there are many abuses which are the result of mishandling either the negative or the positive, and may occur at any time, even in release.

Scratches are the most common. These long streak lines which break the surface of the film are also called **Digs.** If short, blunt, and intermittent marks: **Abrasions.** If wide, continuing marks that are obviously the result of a rubbing pressure: **Rubs.** If the scratches are storm-like in total effect: **Rain.**

Scratches may be in the negative and will appear black on the screen or in the positive and will appear white on the screen. It is almost impossible to remove a scratch from the negative although there are methods of treating them to make them less obvious. When the positive is scratched (but the negative is not), it's a simple matter to make a new print.

Dirt is the prime cause of scratches. Specks of dust, lint, and particles that appear on the picture may be picked up in the camera, on the camera lens, in the laboratory processing, in the editing room, and sometimes in the projector. Dirt in the camera will appear as black marks on the positive, dirt in the laboratory as white marks. Dirt on the negative can be removed by cleaning it, but there is no cure for dirt picked up in the camera. When there is dirt picked up in the camera, it is not always the cameraman's fault, as often there are loose bits of emulsion,

scrapings from the film when it is cut apart, in the film rolls as received from the manufacturer. The careful cameraman as a precaution cleans the camera gate and aperture at frequent intervals.

Cinch Marks are cross-screen scratches at the beginning or end of reels caused by careless rapid rewinding and the friction of the film against itself when it is pulled up in tight, overlapping layers.

Remember that all these defects can be caused through mishandling of either the negatives or the positive film.

Vaporated prints, sometimes called by the trade name, **Peerless Treatment,** have been treated to harden the emulsion and so resist scratching. This process subjects the prints to formaldehyde and other gases while under vacuum pressure.

Lacquer or **Wax** or **Preservative** of other kinds are also used to protect films from scratching and keep them flexible.

Old film, not carefully kept in a vault with even temperatures and correct humidity, may become **Brittle,** lacking in pliability, and consequently hard to project. **Likewise,** it may **Shrink** or actually get smaller in size, so that it cannot pass over the sprockets in projection. A *shrunk* negative may make it impossible to print more positives.

Oil Splotches may result from machine oil picked up in projection and spread over the face of the film.

New film fresh from the laboratory may have a temporary problem in that it is **Green,** not properly dry or seasoned (it has nothing to do with color!). It is difficult to project because sprocket holes are not fitting correctly. The picture may waver on the screen or the film in the projector may **Buckle,** pile up and stop the mechanism. (Remember, a film may also *buckle* or double up in a camera due to mechanical problems.) Green film generally dries out sufficiently in two or three trips through the warm projector, but such handling is not recommended except in emergencies.

Breathing, a fluctuation in and out of focus, also may be caused by *green* film. An overheated or faulty projector likewise may cause *breathing*. Weaving is sometimes used synonymously with *breathing,* but more often refers to a side-to-side motion on the screen.

Jump refers to an up-and-down bounce in camera or projector mechanisms, and also refers to a *jump* in continuing film action caused by the imperfect matching of two pieces of action in editing (or animation). This may be caused by a break in the film, which has been respliced with the loss of one or more frames. But **Jump Cut** is an editing device intentionally trying to omit certain static frames within a single scene.

Ride refers to an irregular movement—like *jump*—or an irregular

action of two parts in a single scene. For instance, a superimposed title may r*ide* up and down. Animation, imperfectly registered, also may have an annoying r*ide!* Also called **Drift** or **Out** of **Register.**

Register in this case of course refers to the proper superimposure of two or more images on the same film.

Out of **Sync,** as discussed in an earlier chapter, refers to a lack of synchronization between sound and picture. This may be caused by an error in editing, in printing or in threading the projector.

Fluctuation refers to a wavering change in density while a scene is being viewed. An unsteady electric current may cause this. On a motion picture set the faulty power supply may not be discernible, but when the film is developed the fluctuation will be all too apparent. Also called **Flicker,** although *flicker* may be the result of various camera or projection mechanical problems (usually imperfect shutter movement). Remember what they used to call the old-time movies?

MISCELLANEOUS QUIBBLES AND NOTES

The cameraman and projectionist both must worry about dirt in an aperture, as it will scratch the film. Even more embarrassing may be a **Hair in the Aperture,** a stray hirsute harassment which holds on the screen waving up and down to the audience. **Likewise,** the camera aperture can suffer from **Emulsion Pile-Up,** scraping the emulsion from the film in little **Horns**—which also cause the devil to pay!

Two cries from the audience further dog the projectionist: **"Focus!"** meaning his projector lens is not sharply defining the image, and **"Frame It!"** meaning the frame line is being misplaced and projected on the screen and it should be adjusted out of view, either up or down.

Shutter Blur is a problem of projection caused by loss of proper synchronization in the projector shutter. This mechanism normally whirls past and blocks the projector light 24 times a second as each frame is being pulled down into position. Blur results on the screen should it get out of timing.

Mike Shadow remains the eternal problem of the **Live TV** production crew, for the boom arm and microphone may inadvertently swing between a light and the subject to shadow the viewer's illusions.

Cel Flare, in animation, is a light reflection from the celluloid that disturbs the picture.

Solarization is an odd phenomenon which accidentally reverses the tones of a picture causing the negative to look like a positive. White becomes black, and black white. It can happen when light (especially, as the term suggests: the sun) is too bright for the film emulsion to handle.

The same phenomenon of **Reversing** Polarity is an engineer's trick in live television, but done intentionally. It is particularly useful in broadcasting a *hot kine* in its quickly-processed negative form, since this electronic trick makes the film appear on the television screen as a normal positive. (It can also make a positive reverse to a negative image, for comedy effect.)

Memory Retention refers to the unhappy characteristic of the Image Orthicon camera to burn any static image into its picture if allowed to stand focused on it for as much as half a minute. The image may carry over for several minutes thereafter or until Washed **Off** the tube by the camera being pointed into a bright light, thrown out of focus, and waved about.

Strobe Effect is an accidental result on film caused when straight lines are photographed in slightly changing positions. For instance, the spokes of a wheel may appear to be moving backward rather than forward; an upright line moving across the screen may appear to jump rather than progress fluidly. *Strobe* of course is from stroboscopic, which refers to a method of freezing action on photographs by intermittent light flashes. A *strobe effect*, as described here, refers to action accidentally frozen in the *wrong way* on motion picture film. Stroboscope, incidentally, also refers to a disc which uses a stroboscopic pattern principle to reveal the correct speed of a record turntable.

Color brings added problems to picture quality and a few added terms:

Color Distortion is the problem when one color absorbs other colors by reflection and so degrades itself. For instance, a girl's face against a green wall may look greenish, and a white boat on blue water may have an odd bluish tinge.

Bleeding refers to the tendency of a color to ooze into unintended areas, an accident of film processing.

Blushing refers to the fluctuating density of a single color in a continuous scene. For instance, the girl's face in closeup may suddenly appear to blush, unintentionally, because the printing of red is inconstant.

N.G., as reported earlier, is the abbreviation for no good. A scene, a costume, a camera test, a release print—any of these, and many more things, may be *n.g.*

So many things can go wrong in this business, in fact, that it's just a little amazing how television has made such progress in its first years. The viewer begins to take perfection as a matter of course.

ONE THIRD OF A CENT
THE ADVERTISING AGENCY
CONTACT AND CREATIVE
OTHER AGENCY SERVICES
MISCELLANEOUS ADVERTISING TERMS
TYPES OF RESEARCH
TV RATING TERMS
TV RATING METHODS AND SERVICES
OTHER TV DATA SERVICES

16

Advertising—Sponsor and Agency

ONE-THIRD OF A CENT

Television became a billion-dollar-a-year advertising business within five years after the transcontinental network cable was completed.

This billion dollars—this thousand million dollars—is a fairly sizable tab for someone to pick up. Who paid the bill?

Well, you might say it was Mr. and Mrs. John Q. Public—but it cost them only a *third of a cent* out of every dollar they spent on goods and services. Actually all advertising represents only about 3 cents in every sales dollar and television represents only a fraction over a tenth of total advertising appropriations.

Yet this penny's fraction bought over 2,000,000 station hours of entertainment annually for the public. And some of it was rather costly: advertisers have been known to spend $60,000 for just one commercial minute on the air—or $1,000 a second for an advertising message. Obviously television must be a powerful means of advertising communication to be worth so much.

Just what *is* advertising?

Advertising may be defined as the art and science of establishing the value of a product (or a service) in the minds of potential customers. This, in turn, creates sales and moves merchandise.

The selling of goods and services has been recognized as a creative

force in our national economy. American business is built on the principle of free competition. Competition, to survive, must offer better values. And it is advertising that turns these better values into sales.

► THE ADVERTISING AGENCY

The Advertising Agency is an independent service organization of analytical, creative and administrative specialists who diagnose, design and develop plans for making products or services *available* as well as *desirable* to the consumer.

Good advertising builds both sales and reputation for the advertiser. The agency's scope may include planning on how to package and price the product, what markets to select, how to develop the sales organization and dealer outlets and many other factors in the successful conduct of the advertiser's business.

There are more than 3,000 advertising agencies in the United States. The four largest spend more than $180,000,000 each, annually, for their advertising clients. At least 30 more agencies spend more than $25,000,000 each.

From this **Billing**, or revenue from the total cost of advertising placed, the agency receives an **Advertising Commission**, a fee that is customarily 15% of the **Gross** or total cost. Newspapers, magazines, radio, television and other advertising **Media** (the **Latin** plural of **Medium**, or *means of communication*) all pay this commission from their established rates to have the advertising prepared and serviced for them by the agency.

The agency also may, by agreement with the client, receive commission for various other items essential to the advertising work: television program costs, talent charges, still photography, printing, etc. When such items are billed at **Net** (or non-commissionable) cost, the agency computes its commission by adding 17.65% (equivalent to 15% of the *gross*). Some media also allow 2% additional for payment within 10 days. The agency does all the financing of this media payment, then rebills the client.

The **Media Department** of an agency selects and contracts for **Time**, the measured broadcast period in radio and television, and **Space**, the measured area in newspaper and magazines.

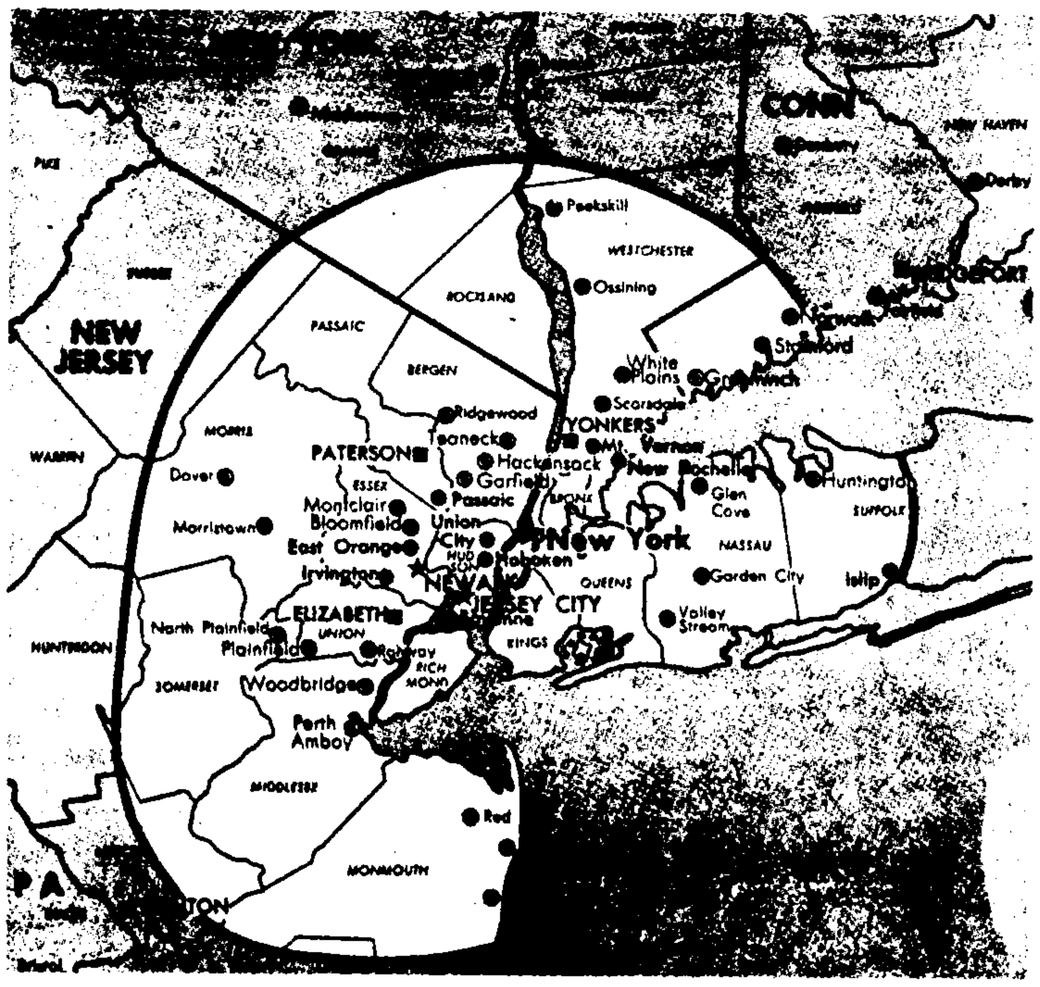
Mass Medium indicates a medium that reaches large segments of the national population, the so-called "masses," as opposed to selective groups. TV, radio, and some magazines and newspapers are said to be mass media.

Market, as a noun in advertising, designates the group of people who buy or the individual area where they may be found. A TV program may

be aimed at a mass market, a class market, a kid market, the Boston market, a Southern market or it may be telecast in a Test Market, a representative area in which the product or its advertising may be tested in advance of national introduction.

Spot Market is used to refer to an individual area bought separately on a non-network basis.

Coverage refers to the total distribution of advertising in terms of its exposure to people or area. A magazine may *cover* (reach a high percentage of) the college market. A radio station may *cover* (potentially be heard by) 5 counties. A television station may give effective *coverage* (in



New York TV Coverage Map

terms of both people and area) throughout greater Detroit.

It is well to point out that advertisers are rated as national, regional and local, according to the areas in which they distribute their products. The advertising rate structures of all newspapers and some television stations take this into consideration, and so favor local advertising with lower rates.

► CONTACT AND CREATIVE

Rarely are two agencies organized with identical departmental structures, but both the smallest and the largest must have two basic services, *contact* and *creative*, in addition to the media department.

Contact, which generally carries the official title of **Account Service**, refers to the executives who have the responsibility for all dealings with the client. Agencies may have such titles as **Account Supervisor**, **Account**

Executive (popular abbreviation: **A.E.**) or **Account Manager.** Such terms as **Account Service, Service Group** and **Client Service** also are in use.

Creative or **Creative Services** has responsibility for the preparation of the actual advertising messages. **Creative Director** or **Creative Supervisor** are typical top titles in this department. The work of creating television advertising may be separated from the related work of creating **Print** advertising for newspapers, magazines, etc. Where television is separated, titles may include: **TV Creative Supervisor, TV Creative Director, TV Copy Director** or **TV Copy Chief.**

Art direction, film and live production have been discussed in earlier chapters, with mention of the staff agency men. Most larger agencies have TV art directors and production specialists as well as writers in television commercial work.

TV programming and TV commercial work are separated in some agencies, somewhat confusing the titles in this still-new medium. **TV Director** as an agency title is typical—it may have a different meaning at every agency. **Agency Producer** also has varied meanings, but generally indicates the agency representative on a television show. His work is to advise the network or station or film producer on matters of policy for the client, especially in regard to the production of commercials.

► OTHER AGENCY SERVICES

The larger advertising agency often is a highly complex organization and its scope extends far beyond making client contacts and writing ads. Among departments which may be included are these:

Research is the analytical department, using scientific methods to study media, markets, products, consumers and copy. This will be discussed more fully later in this chapter.

Marketing has come to mean the whole vast area of business activities which are concerned with a product from the time of the manufacturing process until the consumer buys it and uses it. Many definitions vary from this but most agree that marketing includes responsibilities for packaging, distribution, pricing against competition and the continuing study of the sales area or market.

Merchandising has been defined as the work of coordinating the advertising with the final sale to the consumer. This includes the creation of special sales ideas, premium offers, store displays, etc..

Display is used as a noun to refer to the advertising material placed in windows, on counters, etc., and plans for moving merchandise at the **Point of Sale** or **P.O.P.—Point of Purchase.**

Sales Promotion or **Sales Pro** generally is used to refer to the prepara-

tion of mailing pieces, catalogs, printed literature, etc.

Public Relations is another service offered by some agencies for their clients. It includes counsel and guidance in all phases of developing and maintaining good will with the client's employees, stockholders, customers and the public in general.

Publicity is one branch of public relations, being concerned with the dissemination of news or other interesting information in any channel of communication (TV, radio, magazines, newspapers, etc.).

MISCELLANEOUS ADVERTISING TERMS

The cost of a television show to the sponsor breaks down into two primary classifications: **Time Cost,** the charges for buying the telecast period on the network or station, and **Program Cost,** the charges for the telecast itself, including talent and production personnel. Occasionally *program cost* is referred to as **Talent,** as in the expression "**Time-and-Talent**" or total cost.

Above-the-Line Costs include the star, talent, the producer and his supervisory staff, the director and the story or writing. On quiz shows, the cost of awards also is considered *above-the-line.*

Below-the-Line Costs include other production personnel (musicians, makeup, assistant director, cameraman, etc.), sets and physical production costs, studio or location rental, transportation, meals, insurance and general overhead.

Schedule is a term for the media, dates (and, often, costs) for a period or a campaign. **Campaign** refers to a series of ads with a single theme or objective for an advertiser. The campaign is generally coordinated in all media used.

Tune-In Advertising refers to advertising run in newspapers or TV magazines, especially calling attention to a telecast. These ads are also called **Audience Builders.**

Courtesy Announcement refers to a free television (or radio) spot given by the network or station to publicize a program.

Reminder Advertising is a term for small ads or signs which remind the consumer of *other* advertising done by the advertiser. The television ID or :10 spot is sometimes called a form of *reminder advertising,* especially when it is used to supplement a campaign of longer-length spots.

Per-Inquiry or **P.I. Advertising** refers to a method of payment in which the advertising medium (newspaper, TV station, for instance) is reimbursed by a flat payment per individual response. Such an operation is frowned upon by the NARTB because it departs from a system of established rates which are equally fair to all advertisers.

Cost-Per-Inquiry is the average expenditure required to obtain each individual response to any advertising offer. For instance, an offer is made in a television spot announcement. It costs $600 to broadcast and there are 1200 direct inquiries. Cost-per-inquiry: 50¢.

Returns is a term used to refer to the tangible results of any broadcast offer.

Premium is anything of value offered in connection with the sale of the product to the consumer. **Self-Liquidating Premium** is one for which the consumer pays the entire cost, including mailing and handling—thus the sponsor has to pay nothing, and yet the consumer may get a valid bargain because the sponsor has made a volume purchase of the premium.

Talent Release is a legal form, signed by actors, models, etc., giving an advertising agency and its client the right to use a picture or likeness for advertising purposes. Television commercials and still photographs require such releases, to protect the agency and client from legal action for "invasion of privacy" among other things. Note that r*elease* also means a publicity news story as it is sent out.

Bicycle (verb) means to ship a film print from one station to the next station, rather than returning it each time to a central checking point. The expression comes from early movie days when a sly theater owner had a boy on a bicycle to rush each reel of a feature film to a second theater for a duplicate (but unreported) showing! *Bicycle* in TV, however, suggests no such chicanery.

Nut is the slang term used in the industry to describe all the costs of the program: "What's the *nut* on the show?"

Gimmick is a slang word which advertising uses with a slight additional twist. It is loosely used to refer to a device or trick in a story development or commercial copy which accomplishes the desired viewer interest. **Hook**, although used interchangeably with g*immick*, generally refers to a device in the ad to get immediate action from the consumer: a contest, a premium, a coupon, a special offer, a request for mail, etc. **Story Hook** has a different connotation. It refers to the incident or situation on which the story hangs.

Madison Avenue is a somewhat bantering reference to advertising people and the business itself. It derives from the fact that many of the top advertising agencies are located on this particular street in New York City.

AAAA, pronounced "4A's," is the American Association of Advertising Agencies, the elective and non-profit national trade organization to which belong more than 300 major agencies (which handle two-thirds of all American advertising billing). It sets the standard of practice, seeks to improve and advance the cause of advertising and is helpful in solving the

problems of the business. A *"4-A Agency"* indicates one of high standing and responsibility.

► TYPES OF RESEARCH

Advertising today owes much of its effectiveness to the wise application of research. Research, to define again, is the diligent study and investigation of a subject in order that new facts may be obtained, analyzed and interpreted.

Agencies require as many as six basic types of research which are generally classified under these headings:

Product Research studies the physical qualities of a product, seeking to improve it over competition.

Market Research studies the sales figures of the product and its competition (to evaluate its **Share of Market**); also the socio-economic characteristics of users and non-users (sex, age, income, etc.).

Consumer Research studies the living, buying and using habits of present and potential customers. **Consumer Opinion Surveys** are one form of this.

Media Research studies the comparative merits of networks, stations, newspapers, magazines and other media.

Copy Research or **Copy Testing** studies the probable effectiveness of advertising messages. Ads for the same account may be tested against each other or against the competition.

Economic Research studies business conditions of the country at large, population trends, etc.

It is also possible to classify research according to the character of the data obtained: **Quantitative Research** measures statistically *"how many?"* with itemized figures on the various quantities. **Qualitative Research** studies the individual in the statistic in terms of *"why?"*, the underlying qualities which may influence the quantities.

Motivation Research is *qualitative research* in that it probes to find out what *motivates* or moves or impels the individual to buy, how he feels subconsciously as well as consciously about the product and what might to him be emotionally stimulating in advertising's selling approach. It uses psychological techniques such as the **Depth Interview**, an extensive discussion which seeks the reasons *behind* answers in order to discover what motivates behavior.

Audience Reaction Research is a comparatively new type of research which studies viewer response to television programs and commercials. Regular viewers may be tested to find what elements in a program series induce them to tune in week after week. New programs or commercials

may be screened for a selected audience to test comparative reactions.

► TV RATING TERMS

In order to approximate the number of viewers watching certain programs and stations, various research organizations have devised methods which estimate the figures. These are called **Ratings** or **Program Ratings.** By checking the behavior of a small percentage of viewers (or receiving sets), the probable totals are computed mathematically. Rating data also provides supplementary information on the sex, age, family size of the viewing audience. In television, as in radio, ratings have become the accepted measure of the relative "popularity" of a program or a star.

Sample refers to that relatively small number of people chosen as representative of the large group to be studied. Researchers use established formulas for the selection of the individuals in the sample, so that the projection of the findings on the small group may be considered reliable—with a slight, predictable statistical error.

In usual broadcast measurement a reliability of five percentage points, plus or minus, is considered acceptable. Consequently, 1200 households correctly selected may be considered a representative cross-section of the entire country. In studies where a fraction of a percent is critical, samples must be larger.

Precision Sample or **Random Sample** means the persons selected are mathematically representative as a true cross-section of the total group to be measured. **Area Sample** means that it is a true cross-section of the *area* to be studied. **Quota Sample** means the persons are selected to match a numerical proportion of only certain known figures (such as *age* groups or *income* groups).

Circulation indicates the potential audience in terms of TV families; each family equals *one unit* of circulation (regardless of the number of sets owned). Circulation, of course, also indicates the number of families reached by magazines, newspapers and other media.

Circulation should not be confused with the *actual* number of people or families tuned in, out of the total potential. This is more accurately described as **Audience** or **Listenership** (from radio) or **Viewership** (coined for TV).

Television researchers estimate circulation according to the potential number of TV families within the coverage area of the transmitting signal in a population area. This is a primary basis for computing time costs for stations and networks.

Viewers-Per-Set becomes an added factor in computing total audience. Some programs are projected as having 3½ viewers-per-set (the

national *average* during prime hours is nearer 2½).

Sets-in-Use refers to the proportion of sets tuned to all television channels during a particular time period. This is the total audience for TV at that hour. For instance, the peak hour, 9 p.m., may have a total 40% *sets-in-use.*

Share-of-Audience means the percentage of sets-in-use tuned in to *one* particular program during the average minute it is on the air. For example, if there are 2,000,000 sets in a given area, at 9 p.m. Wednesday there may be 800,000 sets actually tuned in to all channels. These are *sets-in-use.* Of these, 480,000 may be tuned to Channel 2—hence, it has a 60% *share-of-audience.* (All other channels split the remaining 40%.)

Audience Composition refers to the characteristics of the audience as to age and sex. This analysis helps answer such questions as: How many women under 40 are watching this show? How many teen-age girls?

Total Audience refers to the total number of homes that are tuned in to *any* part of a program for as long as six minutes each. **Average Audience** refers to the average at any given minute. Hence the total audience on a typical Ed Sullivan show might be 18,000,000 homes while the average is only 13,700,000. This indicates the audience turnover is high. **Audience Turnover** refers to the percentage of audience tune-off and tune-on in a time period. **Holding Power** is a term to indicate the ability of a program to keep its audience tuned in. Too large a discrepancy between total and average audience may indicate a lack of *holding power.*

Inherited Audience or **Holdover Audience** indicates the viewers of a program who stayed tuned in from the previous program on the same station or network. This factor influences the desirability of programming a show immediately following one with an established high rating.

Audience Flow is special data on the before-and-after behavior of a program's viewers. Were they previously tuned to the same channel or did they switch over from another channel? Or did they just tune in to TV? And which way do they flow when the program is over? By studying the habit patterns of viewers in this light, greater programming strength often can be achieved.

Audience Duplication computes the number of identical homes which are tuned to two different programs (for the same sponsor, for instance, who wants to know how many *different* viewers he is reaching). An **Unduplicated Audience** obviously gives wider coverage.

Cumulative Audience is the total number of unduplicated homes reached over a given period of time with a program series. For instance, an average of 9,000,000 may be tuned in each week; but all are not regular viewers and a slightly different 9,000,000 is tuned in each subsequent week. At the end of four successive telecasts the *cumulative audience*

may amount to 17,000,000 different viewers. Cume (rhymes with "zoom") is jargon for *cumulative audience,* so a Four-Week-Cume would be the total number of unduplicated homes reached in four weekly telecasts.

Cost-Per-Thousand (shorthand: **CPM**) is a yardstick for evaluating the cost of reaching 1000 homes (or persons, if so indicated) with an advertisement. For instance, in television, if the *time-and-talent* costs of a program amount to $90,000 per telecast and it reaches an estimated 18,000,000 homes, the CPM is $5 (or a half-cent per home).

Cost-Per-Thousand Commercial Minute (or **CPM/CM**) breaks this cost down still further to the pro rata cost of each :60 commercial within the program. Suppose that $90,000 show is a nighttime half-hour. The sponsor is allowed three minutes of commercial time. Then the CPM, of say $5, is divided by 3 to give a CPM/CM of $1.67 (or one-sixth cent per home.)

Sponsor Identification (Index), generally initialled as **S.P.I.** or **S.I.** refers to the percentage of interviewees able to associate correctly a given television program with its sponsor or advertised product. For instance, a sample may show that 3 out of 5 people can correctly identify the sponsor—this indicates a S.I. of 60%. **Product Identification** is sometimes used to differentiate the soliciting of the product name rather than the sponsor name, where these two things are not identical.

► *TV RATING METHODS AND SERVICES*

Television ratings are achieved by various methods and devices:

Diary Ratings are those achieved by placing printed program listing review sheets or diaries in sample homes. The TV set owners are expected to fill out a written log of programs viewed for that week.

Coincidental Ratings are obtained by telephone calls to a random sample of homes *during* the telecast. "Was anyone looking at television just now? What program are you viewing? What station? What is advertised? How many men, women and children are viewing?"

Recorder Ratings use a mechanical device attached to the TV set. This keeps an automatic record, minute by minute, of the TV operation—each station channel tuned in and the length of time left on.

Roster Recall Ratings are obtained by personal interviews in sample homes. An interviewer goes from house to house to show the householder a list of programs in order to check the ones which have been viewed.

The various rating services each use at least one of these four methods to obtain their samples. In some case, two methods are used to validate and get additional data.

Competitively, the rating services may vary in their total estimates

based on their samples. It is well to remember that different services are *measuring different things.* No one rating figure for one telecast is conclusive, so agency experts and others who make a science of interpreting these estimates look for many other factors and long-time averages before reaching significant decision.

Each method obviously has certain shortcomings and all these factors must be weighed carefully. The diary method may suffer from the keeper's forgetfulness and omissions (or in a desire to please, he may write in more than he actually *sees*). The telephone coincidental method cannot evaluate non-telephone homes. The recorder does not measure the fact that anyone is actually viewing—only that the TV set was left on at the time; neither does it record the composition or size of set viewership. Roster recall is dependent on the householder's memory and possible prejudice in answers.

It's easy to see why ratings and rating methods are forever controversial in television. Valuable guides, yes. Infallible, no.

The best known trade services in national TV ratings are these:

ARB (American Research Bureau) basically uses the diary method, validating with the telephone coincidental. The diary method gives ARB data on the size, age, sex of audience, its flow from program to program, its habits from week to week. ARB also does local city ratings.

Nielsen (A. C. Nielsen Co.) uses the recorder method. Their device is called the "**Audimeter,**" and it is an electronic meter attached to the set in each sample home. The recorder automatically indicates channel tune-in, tune-out, audience flow, audience turnover, average audience per minute, total sets per program and other data. It readily computes unduplicated audience and four-week-cume, as well.

Pulse or **Telepulse** (Pulse, Inc.) uses the roster recall method. Personal interviews are conducted in the homes, checking programs for that day (or the night before). This gives, in addition to audience size and share-of-audience, personal interview data regarding audience composition and sponsor identification. Pulse also has a local service in many TV markets.

Trendex (Trendex, Inc.) uses the telephone coincidental method, giving fast overnight ratings from 15 key cities where all three networks are in competitive operation. Based on a specified number of calls per half hour, Trendex supplies data on audience size, flow and composition and also a sponsor identification index.

Still another service, the Hooper Index of Broadcast Advertisers (**HIBA**) by C. E. Hooper, Inc., reports on the relative audience exposure to commercials in major markets. Weekly figures estimate total audiences for competing products in each market.

OTHER TV DATA SERVICES

Starch Rating is a trade term for the analytical surveys and reports on advertising messages made by the Daniel Starch Staff. In addition to testing print advertising, Starch also studies TV commercials, reporting on "remembered seeing" and "attitude toward the commercial."

Gallup-Robinson, Schwerin and Burke are three other prominent TV commercial testing services, reporting on such factors as "attention," "like-dislike," "before-and-after purchase preference" or other individual yardsticks.

MRP, code name for *M*otivating *R*esponse *P*atterns, is a service that studies the emotional as well as rational reactions of commercial viewers and attempts to measure the patterns of psychological response.

Standard Rate & Data Service or **S.R.D.S.** provides a complete tabulation of time costs for all TV stations and networks. This is the standard reference in all media departments.

Rorabaugh Reports is a listing of expenditures and other data on advertisers in TV.

Ross Reports (on Television) supply data on sponsors, producers, length and type of TV film commercials.

Data on advertising agencies and their personnel may be obtained from these books, available in many public libraries:

Directory of Advertising Agency Personnel, published by McGraw-Hill, New York City.

McKittrick's Agency List, published by George McKittrick & Co., New York City.

Standard Advertising Register, published by National Register Publishing Co., New York City. This publication also includes data on advertisers.

McKittrick's Directory of Advertisers is a separate publication devoted to advertisers.

May your name . . . someday . . . lead all the rest. . . .

Extracts from
The Television Code
of the
National Association on
Radio and Television Broadcasters*

PREAMBLE

Television is seen and heard in every type of American home. These homes include children and adults of all ages, embrace all races and all varieties of religious faith, and reach those of every educational background. It is the responsibility of television to bear constantly in mind that the audience is primarily a home audience, and consequently that television's relationship to the viewers is that between guest and host.

The revenues from advertising support the free, competitive American system of telecasting, and make available to the eyes and ears of the American people the finest programs of information, education, culture and entertainment. By law the television broadcaster is responsible for the programming of his station. He, however, is obligated to bring his positive responsibility for excellence and good taste in programming to bear upon all who have a hand in the production of programs, including networks, sponsors, producers of film and of live programs, advertising agencies, and talent agencies.

In order that television programming may best serve the public interest, viewers should be encouraged to make their criticisms and positive suggestions known to the television broadcasters. Parents in particular should be urged to see to it that out of the richness of television fare, the best programs are brought to the attention of their children.

* © Third Edition, July 1956, by The National Association of Radio and Television Broadcasters, 1771 N Street, N.W., Washington 6, D.C.

ACCEPTABILITY OF PROGRAM MATERIAL

Program materials should enlarge the horizons of the viewer, provide him with wholesome entertainment, afford helpful stimulation, and remind him of the responsibilities which the citizen has towards his society. Furthermore:

a) (i) Profanity, obscenity, smut and vulgarity are forbidden, even when likely to be understood only by part of the audience.

(ii) Words (especially slang) derisive of any race, color, creed, nationality or national derivation, except wherein such usage would be for the specific purpose of effective dramatization such as combating prejudice, are forbidden, even when likely to be understood only by part of the audience.

b) (i) Attacks on religion and religious faiths are not allowed.

(ii) Reverence is to mark any mention of the name of God, His attributes and powers.

(iii) When religious rites are included in other than religious programs the rites are accurately presented and the ministers, priests and rabbis portrayed in their callings are vested with the dignity of their office and under no circumstances are to be held up to ridicule.

c) (i) Contests may not constitute a lottery.

(ii) Any telecasting designed to "buy" the television audience by requiring it to listen and/or view in hope of reward, rather than for the quality of the program, should be avoided.

d) Respect is maintained for the sanctity of marriage and the value of the home. Divorce is not treated casually nor justified as a solution for marital problems.

e) Illicit sex relations are not treated as commendable.

f) Sex crimes and abnormalities are generally unacceptable as program material.

g) Drunkenness and narcotic addiction are never presented as desirable or prevalent.

h) The administration of illegal drugs will not be displayed.

i) The use of liquor in program content shall be de-emphasized. The consumption of liquor in American life, when not required by the plot or for proper characterization, shall not be shown.

j) The use of gambling devices or scenes necessary to the development of plot or as appropriate background is acceptable only when presented with discretion and in moderation, and in a manner which would not excite interest in, or foster, betting nor be instructional in nature.

k) In reference to physical or mental afflictions and deformities, special precautions must be taken to avoid ridiculing sufferers from similar ailments and offending them or members of their families.

l) Exhibitions of fortune-telling, astrology, phrenology, palm-reading, and numerology are acceptable only when required by a plot or the theme of a program, and then the presentation should be developed in a manner designed not to foster superstition or excite interest or belief in these subjects.

m) Televised drama shall not simulate news or special events in such a way as to mislead or alarm.

n) Legal, medical and other professional advice, diagnosis and treatment will be permitted only in conformity with law and recognized ethical and professional standards.

PRESENTATION OF ADVERTISING

1. Ever mindful of the role of television as a guest in the home, a television broadcaster should exercise unceasing care to supervise the form in which advertising material is presented over his facilities. Since television is a developing medium, involving methods and techniques distinct from those of radio, it may be desirable from time to time to review and revise the presently suggested practices:

a) Advertising messages should be presented with courtesy and good taste; disturbing or annoying material should be avoided; every effort should be made to keep the advertising message in harmony with the content and general tone of the program in which it appears.

b) A sponsor's advertising messages should be confined within the framework of the sponsor's program structure. A television broadcaster should avoid the use of commercial announcements which are divorced from the program either by preceding the introduction of the program (as in the case of so-called "cow-catcher" announcements) or by following the apparent sign-off of the program (as in the case of so-called "trailer" announcements).

c) Advertising copy should contain no claims intended to disparage competitors, competing products, or other industries, professions or institutions.

d) Since advertising by television is a dynamic technique, a television broadcaster should keep under surveillance new advertising devices so that the spirit and purpose of these standards are fulfilled.

e) Television broadcasters should exercise the utmost care and discrimination with regard to advertising material, including content, placement and presentation, near or adjacent to programs designed for children. No considerations of expediency should be permitted to impinge upon the vital responsibility toward children and adolescents, which is inherent in television, and which must be recognized and accepted by all advertisers employing television.

f) Television advertisers should be encouraged to devote portions of their allotted advertising messages and program time to the support of worthy causes in the public interest in keeping with the highest ideals of the free competitive system.

g) A charge for television time to churches and religious bodies is not recommended.

TIME STANDARDS FOR ADVERTISING COPY

1. In accordance with good telecast advertising practices, the time standards for advertising copy are as follows:

Length of Program (minutes)	Length of Advertising Message (minutes and seconds)	
	Class "A" Time	All Other Hours
5	1:00	1:15
10	2:00	2:10
15	2:30	3:00
25	2:50	4:00
30	3:00	4:15
45	4:30	5:45
60	6:00	7:00

2. Reasonable and limited identification of prize and statement of the donor's name within formats wherein the presentation of contest awards or prizes is a necessary and integral part of program content shall not be included as commercial time within the meaning of paragraph 1, above; however, any oral or visual presentation concerning the product or its donor, over and beyond such identification and statement, shall be included as commerical time within the meaning of paragraph 1, above.
3. The time standards set forth above do not affect the established practice of reserving for station use the last 30 seconds of each program for station break and spot announcements.
4. Announcement programs are designed to accommodate a designated number of individual live or recorded announcements, generally one minute in length, which are carried within the body of the program and are available for sale to individual advertisers. Normally not more than 3 one-minute announcements (which should not exceed approxi-

mately 125 words if presented live) should be scheduled within a 15-minute period and not more than six such announcements should be scheduled within a 30-minute period in local announcement programs; however, fewer announcements of greater individual length may be scheduled, provided that the aggregate length of the announcements approximates three minutes in a 15-minute program or six minutes in a 30-minute program.

5. Programs presenting women's services, features, shopping guides, market information, and similar material, provide a special service to the listening and viewing public in which advertising material is an informative and integral part of the program content. Because of these special characteristics the time standards set forth above may be waived to a reasonable extent.
6. More than two back-to-back announcements plus the conventional sponsored 10 second station ID are not acceptable between programs or within the framework of a single program. Announcements sebeduled between programs shall not interrupt a preceding or following program.
7. Any casual reference by talent in a program to another's product or service under any trade name or language sufficiently descriptive to identify it should, except for normal guest identifications, be condemned and discouraged.
8. Stationary backdrops or properties in television presentations showing the sponsor's name or product, the name of his product, his trademark or slogan may be used only incidentally. They should not obtrude on program interest or entertainment. "On Camera" shots of such materials should be fleeting, not too frequent, and mindful of the need of maintaining a proper program balance.

DRAMATIZED APPEALS AND ADVERTISING

Appeals to help fictitious characters in television programs by purchasing the advertiser's product or service or sending for a premium should not be permitted, and such fictitious characters should not be introduced into the advertising message for such purposes. When dramatized advertising material involves statements by physicians, dentists, nurses or other professional people, the material should be presented by members of such profession reciting actual experience or it should be made apparent from the presentation itself that the portrayal is dramatized.

SPONSOR IDENTIFICATION

Identification of sponsorship must be made in all sponsored programs in accordance with the requirements of the Communications Act of 1934, as amended, and the Rules and Regulations of the Federal Communications Commission.

Index

For dictionary purposes, this index indicates the page on which a word may be found, boldfaced in the text. Occasionally, two forms of a word may be indexed, according to the way it is used.

Lexicographers may quibble at the variance in hyphenization rules, but remember that radio before television developed a generation of "sight" readers who required a style of writing quickly read aloud. Quotation marks are used especially for *words of command* but at odd times they may also sneak around some of the slang still too new to be digested.

Errors there are, no doubt, and diligent readers are invited to help in corrections for later editions.

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In 1954 he joined McCann-Erickson, Inc., New York, as vice president in charge of TV commercial production and as a member of the creative plans board. In three years, he served as production head on commercials for more than $140,000,000 in TV billing. In 1957, he became a vice-president of Leo Burnett Company, Inc., Chicago, a member of the Burnett plans board and supervisor of TV commercial creative operations, both writing and production.

A frequent speaker at Ad Clubs at home and abroad, McMahan's articles have appeared in many trade publications. German and Japanese editions of his THE TELEVISION COMMERCIAL, Revised and Enlarged, have just been published.